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Key drivers that influence South African customers to purchase food products through e-commerce platforms

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Key drivers that influence South African customers to purchase food products through e-commerce platforms

A

Research Report

by

Keitumetse Mokgofa

Student Number: 1875076

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

Supervisor: Dr Thembekile Mayayise

Johannesburg, 2021

ABSTRACT

E-commerce has become one of the most popular platforms used by customers to shop for various products at their convenience. Whilst customers are using e-commerce to shop for wide range of products within the business to consumer business (B2C) model, it has been reported that buying food online is not that popular with customers as compared to other items like clothing and electronic products in South Africa. This study was undertaken to investigate the key drivers that influence South African customers' behavioural intention to buy food products through online platforms.

Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT2) theoretical frameworks were used as a lens for this study. E-satisfaction was added as a moderating variable to examine its effect on the relationship between perceived usefulness (PU) and perceived ease of use (PEoU) and behavioural intention (BI). This quantitative study adopted a convenience sampling method and an online questionnaire through Ms Qualtrics was used as a research instrument for data collection. The data was collected from 425 South African customers. Confirmatory Factor Analysis (CFA) technique was used for data analysis on Jamovi 1.6.13 software for hypothesis testing and thereafter multiple regression testing was done to accept or decline hypothesis test formally.

Based on the results, all stated hypotheses are supported and signifies that all the factors researched positively influence customers' behavioural intention to buy food products online.

This study will assist both online and general food products retailers to formulate strategies that incorporate the key drivers affirmed by the results. It will also contribute to the limited literature available, pertaining to this sector in South Africa.

KEY WORDS

E-commerce Adoption, B2C, Technology Acceptance Model, UTAUT2

DECLARATION

I, Keitumetse Mokgofa, 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: Keitumetse Mokgofa Signature: K.M Mokgofa

Signed at …… Honeydew Ridge ……

On the……18th…….. day of ……October…… 2021…..

DEDICATION

Firstly, I wish to express my profound gratitude to God for his guidance and protection throughout this research project.

I wish to thank Dr Thembekile Mayayise (Snr Lecturer, University of Witwatersrand – School of Business Sciences), my supervisor, for believing in me, for the chances she gave me and for her motivation. Her support has carried me when I did not think I can make it, I will forever be grateful. Thank you for making this thesis a reality.

I would also like to thank my family (Husband, daughter, parents, and brothers) for their support and motivation to finalize this research report. My late dad who encouraged me to pursue my Masters' degree, thank you for believing in me it is a pity you left before I completed it but, I will forever be grateful. Finally, I wish to thank everyone who I called for assistance from lending an ear and helping me. To my dad, thank you for your encouragement and for wanting this for me. I managed to get this far – once again thank you!

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LIST OF ACRONYMS

B2B: Business to Business

B2C: Business to Consumer

SA: South Africa

GDP: Gross Domestic Product

ICT: Information & Communication Technology

TAM: Technology Acceptance Model

UTAUT2: Unified Theory of Acceptance and Use of Tecnology

PU: Perceived Usefulness

PEOU: Perceived Ease of Use

PE: Performance Expectancy

SI: Social Influence

FC: Facilitating Conditions

PV: Price Value

BI: Behavioural Intention

CHAPTER 1. INTRODUCTION

1.1 Purpose of the study

The main purpose of this quantitative study was to identify and discuss factors that can influence South African customers to buy food products conveniently through e-commerce platforms in order to understand how key variables as available in extant lietarture on technology adoption can influence customer behaviour. The referred to food products is limited to ‘grocery foods’ and not ‘fast foods’ (also commonly referred to as ‘take aways’ in South Africa or ‘to go’ in other parts of the world) The independent variables (perceived usefulness, perceived ease of use, performance expectancy, price value, social influence, facilitating conditions and habit), moderating factor (e-satisfaction) on behavioural intention to shop online for food products were examined.The “Technology Acceptance Model” by Davis (1987) and the “Unified Theory of Acceptance and Use of Technology” (UTAUT2) by Venkatesh et al., (2012) were employed in this study.

1.2 Background of the study

The advent of the internet and the resultant digital revolution in the communications sector brought with it a suite of benefits which include the ability for businesses to be conducted online (Mortimer et al., 2016). Bhalekar et al. (2014) argued that over the years to keep up with the changing retail customer demands and to increase competitive advantage, retailers had to make use technologies like e-commerce, which refers to using the internet to perform business activities such as the sale of products and services. Various business models are used in e-commerce., which can be defined as a conceptual composition that aims at supporting the capability of the business, its goals, and ongoing plans for achieving these goals (Alessia et al., 2014). Furthermore, (Alessia et al., 2014) outlined some of the available e-commerce business models to be business to business(B2B), business to consumer(B2C) and consumer to consumer(C2C), however, the model that aligned more to this study, is B2C e-

commerce which refers to the sale of products and services from retailers to consumers (Singh, 2002). Figure 1, shows the internet and e-commerce penetration comparison between SA, and other countries like Saudi Arabia, China, India, and United Kingdom in 2019. Out of the SA population, internet penetration rate was at 54% whilst e-commerce penetration was at 55%. In comparison, UK, China, and India showed that e-commerce was significantly higher. As per the comments of (Burton & Scheepers, 2017), mobile penetration has increased the popularity of online shopping in this country. Furthermore, (Bhatti et al., 2020) argued that the Covid-19 outbreak has maximized the demand for groceries, including food products among online shoppers. In light of this, it was vital to investigate the factors that influence consumers' willingness to acquire food goods via e-commerce in the South African market.

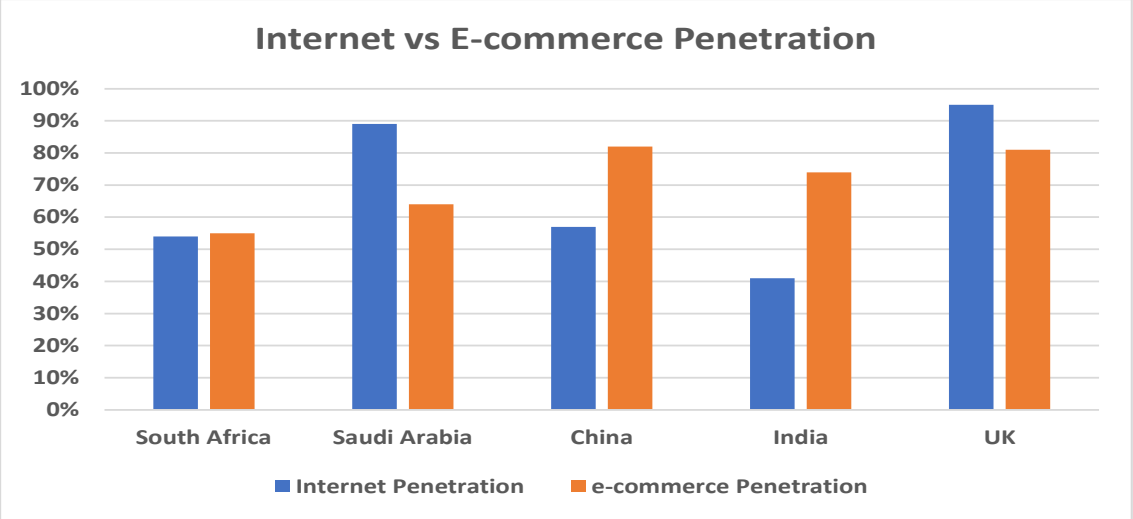


Figure 1: Internet and E-commerce Penetration Rate Comparison, *WeAreSocial (2019)*

1.3 Research problem

The development of internet and technology, has changed consumers' shopping behaviour and increased the acceptance of e-commerce in South Africa, (Makhitha et al., 2019). E-commerce is an innovation that does not only provide value to the businesses that adopt it but also contributes to the economic growth of the country (Yaseen et al., 2017). A study conducted by (Anvari & Norouzi, 2016) outlines and confirms the significant and positive impact e-commerce has

on the GDP (Gross Domestic Product) per capita of the developing countries due to purchasing power parities as it showed a stronger economic development effect. Although e-commerce is steadily growing in South Africa, it was reported in 2019 by (BusinessTech, 2019) that apparel sales headed the online shopping sector whilst other items lagged behind, this report further alluded that the impediment to e-commerce adoption on other items is as a result of retailers not willing to reinvest the profits back into areas that can make this business model sustainable. (Snyman, 2014) broadly investigated the attributes that influence SA customers to shop online, where the study showed that other products like books and electronics were mostly bought online whereas groceries were very slow to take up on online sales as people still preferred to go physically to the stores.

A preliminary review of recent literature has shown that not much has been done in scrutinizing specific drivers of online grocery adoption in South Africa yet, which includes food products. Although (Makhitha et al., 2019) conducted a related study, this study aimed at understanding the attributes that influence customers to embrace e-commerce broadly without focusing on specific products. A similar study by (Musikavanhu, 2017) focused on the adoption of online grocery shopping in the Cape metropolitan area, this study also excluded other parts of SA thus not fully representing how grocery e-commerce has been adopted throughout the country.

Even though these studies outlined and investigated factors that influence the SA customers' intention to use online shopping, based on the preliminary studies, there are limited studies that have investigated the drivers that influence the behavioural intention towards usage of e-commerce for food products. This study intends to address this gap.

1.4 Research Questions

1.4.1 *Central Research Question*

What are the key drivers that influence SA customers' behavioural intention to buy food products through e-commerce platforms?

1.4.2 *Research Sub - Questions*

i. How do TAM and UTAUT2 constructs influence the SA customers' behavioural intention to buy food products through e-commerce platforms?
ii. What is the moderating effect of e-satisfaction on perceived usefulness and perceived ease of use on behavioural intention of South African customers to buy food products through e-commerce platforms?
iii. What e-commerce strategies can be implemented by food products retailers in South Africa to increase the adoption rate on customers and increase e-commerce sales?

1.5 Research objectives

This study pursued the following objectives:

1) To identify and investigate key drivers influencing and South African customers' intentions to use e-commerce to buy food products.
2) To examine the role and the effect TAM and UTAUT2 constructs in influencing the SA customers' behavioural intention to buy food products through e-commerce platforms?
3) To examine the moderating effect of e-satisfaction on PU and PEOU on the consumers' intention to adopt e-commerce.
4) To provide specific recommendations that will aid decision-makers in the food products retail sector when designing e-commerce strategies that will encourage adoption.

1.6 Significance of the study

E-commerce brings convenience in a day to day life of customers, it makes it easier for customers to access various stores and compare prices and, it makes it quick for them to shop compared to shopping physically at the brick and mortar stores (Mapande & Appiah, 2018). De Klerk and Kroon (2005) stated that for businesses, e-commerce is a cost effective, relevant way of conducting economic activities, it helps businesses to adapt to ever-changing environment and

furthermore it assists with establishing partnerships with global counterparts. As the concept of e-commerce is increasingly adopted in South Africa, it becomes imperative to have studies that focus on the customers' behaviours towards onine shopping, in order to formulate relevant marketing strategies to reap the profits of e-commerce (Makhitha et al., 2019).

This study is significant for both academic and industrial practice because of its specific contributions to food on-line shopping. For academics this study will improve the understanding of the factors that influence the customers' intention to adopt e-commerce in South Africa for a specific consumer product line. At the same time, in terms of the key elements that promote technology adoption in the retail sector, this study will add to the existing academic literature.. It will also shed light on the specific way in which e-commerce can be adopted in the food products market, which includes fresh produce.

In practice, this study will provide insights into the benefits of B2C e-commerce adoption for both customers and retailers. This includes aiding understanding on the motivators and drivers that influence consumers and retailers adopt online platforms of food products. Further to this, the study will help management of foods and grocery retail firms to identify the factors that they can leverage on, to maximize e-commerce adoption and drive higher sales through this channel.

1.7 Delimitations of the study

Delimitations refer to the criteria that limit the scope of the research and define the study's borders (Dimitrios & Antigoni, 2018). This research was confined to the drivers that relate to the behavioural intention of customers to use e-commerce platforms for buying food products in SA, including imported items. This study focused on fresh and packaged food products that can be sold for consistent consumption. However, the scope of the study did not cover fast foods market, as these are already considered to be doing well and continuously growing in SA compared to other food products according to (Agrela, 2019).

1.8 Definition of terms

Below is an outline and resctoive definitiomns of key tearms used in this study;

- **Behavioural Intention:** Refers to the individual's planned behaviour to use a certain technology that directly affects their actual usage of that technology (Iqbal et al., 2018).
- **Digital Business Strategy**: refers to an organization's strategy used to create differentiating value that is stated and implemented by using digital resources. (Bharadwaj et al., 2013).
- **Digital Platforms**: is a profitable network of suppliers, intermediaries, buyers, and complementarities that are held organized through official contracting and mutual reliance on one another (Asadullah et al., 2018). The author goes on to add that these platforms are used as a mode of organizing human activities including economic, social, and political interactions.
- **E-commerce**: Bhalekar et al. (2014) describes e-commerce as the use of electronic communications and information processing technology to perform business transactions. In other words e-commerce is associated with employing the internet for purchasing and selling of products and services (Duch-Brown et al., 2017) .
- **E-commerce platform:** As defined by (Wallace, 2020) refers to a software tool that lets online businesses to manage their website, marketing, sales, and operations from a single location for increased efficiency.

- **E-Satisfaction:** Refers to the possibility of customers returning to the retailer or company because of the services that have provided the customers before (Othman et al., 2013).
- **Food**: refers to commodities or household supplies that customers buy at a retail store, (Dictionary, 2020). For the purposes of this study this excludes ‘fast foods’.
- **Online Experience:** is defined as an online interaction between a user and an organization that is made possible by digital platforms (Michael, 2020).
- **Online Shopping**: Online shopping can be defined as a form of electronic means for buying goods and services over the internet and involves a fast and effective way for customers to buy goods and services without going to the physical store (Mortimer et al., 2016).

1.9 Assumptions

This study was conducted mindful of the following assumptions:

The principal assumption with this study was that recognizing the fact that the current Covid-19 pandemic has a substantial impact on customers’ shopping behaviours and that this current pandemic will not go beyond 18 months before a vaccine is found. As a result, things will normalize, and customers will go back to their normal cognitive behaviours. So, in summary, the sample population will be a true reflection of the control population and can be taken to be a true representative of the true population. The study assumed that all things being equal (security issues and related factors taken care-of), SA residents and retailers have no limitations or reservations against online shopping. Mobile commerce (m-commerce) will be included to analyse the drivers that influence the behavioural intention for food products of e-commerce usage. Lastly, the research assumed that the study participants will answer the research questions truthfully and will not be influenced to do so. This assumption was important to enhance the credibility of the study.

CHAPTER 2. LITERATURE REVIEW

2.1 Introduction

This chapter was to attempt to address the research questions through a structured review of previous and current literature on e-commerce adoption in general and specific to the grocery (food) e-commerce. This chapter is organized as follows: definition of the key constructs of this study; theoretical foundation and hypothesis development; the research's conceptual model, and conclusions from the extant literature.

2.2 E-commerce

E-commerce, refers to a channel used for selling of products and services over the internet with no barriers of distance or time, it is also a useful tool that aid in reducing the economic gap within and between countries (Villa et al., 2018). The adoption of e-commerce in the grocey sector by customers, however, differs across countries, (Bauerová & Klepek, 2018). In addition (Wen & Guy, 2019) explain that there has been a steady increase in B2C e-commerce adoption in Africa, which includes South Africa, due to factors that includes a heavily banked customers with high purchasing power, the increase in smart devices acquisition and access to the internet and, the adoption of e-commerce by local retailers.

There have been various frameworks used to examine the influence on adoption of technologies across many types of businesses and industries (Wymer & Regan, 2005). Table 1 comprises of similar frameworks that have been proposed to examine the factors that influence adoption of various technologies, including e-commerce.

Table 1: Previously used behavioural intention towards adoption frameworks

Framework	Authors	Constructs
UTAUT	Venkatesh et al.,(2003)	Performance expectancy, effort expectancy, Social Influence, Facilitating conditions, Gender, Age, Experience, Behavioual intention, Use behaviour
UTAUT	Alalwan(2020)	Performance Expectancy, Effort Expectancy, Social Influence, Facilitating conditions, Price Value, Hedonic Motivation, Habit, Online Review, Online Rating, Online Tracking, e-satisfaction
Online Grocery Adoption Model	Phoosangthong & Cimana (2013)	Product & Service Quality, Time Pressure, Experience, Logistics Cost, Perceived Risk, Attitude, Information Access, Purchase Intention
TAM	Davis(1989)	Perceived Usefulness, Perceived ease of use, Attitudes towards use, Behavioural intention to use, actual use
TAM	Rauniar, Rawski, Yang, & Johnson(2014)	Perceived Ease of Use, Critical Mass, Capability, Perceived playfulness, Perceived Usefulness, Trustworthiness, Intention to use, Actual Use
Model for Mobile App adoption (UTAUT/UTAUT2)	Malik, Suresh, & Sharma(2017)	Performance Expectancy, Ease of Use, Social Influence, Enjoyment, Incentives, Facilitating conditions, Aesthetics, Trust, Satisfaction, Habit, Continuous use
UTAUT2	Palau-Saumell, Forgas, Sánchez-García, & Robres(2019)	Performance Expectancy, Effort Expectancy, Facilitating Conditions, Hedonic Motivation, Price saving orientation, Habit, social influence, Perceived Credibility, Intentions to use, Use
UTAUT	Emma L Slade(2015)	Performance Expectancy, Effort Expectancy, Social Influence, Innovativeness, Trust, Knowledge
TAM	Ma, Gam, & Banning(2017)	Perceived Usefulness, Perceived ease of use, Attitudes, Behavioural Intention

When used in quantitative studies, constructs from models in Table 1 are used as independent variables to test which variables affect adoption constructively or disapprovingly. This wide use of these models can be confusing and contradictory as the variables can be seen as both barriers and incentives to adoption of technologies as further mentioned by (Wymer & Regan, 2005). In addition, although the studies identified on Table 1 are related to this study, they focused broadly on e-commerce, e-commerce for groceries with no particular focus to food products in South Africa. TAM and UTAUT2 are most influential models in assessing the users' intention and behaviours towards adopting and using a technology (Bauerová & Klepek, 2018). The advantage of these models is that they can be used as basis models and be enhanced to suit a specific study by adding relevant variables. The researcher used these models as these have shown to assist in identifying factors that influence customers' behaviours towards e-commerce products and services.

2.2.1 *Types of e-commerce*

There are various business models available for e-commerce, with the popular ones being business to business(B2B), business to consumer(B2C), consumer to business(C2B) and consumer to consumer(C2C) (Abdollahi & Leimstoll, 2011). The different types of business models are explained as follows (Taher & Alnoor, 2021):

- **B2B** (Business to Business): This business model involves one business selling products and services to another business.
- **B2C** (Business to Consumer): In this business model, the businesses sell products or services to consumers. The consumer will see a product on a business website, select it and buy it.
- **C2C** (Consumer to Consumer): This is where a customer sells goods and services to another customer. Consumers deals directly with each other in this type of business model.
- **C2B** (Consumer to Business): In this business model, a customer sells their products and services to a company.

For this study, the focus was on the B2C (business to consumer) business model as it involves consumers buying products (food) from businesses.

2.2.2 *Benefits of E-commerce*

Adopting e-commerce presents a lot of opportunities to the global economy across various industries, it also brings benefits to both consumers and businesses (both small and large) if adopted (Khan, 2016). For businesses, the study conducted by Kuzic et al., (2002) mentioned that it increases the business efficiency, reduce operations costs, helps retain existing customers and expansion to new customer base and lastly, it allows businesses to have competitive advantage. For customers, (Duch-Brown et al., 2017) explained that e-commerce makes it easier to compare prices from different retailers and it is convenient as customers can shop from anywhere and at any time.

2.2.3 *Inhibitors to e-commerce adoption*

Although e-commerce sector has been increasingly innovative (Kunene & Mbhele, 2018) mentions that it has been met with socio-economic, infrastructural, technological, and cultural barriers to its adoption in African countries, South African included. Furthermore, although e-commerce has been on the rise in South Africa, it has also been met with barriers. Mapande and Appiah (2018) describes that amongst other inhibiting factors, SA customers are concerned with shipping costs, security, safety, and trust where online transactions are concerned. Customers are also concerned with regulations as tax, VAT and duties must be paid when shopping abroad.

2.2.4 *Grocery e-commerce adoption in South Africa*

Davis, L. (2019) mentions that online grocery shopping, which include food products, forms part of the e-commerce sector regarded as one that has evolved over the years within the online market. As reported by (Weber-Snyman, 2015) the challenge with grocery e-commerce adoption is that barriers to it existed as retailers were not well informed on what influence customers to adopt this sector. Furthermore, there are only a few research that have looked into the uptake of e-commerce grocery markets in South Africa. According to Johnson and Iyamu (2019), studies on the adoption of e-commerce in the grocery retail sector were limited, resulting in minimal adoption by retailers. According to (Othman et al., 2013), although there was an increase in sales within the e-commerce space, online grocery transactions were low compared to other items that the customers buy online. Additionally, as mentioned previously in Chapter 1, (Swiegers, 2018) alluded that ‘grocery online-shopping’ lagged in e-commerce in comparison to other items. Recently, (Teuteberg, 2020) reported that South African customers still prefer to physically go to the store to shop for groceries, as this gives them the ability to touch and feel the grocery products they are shopping for, including food products.

In this context, it is clear that there is a disconnect between the adoption of e-commerce in the food products sector and an awareness of the elements that influence customers' decision to buy food items online. This study therefore

sought to figure out the factors that can drive customers in SA to adopt buying food products online.

2.3 Theoretical Foundations and Hypothesis Development

The TAM and UTAUT2 constructive models were used in this study. These models were relevant for this study because, TAM, as mentioned by (Zaineldeen et al., 2020) has been popular amongst the researchers to effectively examine and predict the users' intention to embrace a new technology. The second model, UTAUT2, an extension of UTAUT has also been regularly utilized to investigate individual's perspectives with regards to technology adoptions as alluded to by (Huang & Kao, 2015). These models are widely used as the essential framework and this helps to construct some key variables regarding technology, customer behavior, perception, and perceived use of technology. In addition, as explained in section 2.28 of this chapter, the researcher included e-satisfaction to investigate the impact of online shopping experience on the relationship between these independent variables and the dependent variable (BI) relating to the intention to use food products e-commerce platforms.

TAM and UTAUT2 models were therefore used for this study on the assumption that customers views grocery e-commerce platforms as an interaction, a technology system and are broadly used to examine users' behavioural intention, resulting in the conceptual framework for this study, shown in Figure 4.

2.3.1 *Technology Acceptance Model*

This model shown in Figure 2, focuses on information technology systems as well as the prediction of its acceptability among people. The main purpose of using this model for this study is to determine whether this could be an appropriate theoretical tool for using e-commerce within B2C. It also suggests that the acceptability of technology and information system can be identified by some major factors such as Perceived Ease of Use (PEoU), Perceived Usefulness (PU), (Holden & Karsh, 2009). TAM has been empirically validated and several previous researchers have noted that this model is reliable, and it explains the

fraction within the variance of outcome variables such as system usage and the use of a certain technology system. The use of the model is justified because it both focuses on the technology's usefulness along with customer behavior and intention. It would secure the determination of e-commerce usage for food products by understanding the possible behavioural intention of customers. However, for this study the focus was not to determine the actual usage of the e-commerce platforms for buying food products, hence the other two constructs for this model (Attitudes Toward Using and Actual System Usage) were excluded.

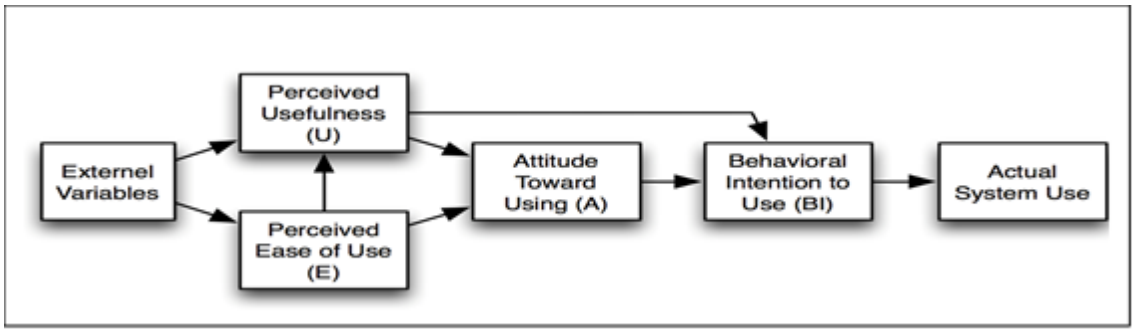


Figure 2: TAM *(adopted from Davis, 1987)*

Perceived Usefulness (PU)

Perceived Usefulness (PU) as defined by Daneji et al. (2019), is considered as an extent or level to which people believe that information systems and technology use would enhance their performance on a certain task (Duch-Brown et al., 2017). Davis (1987) suggested that using technology can yield benefits such as productivity improvement, user performance and efficiency of user processes, concluding that if the users of a technology have bad experience with it, their plan to use the technology again will be negatively influenced. Previous research by (Bauerová & Klepek, 2018) and You et al. (2020) suggested that PU gets affected by task-technology fit, if a technology highly fit the task that the users are performing, users' perceive the technology to be useful and can thus form the basis for them to actually use it. (Bauerová & Klepek, 2018) further suggest that online grocery shopping can be viewed as a technology system and users can be driven to use grocery e-commerce platforms if they perceive it to be useful. In addition study by (Gefen & Straub, 2000) confirmed that PU plays a significant role in the intended usage of e-commerce. The following was thus, hypothesised for this study:

H_1: *There is a positive relationship between perceived usefulness and customers' behavioural intention to buy food products through e-commerce platforms*

Perceived Ease of Use (PEoU)

Davis (1987) explained that Perceived Ease of Use (PEoU) refers to a level to which people believe that using a certain technology will be effortless, furthermore, a technology system displays ease of use if it is easy to learn, it can do what the user want to achieve and is easier to operate. A study by(Nasution & Azmin, 2018) explains that, systems that are easy to use are easier to operate and saves the users time as it does not require much effort to learn to use it and such systems influence the intention for users' to adopt them. A previous study by Abdullah et al. (2016) PEoU appears to have a favorable impact on users' intentions and attitudes toward using e-commerce. For this study, PEoU refers to the intent with which consumers in South Africa feel they will use e-commerce to shop for food products effortlessly and easily. It can therefore be hypothesised that:

H_2: *There is a positive relationship between perceived ease of use and customers' behavioural intention to buy food products through e-commerce platforms.*

2.3.2 *Unified Theory of Acceptance and Use of Technology (UTAUT2)*

UTAUT2, shown in Figure 3, was developed by (Venkatesh et al., 2012), to be used as a tool that can efficiently investigate the drivers that can influence acceptance of a newly introduced technology, particularly where adoption is likely to be slow. As defined by (Al-Qeisi et al., 2015), this model therefore is used to provide a basis for investigations, in relation to the users behaviours towards technology adoption. The model for this study was built on some more effective constructs such as Performance Expectancy (PE), Social Influence (SI), Facilitating Conditions (FC), Prive Value (PV), Habits (H) and, Behavioural Intention (BI) adopted from the UTAUT model.

Previous studies have definded UTAUT2 as an effective framework to understand the user behavioural intention towards technology adoption. As explained by (Abbad, 2021), UTAUT2 was useful to understand and envisage the behavioural intentions of users regarding adoption and usage of an e-learning technology. The use of UTAUT2 model was justified for this study as it focuses on several key constructs that are broadly used for technology adoption and thus, the constructs adopted from it will assist in identifying drivers that influence embracing of e-commerce in food products. From the model the constructs that were left out were Effort Expectancy and Hedonic Motivation as they were not in line with the key issues that the paper is trying to address e.g. actual use and fun associated with using a technology. Furthermore, Age and Gender were excluded because the researcher did not want to classify the respondents but rather look at a broader response. Experience was substituted with e-satisfaction is relevant to the main research topic regarding online shopping.

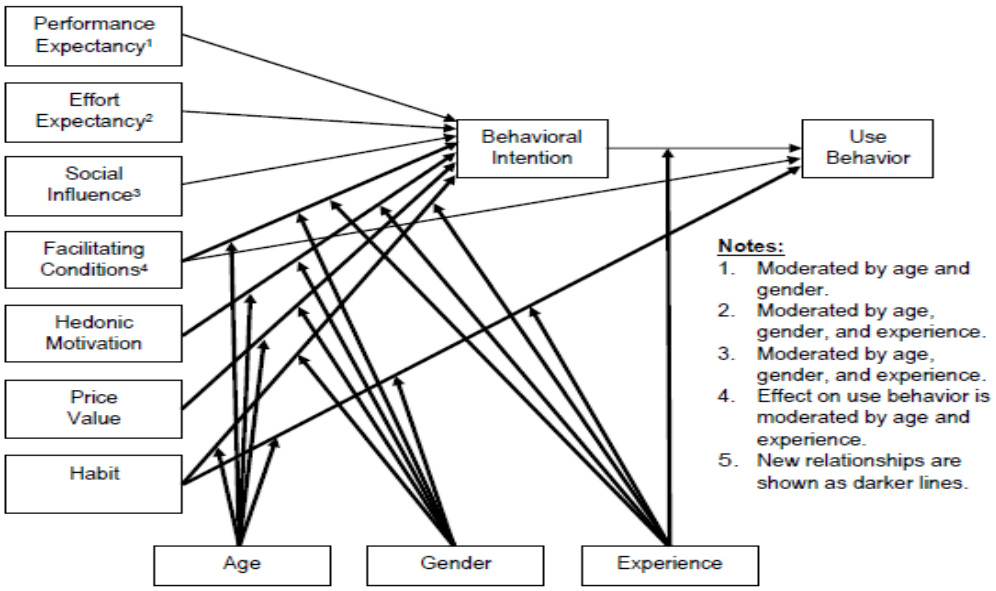


Figure 3: UTAUT2 Research Model *(Venkatesh et al., 2003)*

Performance Expectancy (PE)

PE is the degree to which the individuals suppose that the the extent to which people believe that using a certain technology will improve their performance on a task, (Thomas et al., 2013). Thus, if a technology meets most customers' expectations, they will further use that technology. Maillet et al. (2015) confirmed

that PE strongly influences the behavioural intention to make use of a technology, through examining the usage of electronic patients' record by nurses in the health care sector. A review in existing literature by Cabrera-Sánchez et al., (2020), affirms PE as one of the variables with positive influence on the use of e-commerce. Thus, reinforcing the positive relation performance expectancy has with e-commerce adoption, Therefore, the following can be hypothesised:

> ***H_3:*** *There is a positive relationship between performance expectancy and customers' behavioural intention to buy food products through e-commerce platforms.*

Social Influence (SI)

As defined in the original model, (Venkatesh et al., 2003) defines Social Inluence (SI) as the degree to which friends and family influence others on the use of technology. In the previous studies, Cabrera-Sánchez et al. (2020) and (Miladinovj & Hong (2016) mentioned that in the e-commerce context, social influence as a strong determinant of the behavioural intentions and adoption of e-commerce platforms. This corresponds to the paper by (Venkatesh et al., 2003) which suggested that habit positively affect behavioural intentions of users to adopt and use technology.Preliminary literature signifies the SI as determinant of customers' behavioural intention to utilize e-commerce. Hence the following hypothesis was proposed:

> ***H_4:*** *There is a positive relationship between social influence and customers' behavioural intention to buy food products through e-commerce platforms.*

Price Value (PV)

PV is described as customers' rational trade-offs between the financial cost of using new technologies and perceived benefits of using them (Palau-Saumell et al., 2019). Anckar et al. (2002) and Palau-Saumell et al. (2019) suggest that, for customers to adopt e-commerce, they must be offered value-added services that they are not getting from traditional shopping methods of going into the stores. Price value (PV) is considered higher when the benefits of using a technology,

like e-commerce are higher than the monetary costs of using it. Thus PV is recognized to have a positive impact on the users' behavioural intention and can be added as a predictor to the use of technology (Widodo et al. 2017). For this study it can thus be hypothesised that:

> ***H_5:*** *There is a positive relationship between price value and customers' behavioural intention to buy food products through e-commerce platforms.*

Facilitating Conditions (FC)

Facilitating Conditions (FC) as defined in the initial study by Venkatesh et al. (2003) is the extent to which users think that infrastructure is available to support technology or system usage. (Al-Qeisi et al., 2015; Widodo et al., 2017) all suggest that the users feel comfortable to use a technology if it is supported by relevant technological and organizational infrastructures, thus, FC can predict the behavioural intention. In the perspective of grocery e-commerce usage, users are influenced once they are aware of the technologies available to enable them to shop for their desired products as confirmed by Pauzi et al. (2017), thus confirming FC to positively impact the customers' intention to use grocery e-commerce. Therefore, the following can be hypothesized:

> ***H_6*****:** *There is a positive relationship between facilitating conditions and customers' behavioural intention to buy food products through e-commerce platforms*

Habit (H)

Previous studies defined habit (H) as the extent at which people tend to automatically perform behaviours because they have previously learnt to do them as mentioned by Venkatesh et al. (2012) and Widodo et al. (2017), and is therefore derived from experience. In a study conducted by Fadzil (2017), it was found that past experience in using a related technology has positive impact on the adoption of a new technology. The same author also suggested that 'habit' has a great impact in the intention of customers to buy groceries online and should thus be considered in predicting e-commerce consumer behaviour, hence the following was hypothesised:

H_7: *There is a positive relationship between habit and customers' behavioural intention to buy food products through e-commerce platforms.*

E-satisfaction (eS)

E-satisfaction is defined as the contentment of the customer due to their prior online purchasing experience (Alalwan, 2020). Thus, aligning to this definition, if customers have previously been impressed and happy with the online shopping experience, they are likely to continue shopping online for various items including food products. This construct can be regarded as a moderating variable, which Farooq and Vij, (2017) defines as a variable that affects the power of the association amongst the independent and dependent variables. E-satisfaction was, therefore, added to examine the effect online shopping experience has on the association both PU and PEOU have with behavioural intention to use e-commerce platforms for buying food products.

Behavioural Intention (BI)

BI generally describes the extent to which people consciously frame the plans for performing or not performing a future behaviour (Mandilas et al., 2013). The concerned study is based on online food products shopping so the behavioural intention would be focused upon the online purchasing intentions and usage. All the above constructs ensure the level of customers behavioural intention regarding technology usage within a certain B2C operation (Williams et al., 2015). Thus, this is regarded as an outcome variable, which would directly impact the usage of e-commerce in the food products sector.

2.4 The Proposed Conceptual Framework

The synthesised constructs, independent variables and their relationships with the dependent variable are outlined in figure 4 below.

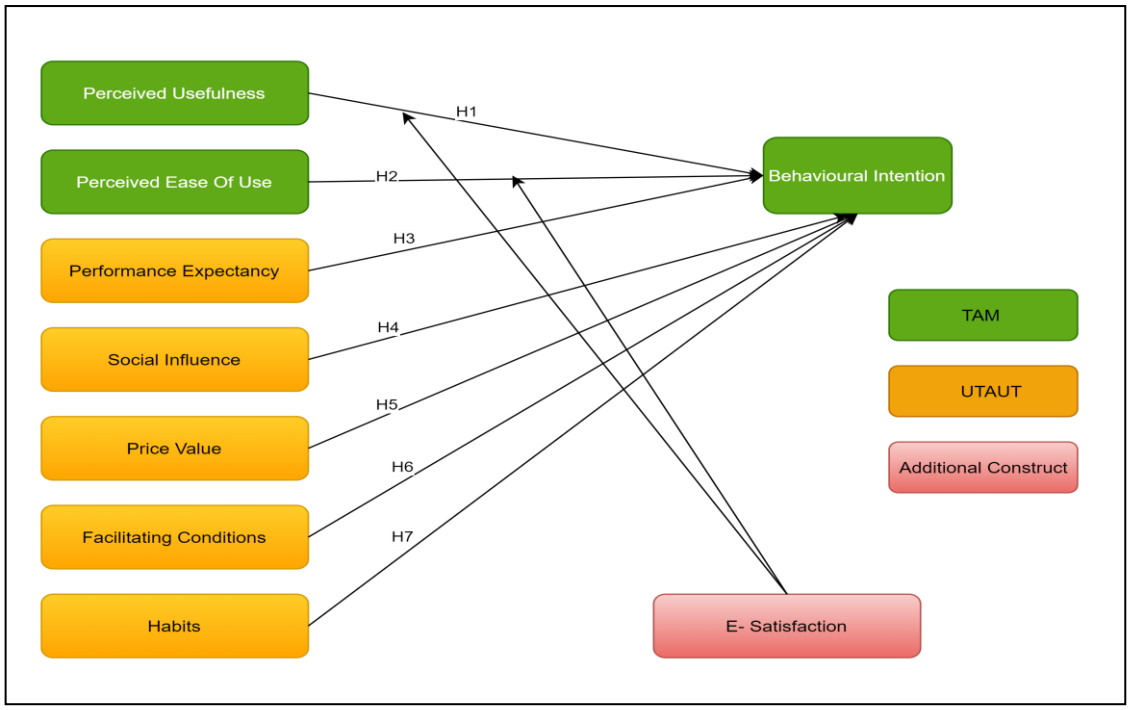


Figure 4: Proposed Conceptual Framework *(the Researcher's Own Illustration)*

The study hypotheses are summarised in table 2 below.

Table 2: Study Hypotheses Summary

Hypotheses	Hypothesis
H_1	*There is a positive relationship between perceived usefulness and consumers' behavioural intention to buy food products through e-commerce platforms*
H_2	*There is a positive relationship between perceived ease of use and consumers' behavioural intention to buy food products through e-commerce platforms.*
H_3	*There is a positive relationship between performance expectancy and consumers' behavioural intention to buy food products through e-commerce platforms.*
H_4	*There is a positive relationship between social influence and consumers' behavioural intention to buy food products through e-commerce platforms.*
H_5	*There is a positive relationship between price value and consumers' behavioural intention to buy food products through e-commerce platforms.*
H_6	*There is a positive relationship between facilitating conditions and consumers' behavioural intention to buy food products through e-commerce platforms*
H_7	*There is a positive relationship between habit and consumers' behavioural intention to buy food products through e-commerce platforms.*

2.5 Chapter Summary

This chapter concluded that the adoption of new advanced technologies depends on several driving factors. However, it is necessary to ensure consumer participation during the transition period between traditional shopping to online shopping. To build an e-commerce segment, it is important to identify what customers feel regarding technology and how they react to situations. For that purpose, the chapter entirely discussed the driving factors of e-commerce platform usage. Two models were used to list down all those constructs or variables as per the usability and nature of the system usage and consumer behaviour. Furthermore, a moderating construct, e-satisfaction which is related to the online shopping experience was introduced. Each construct verifies and develops a hypothesis for addressing the positive effects of customer behaviour and system utility on e-commerce adoption within the food products sector.

The next chapter presents the research methods and the methodological considerations applied in this study.

CHAPTER 3. RESEARCH METHODOLOGY

This section presents the methodology that was followed to address the research questions. This section covered the following key methodological concepts: the research approach; research design; data collection methods; data analysis; limitations of the study; issues of validity and reliability; and the ethical considerations.

3.1 Research approach

For this study, the quantitative research method was employed. As explained by McCombes (2019), this research approach is best suited to establish generalized facts about a certain topic. The researcher chose this approach because as explained by Williams (2007), quantitative research is the approach used to create, confirm, or validate relationships and to develop generalities that can be used to contribute to theory. Thus, this approach can assist in quantifying beliefs, mindsets, behaviours, and other variables that will assist the researcher to derive generalities from the identified population. Daniel (2016) explains that with this approach, the bias of the researcher in data collection and analysis can be reduced as the researcher does not have to come into physical contact with the participants, therefore the data will be collected over a survey without meeting the respondents face to face. Lastly, recently Mzekandaba (2020) reported that with the influx of low-cost smart devices available, smart device penetration went over 90%. Because the survey can be accessed on smart devices, the researcher was able to reach a satisfactory number of respondents.

3.2 Research design

The study was conducted through an online survey, this study design has its advantages of potentially reaching a large population and it is cost effective (Mzekandaba, 2020). Ponto (2015) further explains that online survey is convenient and has a good statistical significance. However, Rice et al. (2017) conceded that, online surveys also present disadvantages such as, the response rate not reaching the anticipated number as respondents might start the survey

and not complete it due to distractions or them perceiving it time consuming. The author also stated that, since the respondents' identities are unknown it becomes impossible to follow up with them or invite them to participate in further research. The primary data for this study will be collected through a self-administered questionnaire (SAQ). Lavrakas (2008) explains that this type of questionnaire can be finalized by the respondents without the involvement of the researcher.

3.3 Data collection methods

3.3.1 *The research instrument: survey questionnaire*

The primary data was collected through an online questionnaire that was sent through emails, social networks and whatsapp messaging. Questionnaires are practical and huge volumes of data can be collected from a big population in a cost-effective was, within a short space of time. The results can be analysed easily through software packages, scientifically, and objectively (Jones et al., 2013). The questions asked on the survey were aimed at answering the constructs created for this study. The questionnaire was created on *Qualtrics* software and sent electronically to the potential respondents with the main objective of the study outlined on the introduction section of the survey. Ginn, (2018) explained that Qualtrics software is a safe, web based survey tool that allows users to construct, distribute and analyze the online surveys easily. Furthermore it makes it easier to export data into multiple desired formats to import in other analysis softwares.

3.4 Population and sample

3.4.1 *Population*

The population for this study included any individual in South Africa, who uses WhatsApp, social media platforms and had a valid email address. This covered both individuals who have possibly used e-commerce before, regardless of the number of times, as well as individuals who have not done so. Futhermore, this

study targeted individuals within the age range of 22-59 years, as these are individuals who are considered to be within the working age group in South Africa, (Bhorat et al. 2015). It was thus valuable to include people in this age group in this experiment as they can be assumed to have some purchasing power and thus, can assist in identifying factors that would potentially drive customers to use e-commerce platforms to shop for food products in South Africa.

3.4.2 *Sample and sampling method*

McCombes (2020), defines sampling as process of selecting a group of people from whom the study's data will be collected, it allows for the hypothesis about the characteristics of the population to be tested. A convenience sampling method was used for this study. According to Etikan et al., (2016), this non probability sampling method includes members of the population that meet a variety of practical criteria such as geographical proximity and being administratively and easily accessible. Therefore, the researcher's direct mobile and social media contacts, including professional, social media can forward or refer the survey to others in their contacts list to complete it. The sample size is determined using the Sample Size Calculator, with a 5% margin of error and a 95% confidence interval($p \geq 0.5$) by Raosoft, (2004). According to Bryman & Bell, (2007), in correlational studies, a sample of 100 respondents is ideal for a quantitative study however for this study from the 687 responses received, 425 responses were considered usable as the respondents in this bucket completed the questionnaire without skipping any of the sections.

3.5 The research instruments

The questionnaire was piloted to the researcher's close contacts (brothers) using electronic survey to ascertain if it works as expected. Once that was confirmed, it was distributed to targeted respondents also using an electronic ~~s~~urvey. The questionnaire was designed on the Qualtrics software. 3, 5 and 7-point Likert scale were used to determine the association between the independent, moderator and dependent variables. Previous studies and scales from past questionnaires were used to inform the development of the questionnaire.

Treiblmaier & Filzmoser (2011) state that Likert scales are commonly used to measure individuals' attitudes and can yield data which is practically normally distributed. The research instrument for this study was a multi-item measurement comprising of two to four questions/statements for each construct (as seen on table 3). After data collection, Microsoft Excel and Jamovi 1.6.13 statistical software package were employed for data analysis.

The questionnaire consisted of the following sections:

- As seen on table 3, section A had basic demographic details of the respondents and section B measured independent, moderator and dependent variables and the consistency of predictor variables of food products e-commerce platforms usage.

Table 3: Measurements Constructs

Constructs	Section	Question #	Items	Variables
Demographics	A	Q1-5	5	
Perceived Usefulness	B	Q6-8	3	Independent Variable
Perceived Ease of Use	B	Q9-11	3	Independent Variable
e-Satisfaction	B	Q12-14	3	Moderating Variable
Performance Expectancy	B	Q15-18	4	Independent Variable
Facilitating Conditions	B	Q19-21	3	Independent Variable
Price Value	B	Q22-23	2	Independent Variable
Social Influence	B	Q24-26	3	Independent Variable
Habit	B	Q27-30	4	Independent Variable
Behavioural Intention	B	Q31-34	4	Independent Variable

3.6 Procedure for data collection

This study was a cross-sectional study. The questionnaire was designed, distributed, captured and summarized using Qualtrics software. As the convenience sampling method was applied for this study, the data was collected through sending the questionnaire to participants via email, WhatsApp,or link shared on other social media platforms (Twitter and LinkedIn). For these methods, the processes were as follows:

For email, a questionnaire was sent to the participants' email address (fellow students and private) explaining the purpose of the questionnaire, and requesting their participation in completing it. Participants were also asked to forward the questionnaire to their peers to increase the response rate. The participants were given three weeks to complete the questionnaire in order to improve the response rate.

For social media pages, a questionnaire link, with the introduction, was sent through posting the link on the researcher's timeline and direct messaging to the researchers' followers with whom they regularly engage. Participants were asked to further share the link with their followers to improve the response rate.

For WhatsApp, a questionnaire link, with the introduction was sent to the researcher's direct contacts. Participants were asked to share the link with their whatsapp contacts as well to improve the response rate.

3.7 Data analysis and interpretation

The data gathered using the survey questionnaires was statistically analysed using Jamovi 1.6.13 software, which is a free and easy to use software built on R and commonly used by social scientists, (S'ahin & Aybek, 2019). Furthermore, as highlighted in the works of (S'ahin & Aybek, 2019), Jamovi is a free software system allows for core functions such as data entry, manipulation and analysis such as descriptive statistics, regression, exploratory and confirmatory factor analysis.

Once the data was captured on Qualtrics, it was cleaned to ensure that integrity is maintained. The data collected was exported to excel to check for missing data and errors. A total of 687 responses were obtained from the questionnaires that were sent out. To be able to generate the best results, the data was prepared on Microsoft Excel to remove the missing data and generate better data structure. This study adopted the convenience sampling technique which does not necessitate a set number of respondents for the study. Out of the 687 responses received, 425 respondents have completed all the questions that were required to be answered and 262 had missing data which comprised of respondents that

decided to either exit the survey along the way or did not attempt to answer some of the questions. The analysis was thus, conducted using the responses from the 425 respondents who completed the survey.

Furthermore, validity and reliability testing were done to assess whether the measures used for each construct were consistent and accurate. This was done to also ensure that clear insights are derived about the research questions identified as part of this research study. These are explained in detail in section 3.9.

3.8 Limitations of the study

The main limitations of this study included the fact that this study was geographically limited to SA and was also restricted to the food products sector. Other limitations are that the selected research instrument only allows for limited information about participants' characteristics to be collected, because sometimes only demographic information is requested and participants can provide incorrect demographics and there is no way to verify if these details are truthful (Wright, 2017). These can thus hinder with the ability of the researcher to make generalizations about the study findings.

Lastly, this was a cross-sectional study and according to Wang & Cheng, (2020) this type of study does not involve the investigation of the relationship between the outcomes of the study and risk factors. Therefore, the study was limited in that inhibiting factors or their interaction with the outcome factors were not explored.

3.9 Validity and reliability

3.9.1 *External validity*

External validity, often known as generalization, refers to the question of a study's application in different situations. Andrade, (2018) mentions that even though it is based on finding and is not a calculated piece of data, external validity specifies

that the findings of a study are transferable to other studies that have similar features. This study had a high degree of generalisation as it can be used on other related studies that analyses the customers' behavioural intention to use B2C e-commerce for various products. The findings can apply to other African countries that have comparable levels of internet penetration.

3.9.2 *Internal validity*

According to Andrade, (2018), internal validity of a research study is concerned with its structure and processes, it examines how a study was designed, focused, and analysed,. This study applied confirmatory factor analysis (CFA) technique on Jamovi 1.6.13 software to ensure a high degree of credibility. CFA is used to test that an association between the identified variables and their fundamental underlying constructs exists (Hox & Bechger, 1999). Convenience sampling method was selected for this study, this sampling technique involves selecting the respondents based because they conveniently reachable to participate in the study (Jager et al., 2017). This author further explains that this technique does not require the study to have a set number of respondents. Furthermore, quantitative analysis tools were used to minimize subjective influences and ensure objectivity. These strategies were employed to help with enhancing the credibility of this research study.

3.9.3 *Reliability*

Reliability seeks to ascertain whether the findings of a research project will be valid or consistent. It encompasses participants' assessment of the finding's interpretation, and suggestions of the study such that there is supporting data as received from participants where required (Korstjens & Moser, 2018). To test reliability for this study, Cronbach Alpha tool was used through Jamovi 1.16.13 software. As indicated by Galawe (2017), this tool is a multi-item scale measure that is assessed utilizing grouped correlation coefficients within a range of zero to one and where the coefficient is close to one, it is regarded as having high internal reliability but unidimensional. For the study a Cronbach of 0.7 or more should be accepted as it shows true ability and 0.3 error rate, as further explained

by Galawe (2017) and one less than should be discarded. The outcomes of this test are shown in Table 9, in section 4.2 of this report.

3.9.4 *Confirmatory Factor Analysis*

Confirmatory Factor Analysis (CFA) is a common sort of structural equation modelling (SEM) method in which the observed variables (e.g., test items, test scores, behavioural observation ratings) are related to hypothesized latent variables or factors (Thompson, 2004). It enables researchers to identify whether the variables they're looking at measure one or more hidden variables, as well as how these latent variables connect to one another.

CFA was practical to validate the measurement specifications using Jamovi 1.6.13 software which is an open-source software built on R statistical language, (S'ahin & Aybek, 2019).

Model fit: Regarded as the critical step for CFA, goodness of fit echoes how well the model fits the observed data (Shanmugasundar et al., 2021). The author further stipulates that the model fit indices are used with hypothesis testing to either reject or preserve the proposed model.

3.10 Demographic profile of respondents

The demographic profile of the participants in this study will have a wide range. The study will mainly source survey responses from South African consumers. People between the ages of 22 to 59 years, who fall within the working age group in SA, as defined by Bhorat et al., (2015), were included as part of the sampling process. This helped to ensure that the study can generate responses from consumers who have an income and can actively participate in the purchasing process. There was no specific focus on differentiating demographics based on gender. Males and females who fit the above-mentioned criteria were eligible to take part in this study.

3.11 Ethical considerations

Research ethics refers to applying ethical values in good faith to ensure that the participants and other relevant parties are not harmed in any way during the process of research (Parveen & Showkat, 2017). The standard ethical procedures and guidelines of Wits University were followed. The questionnaire introduction explained the significance of the study to the respondents. The study participants were recruited voluntarily and had an option to leave in the study at any point if they so desired.

Ethical issues were also observed by the researcher while collecting data through questionnaires. The researcher ensured that the data for this study was collected in a principled way by getting contributors notified consent, not having irrelevant questions and explaining the significance of the research.

Moreover, the researcher outlined the contributors' role to them, ensuring that they are aware that they their participation is not obligatory and will be kept anonymous. Lastly, the ethics clearance certificate from the Wits ethics committee was applied for by the researcher and was approved before the questionnaire was administered. The ethical clearance number for this study is *WBS/BA1875076/186*. See attached copy in the Appendix C.

The findings of this study will be utilized for strictly academic uses by the researcher and not misused for personal gain in any way.

CHAPTER 4. PRESENTATION OF RESULTS

This chapter deals with the analysis of the data received from the respondents for this study. The analysis conducted includes Cronbach's alpha test and confirmatory factor analysis for validity and reliability. Furthermore, the hypotheses for the study were tested through correlation coefficient testing, linear regression was used to test the conceptual model and finally moderation analysis was conducted to test the effect of the moderating variable.

A total of 687 responses were received from the questionnaires that were sent out. To be able to generate the best results, the data was prepared on Microsoft Excel to remove the missing data and generate better data structure. Out of the 687 responses received, 262 were rejected because they had missing data where respondents decided to either exit the survey along the way or did not attempt to answer some of the questions. The analysis was therefore, conducted using the responses from the 425 respondents who completed the survey.

Reliability was achieved using Cronbach's Alpha test. It yielded results that were greater than the accepted value of 0.70, this shows that the items are consistent and can be used to measure respondents' behavioural intention to using e-commerce platforms when buying food products online. Validity was achieved by having factor loadings above recommended threshold of 0.31. Discriminant validity was also achieved with the results showing no correlation of above 0.700.

The confirmatory factor analysis was conducted to validate the data to the model. The CFA model achieved an acceptable good-of-fit to the data with CFI= 0.902, RMSEA = 0.712 and TLI = 0.883 which presents an opportunity to be improved in future. During the hypothesis test all hypotheses were supported, showing positive interactions between the independent and dependent variables, and equally a positive relationship with moderation on the independent and dependent factor relationships.

4.1 Demographic profile of the respondents

Demographics information was collected, and it involved personal characteristics of each of the respondents such as their gender, age bracket, current location, ownership of a smart device, and possession of a bank account. The results from this data were able to be summarised in form of percentages of the participants who chose either of the answers. For each of the questions, tabulated information was generated using Microsoft excel as shown on the tables below.

The analysis was conducted using the utilizable number which was N=425 respondents who completed the survey.

4.1.1 *Gender*

The data summaries on Table 4 shows the participants' distribution by gender with 244 (57%) being female, 177 (42%) male and 4 (1%) chose not to disclose. Table 4 below demonstrate how the sample was divided into genders.

Table 4: Gender

	Responses		
Q1: Are you male or female?	Total Count (Answering)	425	100%
	Male	177	42%
	Female	244	57%
	I choose not to disclose	4	1%

4.1.2 *Current location*

The biggest proportion of the people who responded to this study currently resides in South Africa with an overall percentage of 419 (99%), while 6 (1%) do not. The results are illustrated on Table 5.

Table 5: Current Location

	Respondents		
Q2: Do you currently live in South Africa?	Total Count (Answering)	425	100%
	No	6	1%
	Yes	419	99%

4.1.3 *Age bracket*

As shown on Table 6, according to the demographic data collected, 43% of the participants in this research study were in the age bracket of between 22 and 30 years of age. These are followed by a 157 people falling within 30 to 39 years category at a percentage of 37%, only 76 respondents of the study were between the age of 40 to 49 constituting 8% of the total respondents and finally of the respondents who were aged 50 to 59, only 9(2%) of them completed the questionnaire.

Table 6: Age Bracket

	Respondents		
Q3: What is your age range?	Total Count (Answering)	425	100%
	22 - 30	183	43%
	30 - 39	157	37%
	40 - 49	76	18%
	50 - 59	9	2%

4.1.4 *Possession of a bank account*

The data shows that most of the people who participated in this study have bank accounts, making up over 98% of the sample population (although the questionnaire did not check whether the account is active of inactive) and only 2% of the respondents selected No, meaning that they do not have bank accounts. The summaries can be seen in Table 7.

Table 7: Bank Account

Q4: Do you have a bank account?	**Respondents**		
	Total Count (Answering)	425	100%
	No	9	2%
	Yes	416	98%

4.1.5 *Smart device (Computer/Laptop/Tablet or Smartphone)*

The results summaries on Table 8, indicate that the largest number of people own a capable device that could be used for performing online shopping making up a percentage of 99.76 % of the total sample. Only 0.24% of the participants stated that they do not have smart devices to enable them to shop online.

Table 8: Smart Device

Q5: Do you have a smart device (Computer/ Laptop/ Tablet/ Smartphone)?	**Respondents**		
	Total Count (Answering)	425	100%
	No	1	0%
	Yes	424	100%

4.2 Validity and Reliability

On Table 9, the overall results from the scale reliability test are presented. The reliability test was conducted on all the constructs, showing the number of items evaluating each construct. Reliability was measured on the nine constructs using Cronbach alpha, and the findings indicate that the scale demonstrated an admirable reliability with the overall scale being 0.948 as shown below.

Progressing from section 3.8, research has shown that a higher Cronbach's coefficient alpha indicates greater measuring scale reliability (Mohamad et al., 2015). Table 4.6 shows the overall Cronbach’s alpha of 0.948, which indicates good reliability of the scale. The value of alpha is greater than 0.70 which as mentioned in chapter 2 is a benchmark for acceptable Cronbach alpha scale, therefore the items are considered consistent and can be used to measure respondents’ behavioural intention to use e-commerce platforms when buying food products online. All factors showed sufficient discriminant validity as the

correlation matrix demonstrated that there was no correlation above 0.700, as seen on table 12.

Table 9: Results of Cronbach alpha for overall CFA Model

Reliability Analysis		
	Scale Reliability Statistics	
		Cronbach's α
	Overall scale	0.948
	Item Reliability Statistics	
Constructs	**Constructs Items**	**Cronbach's α**
Perceived Usefulness	PU1	0.945
	PU2	0.946
	PU3	0.946
Perceived Ease of Use	PEOU1	0.946
	PEOU2	0.948
	PEOU3	0.945
e-Satisfaction	SATIS1	0.947
	SATIS2	0.944
	SATIS3	0.945
Performance Expectancy	PE1	0.944
	PE2	0.945
	PE3	0.945
	PE4	0.947
Facilitating Conditions	FC1	0.949
	FC2	0.949
	FC3	0.947
Price Value	PV1	0.946
	PV2	0.945
Social Influence	SI1	0.946
	SI2	0.946
	SI3	0.946
Habit	H1	0.946
	H2	0.948
	H3	0.945
	H4	0.946
Behavioural Intention	BI1	0.945
	BI2	0.944
	BI3	0.944
	BI4	0.945

4.3 Confirmatory Factor Analysis

CFA was employed to evaluate the comprehensive measurement model for the constructs used in the study. It allows researchers to ascertain if the variables they evaluate measure one or more underlying variables, and how these latent variables correlate to each other. For this study, CFA was conducted using Jamovi V1.6.13 software to assess the model fit statistics and the reliability of observed variables in relation to the latent constructs.

Table 10 shows the summation of the model fit statistics of the conceptual model for this study. According to Xia & Yang, (2019), the Chi-square is known to be very sensitive in model testing especially for large samples, therefore, other comparative fit indices were used to assess the exact fit for the model which includes: the RMSEA (Root Mean Square Error of Approximation), CFI (Comparative Fit Index), SRMR (Standardised Root Mean Square) and TLI (Tucker-Lewis Index). These indices were selected as they are believed to be insensitive to sample size, misspecification of the model and factor estimates according to Hooper et al., (2007).

4.3.1 *Model Fit Evaluation*

Based on the results shown on the Table 10, the chi-squared test generated these results: X2 =1075, df = 341, p=<0.001. The results shows that chi-square p-value = <0.05, and thus suggest a poor model fit as explained by (Hooper et al., 2007). Furthermore, (Hooper et al., 2007) also suggests that RMSEA of <0.08, SRMR of <0.05, CFI of >.90 and TLI of >.80 can be acceptable thresholds for model fit. Therefore, looking at the results shown on Table 10: CFI of 0.902, RMSEA of 0.712 and TLI of 0.883 indicate an acceptable fit of the model for this study. The purpose of this study is to test the relationship between the independent variable on dependent variable (BI), to identify the factors that influence behavioural intention of customers to shop for food products using e-commerce platforms and not to predict BI, however if the latter was to be done the results present an opportunity to improve the model.

Table 10: Model Fit

Model Fit					
Test for Exact Fit					
χ^2	**df**	**p**			
1075	341	< .001			
Fit Measures					
				RMSEA 90% CI	
CFI	**TLI**	**SRMR**	**RMSEA**	**Lower**	**Upper**
0.902	0.883	0.0490	0.0712	0.0664	0.0760

4.3.2 *Factor Loadings*

Factor loadings are a measure of how much a factor is related to the item(s). This value is expected to be close to *+1.0* or *-1.0* for a highly correlated or uncorrelated item to the factor and zero (0) indicating no correlation. The rule of thumb suggests absolute value *0.4* as an acceptable, although a value of absolute *0.7* is used in stringent cases. We look at the standardized estimates of all factors. According to the table of Factor Loadings, all items are statistically significant with p value <0.001.

As seen on Table 11 for the standardized estimate (SE) results, "*Perceived Usefulness(PU)"* has valid loadings ranging between *0.672 to 0.747, "Perceived ease of Use(PEoU)"* have valid loadings between *0.310* to *0.789* where item "*PEOU2*" is below the absolute *0.4* threshold*, "e-Satisfaction(e-S)"* has valid loadings between *0.505* and *0.890, "Performance Expectancy(PE)"* loadings range between *0.510 and 0.867* and all valid*, "Facilitating Conditions(FC)"* has loadings between *0.365* to *0.702* where only item "*FC2*" has a loading slightly below the absolute value *0.4, "Price Value(PV)"* has all valid loadings ranging between *0.717* and *0.844, "Social Influence (SI)"* loadings are all between *0.794* and *0.836* above the absolute *0.4,* with loadings between *0.596* and *0.899* is *"Habit(H)" ,* and finally *"Behavioural Intention(BI)"* with loadings ranging between *0.732* to *0.893.* All the factors appear to be measured by items that ought to measure them consequently confirming the structure.

In addition, Table 11 below also shows completely unstandardized parameter estimates and all estimated standardized parameters were statistically significant

with p-values < 0.001. Factor loading estimates revealed that the indicators were strongly related to their purported factors.

Table 11: Confirmatory Factor Analysis Results

Confirmatory Factor Analysis						
Factor Loadings						
Factor	**Indicator**	**Estimate**	**SE**	**Z**	**p**	**Stand. Estimate**
Perceived Usefulness	PU1	1.228	0.0737	16.67	< .001	0.747
	PU2	1.171	0.0809	14.48	< .001	0.672
	PU3	1.136	0.0741	15.33	< .001	0.697
Perceived Ease of Use	PEOU1	1.056	0.0668	15.80	< .001	0.715
	PEOU2	0.122	0.0199	6.13	< .001	0.310
	PEOU3	1.271	0.0709	17.93	< .001	0.789
e-Satisfaction	SATIS1	0.512	0.0480	10.67	< .001	0.505
	SATIS2	1.336	0.0587	22.76	< .001	0.890
	SATIS3	1.245	0.0553	22.50	< .001	0.883
Performance Expectancy	PE1	1.317	0.0617	21.34	< .001	0.867
	PE2	1.187	0.0649	18.28	< .001	0.804
	PE3	1.141	0.0647	17.64	< .001	0.788
	PE4	0.836	0.0770	10.85	< .001	0.510
Facilitating Conditions	FC1	0.682	0.0701	9.72	< .001	0.559
	FC2	0.149	0.0244	6.12	< .001	0.365
	FC3	0.970	0.0814	11.92	< .001	0.702
Price Value	PV1	1.045	0.0660	15.83	< .001	0.717
	PV2	1.289	0.0672	19.19	< .001	0.844
Social Influence	SI1	1.306	0.0698	18.70	< .001	0.794
	SI2	0.684	0.0341	20.08	< .001	0.836
	SI3	1.472	0.0746	19.75	< .001	0.827
Habit	H1	1.410	0.0830	17.00	< .001	0.742
	H2	0.296	0.0232	12.75	< .001	0.596
	H3	1.657	0.0726	22.83	< .001	0.899
	H4	1.254	0.0674	18.61	< .001	0.784
Behavioural Intention	BI1	1.445	0.0843	17.15	< .001	0.732
	BI2	1.585	0.0712	22.25	< .001	0.870
	BI3	1.794	0.0774	23.19	< .001	0.893
	BI4	1.579	0.0747	21.14	< .001	0.844

4.4 Test of Model and Hypotheses

Correlation, linear regression, and moderation were the statistical techniques used to test the study's hypotheses and model. These tests were employed to measure the relationship between the independent, moderating, and dependent variables. Lunt (2013) explained that regression is known to predict the likely values of the dependent variable from one or more independent variables. For this section, the process began with correlation analysis to analyse the strength, extent and direction and the significance of the relationship between the variables that were examined. In addition, moderation analysis was computed to test the impact of the moderating factor on the independent variable to determine its relationship with the dependent variable.

4.5 Correlation Analysis Results

The correlation matrix was computed, in this subsection the researcher presents the results for correlation analysis for each of the independent factors and dependent factor.

Table 12 combines the correlation results from the independent and dependent factors. Each of the factors' variables correlation matrix are provided in their subsections below. The significance, strength, and direction of each of the variables are construed in detail on the subsections and this is a summary of the findings of the comprehensive analysis.

Senthilnathan (2019) explained that correlation analysis is used to quantify the extent to which two variables are related. This author further states that, for positive correlations, r <0.2 = very weak, r0.2 to 0.35 = weak but considerable correlation, r0.35 to 0.5 = moderate correlation, r=0.5 to 0.7 = high correlation and r>0.7 = very strong correlation.

Based on the results on table 12, most of the independent factors are positively and highly correlated with the dependent variable with significant r value > 0.5. Only FC demonstrated a positive but weak correlation to BI, with r value =0.304. Therefore, it can be concluded that there are significant, positive correlations

between these factors and BI. Furthermore, based on the p value of <0.001 as explained in the previous sections there is significant relationship between the independent and dependent factors for this study.

Table 12: Correlation Matrix Results

Correlation Matrix										
		PU	**PEOU**	**PE**	**SATIS**	**SI**	**PV**	**FC**	**H**	**BI**
PU	Pearson's r	1								
	p-value	—								
PEOU	Pearson's r	0.649***	1							
	p-value	< .001	—							
PE	Pearson's r	0.645***	0.650***	1						
	p-value	< .001	< .001	—						
SATIS	Pearson's r	0.663***	0.633***	0.668***	1					
	p-value	< .001	< .001	< .001	—					
SI	Pearson's r	0.387***	0.433***	0.476***	0.462***	1				
	p-value	< .001	< .001	< .001	< .001	—				
PV	Pearson's r	0.489***	0.504***	0.615***	0.579***	0.468***	1			
	p-value	< .001	< .001	< .001	< .001	< .001	—			
FC	Pearson's r	0.289***	0.313***	0.332***	0.332***	0.270***	0.403***	1		
	p-value	< .001	< .001	< .001	< .001	< .001	< .001	—		
H	Pearson's r	0.533***	0.456***	0.505***	0.587***	0.555***	0.450***	0.244***	1	
	p-value	< .001	< .001	< .001	< .001	< .001	< .001	< .001	—	
BI	Pearson's r	0.559***	0.524***	0.630***	0.628***	0.595***	0.545***	0.304***	0.693***	1
	p-value	< .001	< .001	< .001	< .001	< .001	< .001	< .001	< .001	—

Note. H_a is positive correlation

Note. * p < .05, ** p < .01, *** p < .001, one-tailed

Below is a summary of significant relationships from the correlation analysis matrix, Table 12:

- PU is positively correlated with BI
- PEOU is positively correlated with BI
- PE is positively correlated with BI
- FC is positively correlated with BI
- PV is positively correlated with BI

- SI is positively correlated with BI
- H is positively correlated with BI

4.5.1 *Hypothesis one*

This hypothesis focused on the perceptions of South African retail customers that the extent of usefulness of e-commerce platforms impact their intention to purchase food products. To test for this hypothesis, the correlation between the independent variable (Perceived Usefulness) and the dependent variable (Behavioural Intention) was assessed. Table 12.1 indicates that there is a highly positive correlation between perceived usefulness and behavioural intention, with r value = 0.559.

Table 12.1 Correlation between PU and Behavioural Intention

Correlation Matrix

		PU	BI
PU	Pearson's r	—	
	p-value	—	
BI	Pearson's r	0.559 ***	—
	p-value	< .001	—

Note. H_a is positive correlation

Note. * p < .05, ** p < .01, *** p < .001, one-tailed

H1: *There is a positive relationship between perceived usefulness and customers' behavioural intention to buy food products through e-commerce platforms.*

Based on the results, the above hypothesis was supported and significant.

4.5.2 *Hypothesis two*

The second hypothesis aimed at explaining the impact of perceived ease of use of e-commerce platforms on the behavioural intention for SA customers to shop for food products online. The correlation between the independent variable (Perceived Ease of Use) and the dependent variable (Behavioural Intention) was

assessed. Table 12.2 shows that there is a highly significant and positive correlation between perceived ease of use and behavioural intention, shown with r value = 0.524.

Table 12.2 Correlation between PEoU and Behavioural Intention

Correlation Matrix

		PEOU	BI
PEOU	Pearson's r	—	
	p-value	—	
BI	Pearson's r	0.524 ***	—
	p-value	< .001	—

Note. H_a is positive correlation

Note. * p < .05, ** p < .01, *** p < .001, one-tailed

H2: *There is a positive relationship between perceived ease of use and customers' behavioural intention to buy food products through e-commerce platforms.*

Based on the results, this hypothesis was supported and significant.

4.5.3 *Hypothesis three*

This hypothesis aimed at explaining the impact performance expectancy from the e-commerce platforms on the behavioural intention of SA customers to shop for food products online. The correlation between the independent variable (performance expectancy) and the dependent variable (Behavioural Intention) was evaluated. Table 12.3 reveals that there is a highly significant and positive correlation between performance expectancy and behavioural intention, with r value = 0.630.

Table 12.3 Correlation between PE and Behavioural Intention

Correlation Matrix

		PE	BI
PE	Pearson's r	—	
	p-value	—	
BI	Pearson's r	0.630 ***	—
	p-value	< .001	—

Note. H_a is positive correlation

Note. * p < .05, ** p < .01, *** p < .001, one-tailed

H3: *There is a positive relationship between performance expectancy and customers' behavioural intention to buy food products through e-commerce platforms.*

Based on the results, this hypothesis was supported and significant.

4.5.4 *Hypothesis our*

On this hypothesis the aim was to show the impact of social influence on the behavioural intention of SA customers to shop for food products using e-commerce platforms. The correlation between the independent variable (social influence) and the dependent variable (Behavioural Intention) was assessed. Table 12.4 demonstrates that there is a highly significant and positive correlation between price value and behavioural intention, shown by r value = 0.595.

Table 12.4 Correlation between SI and Behavioural Intention

Correlation Matrix

		SI	BI
SI	Pearson's r	—	
	p-value	—	
BI	Pearson's r	0.595 ***	—
	p-value	< .001	—

Note. H_a is positive correlation

Note. * p < .05, ** p < .01, *** p < .001, one-tailed

H4: *There is a positive relationship between social influence and customers' behavioural intention to buy food products through e-commerce platforms.*

Based on the results, this hypothesis was supported and significant.

4.5.5 *Hypothesis five*

On this hypothesis the aim was to show the impact of price value for using e-commerce platforms for food products shopping than physical stores, on the behavioural intention of SA customers to shop for food products using e-commerce platforms. The correlation between the independent variable (price value) and the dependent variable (Behavioural Intention) was assessed. Table 12.5 shows that there is a highly significant and positive correlation between price value and behavioural intention with r value = 0.545.

Table 12.5 Correlation between PV and Behavioural Intention

Correlation Matrix

		PV	BI
PV	Pearson's r	—	
	p-value	—	
BI	Pearson's r	0.545 ***	—
	p-value	< .001	—

Note. H_a is positive correlation

Note. * p < .05, ** p < .01, *** p < .001, one-tailed

H5: *There is a positive relationship between price value and customers' behavioural intention to buy food products through e-commerce platforms.*

Based on the results, this hypothesis was supported and significant.

4.5.6 *Hypothesis six*

This hypothesis aims at showing the relationship between the conditions that makes it possible or facilitate the behavioural intention of SA customers to shop for food products using e-commerce platforms. The correlation between the independent variable (facilitating conditions) and the dependent variable

(Behavioural Intention) was assessed. Table 12.6 shows that there is a positive but weak correlation between facilitating conditions and behavioural intention.

Table 12.6 Correlation between FC and Behavioural Intention

Correlation Matrix

		FC	BI
FC	Pearson's r	—	
	p-value	—	
BI	Pearson's r	0.304 ***	—
	p-value	< .001	—

Note. H_a is positive correlation

Note. * p < .05, ** p < .01, *** p < .001, one-tailed

H6: *There is a positive relationship between facilitating conditions and customers' behavioural intention to buy food products through e-commerce platforms.*

Based on the results, although this hypothesis was accepted as it shows positive relationship between the variables, this factor will probably have little influence on the behavioural intention for South African customer to use e-commerce platforms when buying food products as it is positive but with low correlation.

4.5.7 *Hypothesis seven*

For this hypothesis, the aim was to show the relationship between habit and the behavioural intention of SA customers to shop for food products using e-commerce platforms. The correlation between the independent variable (habit) and the dependent variable (Behavioural Intention) was evaluated. Table 12.7 illustrates that there was a highly significant and positive relationship between habit variables and behavioural intention with r value = 0.693.

Table 12.7 Correlation between H and Behavioural Intention

Correlation Matrix

		H	BI
H	Pearson's r	—	
	p-value	—	
BI	Pearson's r	0.693 ***	—
	p-value	< .001	—

Note. H_a is positive correlation

Note. * p < .05, ** p < .01, *** p < .001, one-tailed

H7: *There is a positive relationship between habit and customers' behavioural intention to buy food products through e-commerce platforms.*

Based on the results, this hypothesis was supported and significant.

4.5.8 *Linear Regression Analysis*

Using Jamovi 1.6.13 a linear regression analysis was done to test the study's conceptual model. According to (Hamilton et al., 2015), R square of 1.0 indicates that the data impeccably fit the model, R Square of <1.0 show that there is some inconsistency in the data that cannot be accounted for and lastly R square of 0.5 shows that there is 50% of the variability in the outcome data that cannot be described by the tested model. As seen on table 13, the model is significant with R square of 0.631. Since the standard error is 1.01, this signifies that the distance between the fitted values and the data points is very small thus confirming the accuracy of the model.

Table 13: Model Fit Summary: Linear Regression Analysis

Model Fit Measures

					Overall Model Test			
Model	**R**	**R^2**	**Adjusted R^2**	**RMSE**	**F**	**df1**	**df2**	**p**
1	0.795	0.631	0.624	1.01	89.0	8	416	< .001

4.6 Moderation Analysis

Moderator variables are known to affect the direction of the relation between independent and dependent variables, (Fairchild & MacKinnon, 2009). This author further states that moderation outcomes are assessed with multiple regression analysis, where all predictor variables and their interaction term are placed prior to model estimation to improve analysis of regression coefficients. King, (2013) explains this variable as one that influences the strength of the association between independent and dependent variables and specifies when that relationship will hold.

For this study a moderating variable, e-satisfaction was added to test how online shopping experience level affects the relationship between both PU and PEOU, and behavioural intention to use food e-commerce platforms.

4.6.1 *Moderation Analysis between PU and e-satisfaction on BI*

The simple slope estimates result on table 14 shows how different e-satisfaction levels affect the relationship between PU and BI, thus, the following was deduced from the results:

E-Satisfaction has a substantial impact on the relationship between PU and BI, shown with results (b = .119, SE = .0355, $p < .001$). Furthermore, the simple plot estimate results show that:

- There is a highly substantial relationship between PU on BI at an average level of e-satisfaction, (b = .283, SE = .0434, $p < .001$).
- There is a significant relationship between PU and BI at a low level of e-satisfaction, (b = .147, SE = .0580, $p < .011$).
- There is a highly significant relationship between PU and BI at a high level of e-satisfaction, (b = .420, SE = .0612, $p < .001$).

The results and the graph show that customers at different levels of e-satisfaction with shopping on e-commerce platforms will have behavioural intention to shop for food products online if there is perceived usefulness of the food e-commerce platforms. The difference in the slopes for customers who have had some level

of satisfaction with using e-commerce platforms shows that e-satisfaction moderates the relationship between PU and BI.

Table 14: Moderation Estimates: PU and BI

Moderation Estimates

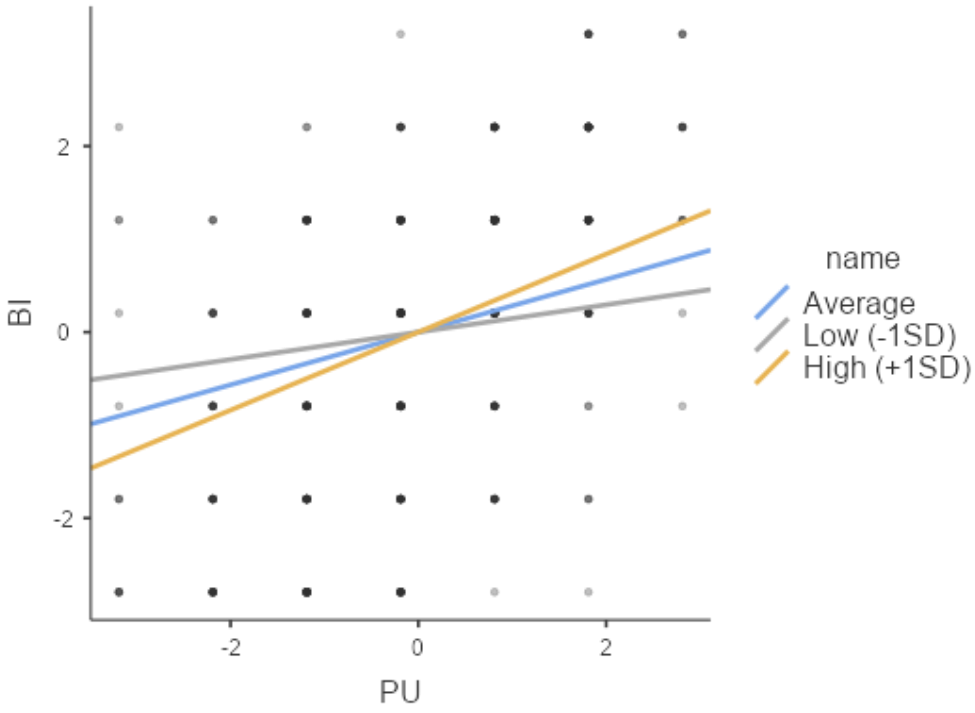
	Estimate	SE	Z	p
PU	0.283	0.0429	6.61	< .001
SATIS	0.717	0.0527	13.60	< .001
PU ✻ SATIS	0.119	0.0355	3.35	< .001

Simple Slope Estimates

	Estimate	SE	Z	p
Average	0.283	0.0434	6.53	< .001
Low (-1SD)	0.147	0.0580	2.53	0.011
High (+1SD)	0.420	0.0612	6.86	< .001

Note. shows the effect of the predictor (PU) on the dependent variable (BI) at different levels of the moderator (SATIS)

Simple Slope Plot



4.6.2 *Moderation Analysis between PEoU and e-satisfaction on BI*

The simple slope estimates result on table 15 shows how different e-satisfaction levels affect the relationship between PEOU and BI, thus, the researcher can interpret that:

E-Satisfaction has a considerable effect on the relationship between PEoU and BI, shown with results (b = .177, SE = .0489, $p < .001$). Furthermore, the simple plot estimate results demonstrate that:

- There is a highly meaningful relationship between PEoU and BI at an average level of e-satisfaction, (b = .383, SE = .0647, $p < .001$).
- There is a significant relationship between PEoU and BI at a low level of e-satisfaction, (b = .179, SE = .0764, $p < .019$).
- There is a highly significant relationship between PEoU and BI at a high level of e-satisfaction, (b = .586, SE = .0944, $p < .001$).

The results and the graph show that customers at different levels of e-satisfaction with shopping on e-commerce platforms will have behavioural intention to shop for food products online if they observe e-commerce platforms to be easy to use. The difference in the slopes for customers that have had some level of satisfaction with using e-commerce platforms shows that e-satisfaction moderates the relationship between PEoU and BI.

Table 15: Moderation Estimates: PEoU and BI

Moderation Estimates

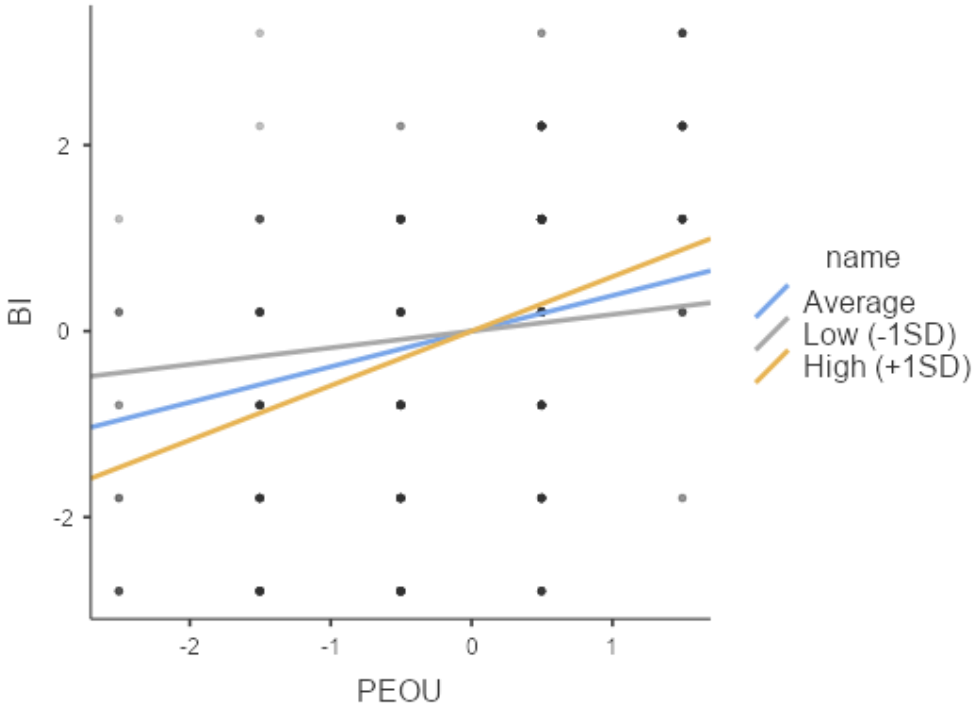
	Estimate	SE	Z	p
PEOU	0.383	0.0640	5.98	< .001
SATIS	0.760	0.0531	14.32	< .001
PEOU ✻ SATIS	0.177	0.0489	3.63	< .001

Simple Slope Estimates

	Estimate	SE	Z	p
Average	0.383	0.0647	5.91	< .001
Low (-1SD)	0.179	0.0764	2.35	0.019
High (+1SD)	0.586	0.0944	6.21	< .001

Note. shows the effect of the predictor (PEOU) on the dependent variable (BI) at different levels of the moderator (SATIS)

Simple Slope Plot



4.7 Summary of the results

In summary the test of hypothesis using the correlation and linear regression analysis accepted all hypotheses, indicating the positive relationship between all the independent variables and the dependent variable, as seen on Table 16. However, although hypothesis 6 was accepted as it shows positive relationship between the variables, this factor will probably have little influence on the behavioural intention for South African customer to use e-commerce platforms when buying food products. The correlation results for this hypothesis were positive but weak with r value =0.304.

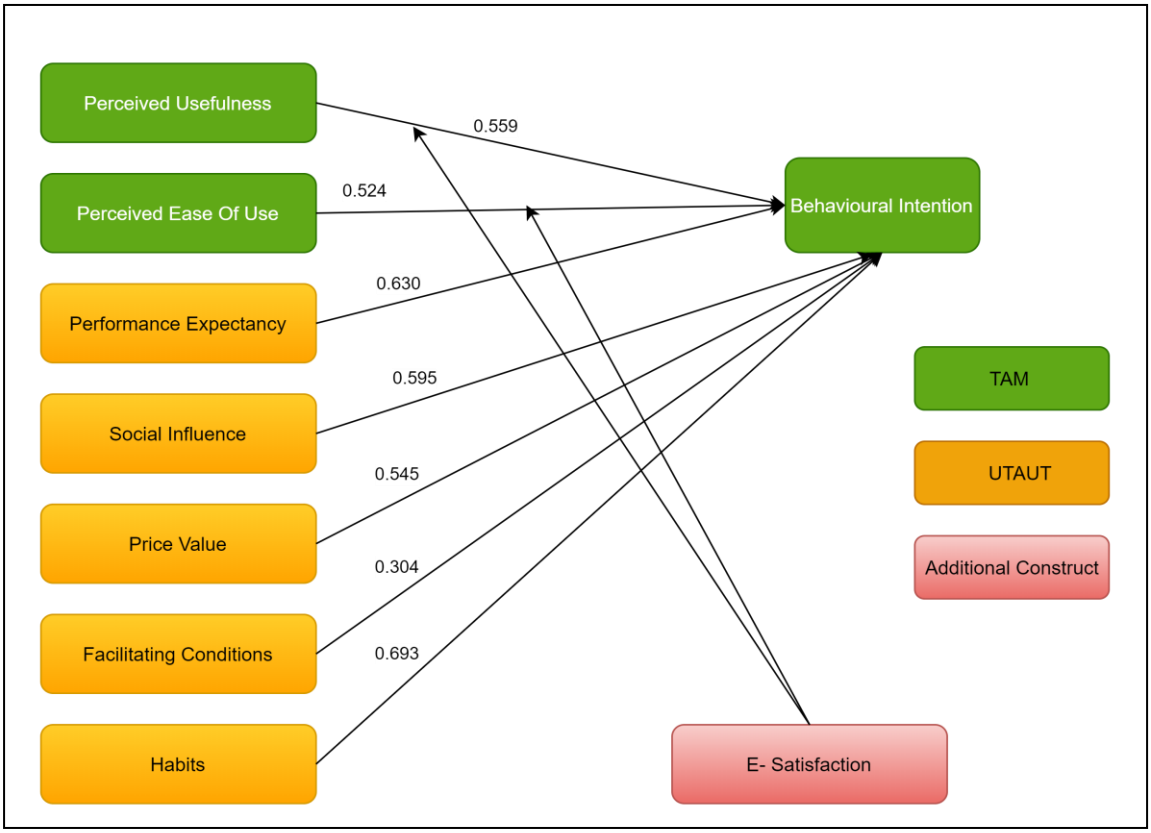
Additionally, moderation analysis was done to test how e-satisfaction as a moderating factor affect the direction of the relation between independent (PU and PEoU) and dependent variables (BI). The moderation results show that customers at different levels of e-satisfaction with shopping on e-commerce platforms will have behavioural intention to shop for food products online if they observe e-commerce platforms to be useful and easy to use.

Table 16: Summary of the Hypothesis Test Results

Hypotheses	Hypothesis	Correlation	Results
H_1	*There is a positive relationship between perceived usefulness and customers' behavioural intention to buy food products through e-commerce platforms*	0.559	Accept
H_2	*There is a positive relationship between perceived ease of use and customers' behavioural intention to buy food products through e-commerce platforms.*	0.524	Accept
H_3	*There is a positive relationship between performance expectancy and customers' behavioural intention to buy food products through e-commerce platforms.*	0.630	Accept
H_4	*There is a positive relationship between social influence and customers' behavioural intention to buy food products through e-commerce platforms.*	0.595	Accept
H_5	*There is a positive relationship between price value and customers' behavioural intention to buy food products through e-commerce platforms.*	0.545	Accept
H_6	*There is a positive relationship between facilitating conditions and customers' behavioural intention to buy food products through e-commerce platforms*	0.304	Accept
H_7	*There is a positive relationship between habit and customers' behavioural intention to buy food products through e-commerce platforms.*	0.693	Accept

Based on the analysis conducted, all the hypotheses are supported and thus included on the final model for this study, as shown on figure 5.

Figure 5: Proposed Conceptual Framework *(the Researchers Own Illustration)*



CHAPTER 5. DISCUSSION OF THE RESULTS

5.1 Introduction

This study examined the key drivers that influence South African customers to purchase food products through e-commerce platforms. To identify these drivers the relationships between the study's independent and dependent variable (BI) were examined. Furthermore, a moderating variable (e-satisfaction) was added to evaluate the effect online shopping experience has on the relationship between the independent variables (PU and PEOU) and dependent variable, behavioural intention (BI).

Following on from the findings in Chapter Four, this chapter deliberates the study's findings, starting with the respondents' profile, then the findings from each hypothesis, and finally the model.

5.2 Demographic profile of respondents

Characteristics of the sample were presented in Chapter 4. For this chapter, the focus is on the emphasis of the key findings. Of the 425 respondents used for analysis of the data, 99% resides and SA which is what the location the study focused on. The gender for the respondents was almost spread equally and implying that both men and women in SA are exploring or intend on using e-commerce platforms to shop for food products. The results also shows that the respondents do have the devices that can enable them to shop online and the bank account which can make it possible for them to shop online. With the people in possession of smart devices, provided they have internet connection and have registered for online banking for their bank accounts; SA residents can be able to buy food products on e-commerce platforms.

What can be seen on the demographics results also is that bulk of the respondents were within the combined ages of between 22 – 49 (98%), within this age range is possibly people that are comfortable with using technology, apps, and internet. Only 2% was from age range 50-59. Looking further into the

results, the residents of SA seem to have the means to enable them to use e-commerce to shop for food products, what decision makers in the retail space need to focus on are strategies that push more people to shop online particularly for food products given the surge of Covid-19 pandemic.

5.3 Discussion of the Findings

The main purpose of this study was to identify and discuss factors that can influence South African customers' intention to buy food products conveniently through e-commerce platforms. The independent variables (perceived usefulness, perceived ease of use, performance expectancy, price value, social influence, facilitating conditions and habit, moderating variable (e-satisfaction) were used to examine the behavioural intention for food products e-commerce adoption.

5.3.1 *Hypothesis One: Perceived Usefulness and Behavioural Intention*

This hypothesis states that perceived usefulness of food products e-commerce platforms is associated with the behavioural intention of customers to buy food products online. According to Davis F., (1987), individuals' behavioural intention is not the sole factor of determining the system use but it has an impact on the purchasing performance of customers (Ma et al., 2017). This construct has the ability to directly affect the intention of customers to use e-commerce platforms to buy their food products. As revealed by previous literature, (Phua et al., 2012) alluded that this factor, PU can influence the behavioural intention to use a particular technology.

The participants of this study, as shown in the results believe that it is easy to navigate and locate products using e-commerce platforms. Therefore, this study's findings that perceived usefulness has a positive relationship with behavioural intention of customers to buy food products on e-commerce platforms agree with the previous findings by (Bauerová & Klepek, 2018) which indicated that perceived usefulness has an impact on and can influence the

behavioural intention to use a technology system as also stated by the founder of TAM (Davis F., 1987). Thus, for this study, it can be confirmed that PU is a driver that can influence customers to shop for food products using e-commerce platforms.

5.3.2 *Hypothesis Two: Perceived Ease of Use and Behavioural Intention*

This hypothesis states that perceived ease of use of food products e-commerce platforms is associated with the behavioural intention for customers to buy food products online. A moderate number of respondents to this study showed that they do not have challenges in navigating e-commerce platforms when shopping for food products of their choice, this is seen with around 65% of the responses in accord with the topic statement.

The result from this study suggests that the perceived ease of use of e-commerce platforms certainly influences the behavioural intention of customers to use online shopping platforms for buying food products. This is consistent with previous literature by Abdullah et al., (2016) and Mandilas et al., (2013), that has confirmed that this construct PEoU can influence the user's intention to use a technology. This study thus confirms that PEoU is a driver that can influence customers' intention to shop for food products using e-commerce platforms.

5.3.3 *Hypothesis Three: Performance Expectancy and Behavioural Intention*

Performance expectancy means that the user of a technology believes that using it will help them achieve a certain goal as expected, (Thomas et al., 2013). For this hypothesis, the focus was on whether there is a relationship between performance expectancy of using food products e-commerce platforms and behaviour intention to use these platforms when purchasing food.

This study's findings has revealed that PE is positively related to behavioural intention. Most of the respondents agreed that they find food products e-commerce platfroms useful and efficient and that they receive great service from

the retailers, implying that these e-commerce platforms perform to their level of expectations. Therefore, the findings for this study are consistent with the previous studies by Maillet et al., (2015) and Cabrera-Sánchez et al., (2020) which suggested that PE can significantly influence customers to use e-commerce platforms. This solidifies PE as a driver that can influence South African customers to use e-commerce platforms when buying food products.

5.3.4 *Hypothesis Four: Social Influence and Behavioural Intention*

On this hypothesis, the researcher examined the relationship between SI and BI. Results about this topic show that there is slight influence derived from close contacts of the participants to engage in purchasing of food products using e-commerce platforms. Results for this study shows that a very big number of people do not recommend others to use online shopping for the purchase of food products in South Africa. This is seen with <50% of the participants agreeing with the statements for this construct. Still from the results, it is clear that a few numbers of people (39%) have contacts who actively engage in online purchase of food products and thus little motivation is derived from those for shopping online.

The level of satisfaction delivered to the e-commerce users as seen from the previous studies by Cabrera-Sánchez et al., (2020) and Miladinovic & Hong, (2016) encourages the beneficiaries to pass on that information to their close contacts, therefore influencing them to shop online.

In conclusion, the results show that there is a positive relationship between social influence and behavioural intention to shop for food products online. Although there is a positive correlation between the two constructs, the results based on the statements for this construct are not as significant as the researcher anticipated them to be. This simply means that for this study, a minimal number of people are motivated to do online shopping by their close associates who do the same and in contrast the participants believe e-commerce is efficient for food shopping and the researcher can, therefore, deduce that they do so out of their own accord and not from the influence of others. Therefore, in line with the study by Venkatesh et al., (2012) for this study it can be concluded that, to a certain

degree SI can be regarded as one of the drivers that positively influence the behavioural intention of customers to shop for food products online in South African.

5.3.5 *Hypothesis Five: Price Value and Behavioural Intention*

On this hypothesis, the aim was to establish the relationship between PV and BI. As mentioned in Chapter two, (Palau-Saumell et al., 2019) defined PV as customers' cognitive trade-off between the financial cost of using new technologies and perceived benefits from using them.

From this study 55% of the respondents indicated that all the delivery costs associated with online shopping provide good value for their money, thus in favour of the topic. Since online shopping does not require physical movement to the grocery store by the buyer, the cost in transport incurred is for one way, that is delivery. With this coupled with the speed of delivery of these orders, most respondents feel that the money they spend on deliveries of these food products bought online is worth it. The biggest category of online shoppers is usually busy all day, so they do not always have time to go around for physical shopping in markets and supermarkets. So, this group of people find it easy to pay for their food products' to be delivered to their homes.

Results collected about the use of online platforms/websites to buy food products with the current Covid-19 pandemic show that most participants agreed that the use of online shopping to buy food products within the Covid regulations presents value for money. With several people on the high alert of the deadly coronavirus disease of 2019, there has been a shift in the way people live their lives and to reduce the possibility of contracting the virus, a lot of people opted for shopping using online platforms for their daily food products

In conclusion, a larger number of the participants agreed that the delivery cost associated with online food products shopping is good value for money and using online platforms/websites to buy food products with the current Covid-19 outbreak presents value for money. This is consistent with past research by Anckar et al., (2002) and Palau-Saumell et al., (2019) that customers should see

value for choosing e-commerce and not physical store shopping for them to actually use it. For this study, the results thus confirms PV to be one of the drivers that can influence customers' behavioural intention to use e-commerce for food products. This is consistent with the study conducted by Widodo et al., (2017), confirming PV as a predictor of technology adoption.

5.3.6 *Hypothesis Six: Facilitating Conditions and Behavioural Intention*

As defined by Venkatesh et al., (2003), facilitating conditions are defined as the extent to which a user perceives that organizational and technical infrastructures are available to support their use of a certain system.

From the results, most of the respondents have the necessary devices and bank accounts that are needed for using e-commerce platforms and thus can shop online. This is mainly because from the year 2011, the smartphone market started growing exponentially. Still, this study found out that most of the participants have all the required logistics to enable them to engage in online shopping of food products with over 60 % responses in support of the statement. This is in support of the study by Al-Qeisi et al., (2015), which confirmed that users feel comfortable to use a technology if there are structures in place to support it.

The results show weak, but positive relationship between facilitating conditions and behavioural intention, these results align to the previous literatures by Catherine et al., (2018) and Pauzi et al., (2017), that confirmed that FC is positively associated with and can influence behavioural intention to use e-commerce platforms to buy food products. Therefore, showing FC can be regarded as one of the drivers that can influence South African customers to shop for food products online.

5.3.7 *Hypothesis Seven: Habit and Behavioural Intention*

This hypothesis focused on the relationship between habit and behavioural intention to use e-commerce platforms for food products. Habit refers to a routine or repeated behaviour that occurs subconsciously.

As can be seen on the results gathered, a small percentage of participants had a direct relationship with the habit of shopping for food products online. Above 50% of the respondents confirmed that they have only resorted to buying food products online because of the enforced lockdown in South Africa due to Covid-19 pandemic. The low significance in this hypothesis might be due to the lack of physical interaction with the product that people usually purchase online. The lack of physical presence of the buyer deprives them of the chance to properly examine the different attributes of the product such as the smell, texture, etc. thus creating second thoughts in the minds of the online buyers of such products.

The correlation between habit and behavioural intention, has shown positive and significant relationships. As seen in the previous literatures by Danner et al., (2008) and Fadzil (2017), Habit has been a more compelling predictor of future behavioural intentions to use a technology. This signifies the conclusion for this study that habit can be regarded as a key driver that can influence South African customers to shop for food products using e-commerce platforms.

5.3.8 *Moderation: e-Satisfaction and PU on Behavioural Intention*

e-Satisfaction explains that if the customer has previously been satisfied with online shopping experience, they are most likely to use online shopping again to buy other products, (Alalwan, 2020). This construct was added to examine the power of association on the relationship between PU and Behavioural Intention.

Based on the correlation results e-satisfaction on its own has a positive relationship with behavioural intention of customers to shop for food products online. Furthermore, in the moderation tests results, PU is seen to consistently have a positive relationship with BI at various levels of e-satisfaction.

Based on these results, the researcher can therefore deduce that e-satisfaction positively impacts/moderates the relationship between perceived usefulness and behavioural intention and although this is the case, PU can positively influence BI on its own without e-satisfaction. For this study therefore, we can conclude that for future studies, e-satisfaction can further be explored as a key driver that

influences customers' behavioural intention to buy food products online, not as a moderating factor.

5.3.9 *Moderation: e-Satisfaction and PEoU on Behavioural Intention*

Based on the correlation results e-satisfaction on its own has a positive relationship with behavioural intention of customers to shop for food products online. Furthermore, in the moderation tests results, PEOU is seen to consistently have a positive relationship with BI at various levels of e-satisfaction.

From the results, the researcher can therefore deduce that e-satisfaction positively impacts/moderates the relationship between perceived ease of use and behavioural intention and although this is the case, PEOU can positively influence BI on its own without e-satisfaction. For this study therefore, we can conclude that for future studies, e-satisfaction can be explored as a key driver that influences customers' behavioural intention to buy food products online, not as a moderating factor.

5.4 Conclusion

In summary the test of hypothesis using the correlation analysis accepted all hypotheses, indicating the positive relationship between all the independent variables and the dependent variable. Moreover, using the linear regression analysis, the results indicate that all hypotheses proposed for this study showed a positive coefficient and were therefore accepted that they can positively influence the behavioural intention of SA customers to buy food products through e-commerce platforms. Lastly, e-satisfaction as a moderating variable has positive effect on the relationships between both PU and PEOU and, BI. It can thus be included in future SA studies as a key driver for food products e-commerce adoption.

CHAPTER 6. CONCLUSIONS & RECOMMENDATIONS

6.1 Introduction

The purpose of this research paper was to identify the key drivers that may affect South African customers' intent to use e-commerce platforms when shopping for food products. This was done by using two models, Technology Acceptance Model and Unified Theory of Acceptance and Use of Technology. Furthermore, this study examined the relationship between the specific drivers and their relationship with the behavioural intention to adopt e-commerce for food products. However, whether the customers' actual usage of this sector's e-commerce was not measured as part of the study.

This chapter summarizes the observations from the previous chapters, presents a reflection on the results of the study in relation to the research questions and objectives. Lastly, the academic and practical implications of the study are discussed.

6.2 Conclusions

6.2.1 *Research Questions*

Central research question and research sub question (i): What are the key drivers that influence South African customers' intentions to use e-commerce to buy food products?

To answer this research question and to see if the objectives of the study were met, the researcher looked at the correlation results to depict the conclusion on the hypotheses of the study, examine the relationship between the independent and dependent variables and lastly, the direction of these relationships. The results show that the key drivers that influence the behavioural intentions of South African customers to shop online are *Perceived Usefulness, Perceived Ease of Use, Perceived Value, Performance Expectancy, Social Influence* and *Facilitating Conditions* respectively in order of the strength of the correlations. It follows that

facilitating conditions was seen as the driver with the weakest correlation with behavioural intention (BI). Furthermore e-Satisfaction was seen to positively moderate the association between both *Perceived Usefulness (*PU) and *Perceived Ease of Use (PEoU),* and *Behavioural Intention* (BI), but more importantly it was seen as an independent variable that can influence the behavioural intention for customers to buy food products online.

The association between the above independent and dependent variables and positive effect the key drivers have on behavioural intention, confidently show that all the factors used in this study should be considered by retailers when employing strategies to improve on the e-commerce market penetration for food products. Therefore, the results meet the objectives of the study and sufficiently answer the research question.

6.2.2 *Research Question: Sub-questions*

Sub question (i): How do TAM and UTAUT2 constructs influence the SA customers' behavioural intention to buy food products through e-commerce platforms?

The two models that were used for this study were TAM and UTAUT2, these models as suggested by Wymer & Regan, (2005), have been used across various industries to identify and examine the factors that influence the adoption of technologies, including e-commerce. The constructs adopted from the two models were used in this study to examine their relationship with the behavioural intention to use food e-commerce platforms in SA context, the results were that all these constructs have a positive effect on with behavioural intention to use e-commerce in the food products context, confirming that these factors can influence SA customers to adopt to buying food products online.

Sub question (ii): What is the moderating effect of e-satisfaction on perceived usefulness and perceived ease of use on behavioural intention of South African customers to buy food products through e-commerce platforms?

As explained by Alalwan (2020) e-satisfaction refers to the extent to which the customer has been satisfied with online shopping experience. Furthermore, alluding that if a customer is satisfied with a certain website they used to shop online, they will probably not hesitate to shop online again. This construct was added as a moderating variable for this study to check the moderating effect of e-satisfaction on the relationships between perceived usefulness and behavioural intention for e-commerce, and similarly to examine the effect it has on the relationship between perceived usefulness and behavioural intention for SA customers' to buy food products online.

In line with the research objective, the results for this study has shown that at different levels of e-satisfaction: low, moderate and high, there is a positive relationship between PU and BI, and likewise between PEOU and BI. Thus confirming that, e-satisfaction has a positive effect on behavioural intention of SA customers to buy food products online. As e-satisfaction has shown positive effects on both these relationships and it can therefore be explored further as a one of the drivers that can influence behavioural intention to use a technology.

6.3 Recommendations and Implications of the study

This section on this chapter aims to first outline the recommendations based on the analysis and results of the study, lastly to outlines the implications of this study.

Sub question (iii): What e-commerce strategies can be implemented by grocery retailers in South Africa to increase the adoption rate on customers and increase e-commerce sales?

Due to Covid-19 people have changed their habits, buying food products at the physical store is one of the things that many had to change to minimise the outpouring number of infections for this pandemic. The food products e-

commerce has improved and continues to grow as more people avoid going to the stores physically. It is therefore important for this study to recommend the strategies that can assist retailers to persuade more customers to buy food products online. To answer this research sub-question the recommended strategies for retailers are as follows:

6.3.1 *Recommendation to e-Commerce Retailers*

- *Tailored strategies for each food category:* When it comes to online shopping for grocery items, a study by Brink et al., (2019) has outlined that most South Africans perceive the freshness of perishable items to be an important factor towards their intentions to buy online. Retailers, therefore, need to ensure that the freshness of the products is always maintained, they need to explore the technologies that can assist in retaining the freshness of these products or technologies that can help the shoppers to check the quality before the items can leave the store. This will restore trust from customers and give them comfort to buy fruits and vegetables on e-commerce platforms.
- *Diversification of touchpoints:* As mentioned in Chapter 5, the researcher expected social influence to be one of the drivers that influences customers to buy food products online, but this was not the case. Retailers therefore should create an online presence, to reach more audience. They can use social media channels (through micro influencers), blogs and emails to engage their customers more and educate them about the benefits of them using e-commerce platforms to shop for food products. With the online presence as well, retailers should ensure that they research and use the commonly used platforms in South Africa.
- *Strategic Partnership:* work with entities that have the enabling infrastructure and have strategic gains for the relationship to the extent that the marriage remains a win-win deal. For example, for e-commerce retailers collaborating with telecommunications companies and banks or the education sector to build strategies that rewards and enables customers to shop for food products online.

6.3.2 *Academic Contributions*

This study has been able to:

- Show that there is an increasing interest and growth in using or intention to use e-commerce to shop for products in South Africa, therefore there needs to be recent and relevant literature exploring the adoption of this trend on food products.
- Successfully identify key drivers that influence South African customers to shop for food products through e-commerce platforms.

The study will contribute to further research within the IT / IS sector in the South African context, unpacking the food products sector further, to include the factors that can influence the actual usage of e-commerce platforms in this sector. The academic interest can be on facilitating conditions, social influence, habits which the study was able to show that they do not conform to the generally accepted propositions of the UTAUT2/TAM models when it is tested in the South African market, based on the results of each measurement item within these constructs. The new studies can also include e-satisfaction as one of the drivers for food products e-commerce adoption.

6.3.3 *Practical Implications*

This study has been able to show that there are key drivers that should be considered by e-commerce retailers when formulating strategies for their food products. It has also shown that residents of South Africa are aware of the benefits of buying food products online as opposed to going to the physical store. Additionally, there are basic requirements in place to enable shopping for food products online. Lastly the study made it possible to understand the South African customers' intentions when it comes to shopping for food products using e-commerce platforms.

The key drivers that can influence customers to buy food products online were successfully identified based on the feedback provided by the respondents. This

study was able to show that *'facilitating condition'* may possibly not influence as many customers to shift their behaviour intention regarding to shopping for food online as it has shown a low correlation result. As such the study showed that for the SA context, there is a need to tailor market penetration and operational strategies cognisant that perceived usefulness, perceived ease of use, performance expectancy, price value, social influence, facilitating conditions, e-satisfaction and habit are of positive influence on behavioural intentions.

6.4 Suggestions for further research

The focus of this research was on the South African context. The findings can be utilized to investigate, comprehend, and possibly develop a framework that encompasses the retail e-commerce ecosystem for food products in the future. Future research into the following topics would be interesting and valuable to this industry:

- In as much as the sample was acceptable for this research, but it would be best to replicate the study with reaching a larger sample, including respondents that can be reached verbally or face to face, internet access is unavailable, and computer literacy is minimal. There were limitations with reaching these potential respondents due to COVID-19 lock down restrictions.
- The study was completed by a low percentage of respondents over the age of 50. Considering that people at this age do not like frequenting shopping malls, it might be worthwhile interviewing the people of age >60 to understand why they do not engage in surveys and what could persuade them to shop for food products online.
- The results of this study have shown that people have the basic means to shop online (devices and bank accounts). It will be worthwhile to unpack the other resources that people need to shop online to unpack how the people that use the basic type of phones can have the capability to shop using another option like USSD.
- To understand the food e-commerce ecosystem, it will also make sense in future to marry the findings of this research with the factors that impede

South African customers to shop food products using e-commerce. This will allow decision makers to work on strategies tackling both enabling and inhibiting factors.

APPENDIX A: Research Instrument

Demographics Information		Options	Source
D1	Are you male or Female?	• Male • Female	(Reid & Levy, 2008)
D2	Do you currently live in South Africa	• Yes • No	
D3	What is your age range?	• 22 -30 • 30 – 39 • 40 – 49 • 50 - 59	
D4	Do you have a bank account?	• Yes • No	
D5	Do you have a smart device (Computer/Laptop/Tablet or Smartphone)	• Yes • No	
Construct	**Code**	**Questions**	**Source**
Perceived Usefulness (Independent Variable)	**PU1 question 6**	Retailers' e-commerce websites are more efficient for my food products shopping	(Tran et al., 2019)
	PU2 question 7	I can get all my food products on online platforms or websites	
	PU3 question 8	Food products platforms /websites make it easier to search and locate products I would like to purchase	
Perceived Ease of Use (Independent Variable)	**PEOU1 question 9**	It is easy to navigate online platforms and websites when buying food products	(Tran et al., 2019)

	PEOU2 question 10	Using e-commerce platforms is self-explanatory	
	PEOU3 question 11	It is quicker and saves time to buy food products online	
e-Satisfaction (Moderating Variable)	**SATIS1 question 12**	I am generally pleased with online platforms/websites for food products	(Alalwan, 2020)
	SATIS2 question 13	I am satisfied with using online platforms/websites to shop for food products	
	SATIS3 question 14	Overall, I am satisfied with online platforms/websites for food products	
Performance Expectancy (Independent Variable)	**PE1 question 15**	I find shopping food products online useful and efficient	(Tran et al., 2019)
	PE2 question 16	Buying food products online will save me time	
	PE3 question 17	Buying food products online allows me some time to do other times as I do not have to drive out to the shops and stand in a queue	
	PE4 question 18	It is easier to reach the retailer on the e-commerce platform when I need assistance or have a query	
Facilitating Conditions (Independent Variable)	**FC1 question 19**	I have the necessary resources to shop food products online (data and devices)	(Tran et al., 2019)
	FC2 question 20	I have the knowledge necessary to navigate an e-commerce site	

	FC3 question 21	There are necessary logistics (deliveries) in place to enable me to shop for food products online	
Price Value (Independent Variable)			(Abu Bakar et al., 2019)
	PV1 question 22	The delivery cost associated with online food products shopping is good value for money	
	PV2 question 23	With the current Covid-19 outbreak, using online platform s/websites to buy food products presents value for money	
Social Influence (Independent Variable)	**SI1 question 24**	People who are close to me think I should shop for food products online instead of going to the shop	(Tran et al., 2019)
	SI2 question 25	People whose opinion I value think that I should buy food products online	
	SI3 question 26	Most people close to me buy food products online and motivate me to do the same	
Habit (Independent Variable)	**H1 question 27**	Online shopping has become a habit for me	(Abu Bakar et al., 2019)
	H2 question 28	Shopping online is something I do without hesitation	
	H3 question 29	Buying food products online has become part of my weekly routine	

	H3 question 30	I am addicted to shopping for food products online	
Behaviour Intention (Outcome Variable)	**BI1 question 31**	Has the Covid-19 outbreak and the introduction of lock-down pushed you to buy food products online?	(Tran et al., 2019)
	BI2 question 32	I intend to shop for food products online soon for items I use often in my house	
	BI3 question 33	I intend to continue buying food products online	
	BI4 question 34	I plan to use an online platform/website to shop every time I need to get food products	

Demographics Information		**Options**	**Source**
D1	Are you male or Female?	○ Male ○ Female	(Reid & Levy, 2008)
D2	Do you currently live in South Africa	○ Yes ○ No	
D3	What is your age range?	○ 22 -30 ○ 30 – 39 ○ 40 – 49 ○ 50 - 59	
D4	Do you have a bank account?	○ Yes ○ No	

D5	Do you have a smart device (Computer/Laptop/Tablet or Smartphone)	○ Yes ○ No	
Construct	**Code**	**Questions**	**Source**
Perceived Usefulness (Independent Variable)	**PU1 question 6**	Retailers' e-commerce websites are more efficient for my food products shopping	(Tran et al., 2019)
	PU2 question 7	I can get all my food products on online platforms or websites	
	PU3 question 8	Food products platforms /websites make it easier to search and locate products I would like to purchase	
Perceived Ease of Use (Independent Variable)			(Tran et al., 2019)
	PEOU1 question 9	It is easy to navigate online platforms and websites when buying food products	
	PEOU2 question 10	Using e-commerce platforms is self-explanatory	
	PEOU3 question 11	It is quicker and saves time to buy food products online	

e-Satisfaction (Moderating Variable)	**SATIS1 question 12**	I am generally pleased with online platforms/websites for food products	(Alalwan, 2020)
	SATIS2 question 13	I am satisfied with using online platforms/websites to shop for food products	
	SATIS3 question 14	Overall, I am satisfied with online platforms/websites for food products	
Performance Expectancy (Independent Variable)	**PE1 question 15**	I find shopping food products online useful and efficient	(Alalwan, 2020)
	PE2 question 16	Buying food products online will save me time	
	PE3 question 17	Buying food products online allows me some time to do other times as I do not have to drive out to the shops and stand in a queue	
	PE4 question 18	It is easier to reach the retailer on the e-commerce platform when I need assistance or have a query	
Facilitating Conditions (Independent Variable)	**FC1 question 19**	I have the necessary resources to shop food products online (data and devices)	(Tran et al., 2019)

	FC2 question 20	I have the knowledge necessary to navigate an e-commerce site	
	FC3 question 21	There are necessary logistics (deliveries) in place to enable me to shop for food products online	
Price Value (Independent Variable)			(Abu Bakar et al., 2019)
	PV1 question 22	The delivery cost associated with online food products shopping is good value for money	
	PV2 question 23	With the current Covid-19 outbreak, using online platform s/websites to buy food products presents value for money	
Social Influence (Independent Variable)	**SI1 question 24**	People who are close to me think I should shop for food products online instead of going to the shop	(Tran et al., 2019)
	SI2 question 25	People whose opinion I value think that I should buy food products online	

	SI3 question 26	Most people close to me buy food products online and motivate me to do the same	
Habit (Independent Variable)	**H1 question 27**	Online shopping has become a habit for me	(Abu Bakar et al., 2019)
	H2 question 28	Shopping online is something I do without hesitation	
	H3 question 29	Buying food products online has become part of my weekly routine	
	H3 question 30	I am addicted to shopping for food products online	
Behaviour Intention (Outcome Variable)	**BI1 question 31**	Has the Covid-19 outbreak and the introduction of lock-down pushed you to buy food products online?	(Tran et al., 2019)
	BI2 question 32	I intend to shop for food products online soon for items I use often in my house	
	BI3 question 33	I intend to continue buying food products online	
	BI4 question 34	I plan to use an online platform/website to shop every time I need to get food products	

APPENDIX B Ethics Certificate

Name	Attachment
Ethics Certificate	 Ethics cert _ Keitumetse Mokgofa

APPENDIX C Data Analysis File

Name	Attachment
Analysis File	 All variables - Analysis File.xlsx

APPENDIX D Editing Confirmation Letter

Name	Attachment
Final Editing Confirmation Letter	 KM Editing Confirmation Letter.

REFERENCES

Abbad, M. M. M. (2021). Using the UTAUT model to understand students' usage of e-learning systems in developing countries. *Education and Information Technologies*. doi:10.1007/s10639-021-10573-5

Abdollahi, G., & Leimstoll, U. (2011). *A Classification for Business Model Types in E-commerce.* Paper presented at the AMCIS.

Abu Bakar, N., Che Aziz, R., Rahim, M., Maizana, N., Mat Nawi, N., Muhamed Yusoff, A., & Usolludin, H. (2019). BEHAVIOURAL INTENTION TO USE TRAVEL MOBILE APPS IN MALAYSIA.

Agrela, Z. (2019). Why the 'fast food craver' market is on the rise in South Africa. Retrieved from https://themediaonline.co.za/2019/08/why-the-fast-food-craver-market-is-on-the-rise-in-south-africa/

Al-Qeisi, K., Dennis, C., & Abbad, M. (2015). How Viable Is the UTAUT Model in a Non-Western Context? *International Business Research, 8*. doi:10.5539/ibr.v8n2p204

Alalwan, A. A. (2020). Mobile food ordering apps: An empirical study of the factors affecting customer e-satisfaction and continued intention to reuse. *International Journal of Information Management, 50*, 28-44. doi:https://doi.org/10.1016/j.ijinfomgt.2019.04.008

Alessia, D. A., Fernando, F., & Patrizia, G. (2014). The E-Commerce Business Model Implementation. In W. John (Ed.), *Encyclopedia of Business Analytics and Optimization* (pp. 2509-2520). Hershey, PA, USA: IGI Global.

Anvari, R., & Norouzi, D. (2016). The Impact of E-commerce and R&D on Economic Development in Some Selected Countries. *Procedia - Social and Behavioral Sciences, 229*, 354-362. doi:10.1016/j.sbspro.2016.07.146

Asadullah, A., Faik, I., & Kankanhalli, A. (2018). *Digital Platforms: A Review and Future Directions*.

Bauerová, R., & Klepek, M. (2018). Technology Acceptance as a Determinant of Online Grocery Shopping Adoption. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis, 66*, 737-746. doi:10.11118/actaun201866030737

Bhalekar, P., Ingle, S., & Pathak, K. (2014). THE STUDY OF E-COMMERCE. *Asian Journal of Computer Science and Information Technology, 4*.

Bharadwaj, A., Sawy, O., Pavlou, P., & Venkatraman, N. (2013). Digital Business Strategy: Toward a Next Generation of Insights. *MIS Quarterly: Management Information Systems, 37*, 471-482. doi:10.25300/MISQ/2013/37:2.3

Bhatti, A., Akram, H., Basit, H., Khan, A., Mahwish, S., Naqvi, R., & Bilal, M. (2020). E-commerce trends during COVID-19 Pandemic.

Burton, S. A., & Scheepers, C. (2017). Exploration into the Rise of Mobile Penetration in a Developing e-Commerce Market and its Impact on a South African Company. *Journal of Marketing and HR, Vol 5: JMHR* Retrieved from http://scitecresearch.com/journals/index.php/jmhr/article/view/1145

BusinessTech. (2019). The fastest growing types of online stores in South Africa. Retrieved from https://businesstech.co.za/news/internet/292286/the-fastest-growing-types-of-online-stores-in-south-africa/

Klerk, S., & Kroon, J. (2005). E-commerce adoption in South African businesses. *South African Journal of Business Management; Vol 36, No 1 (2005)*. doi:10.4102/sajbm.v36i1.618

Dictionary. (2020). Grocery Retrieved from https://www.dictionary.com/browse/groceries

Dimitrios, T., & Antigoni, F. (2018). LIMITATIONS AND DELIMITATIONS IN THE RESEARCH PROCESS. *PERIOPERATIVE NURSING, 7*(3). doi:http://doi.org/10.5281/zenodo.2552022

Duch-Brown, N., Grzybowski, L., Romahn, A., & Verboven, F. (2017). The impact of online sales on consumers and firms. Evidence from consumer electronics. *International Journal of Industrial Organization, 52*, 30-62. doi:https://doi.org/10.1016/j.ijindorg.2017.01.009

Gefen, D., & Straub, D. (2000). The Relative Importance of Perceived Ease of Use in IS Adoption: A Study of E-Commerce Adoption. *J. AIS, 1*, 0. doi:10.17705/1jais.00008

Hamilton, D. F., Ghert, M., & Simpson, A. H. R. W. (2015). Interpreting regression models in clinical outcome studies. *Bone & joint research, 4*(9), 152-153. doi:10.1302/2046-3758.49.2000571

Holden, R., & Karsh, B.-T. (2009). The Technology Acceptance Model: Its Past and Its Future in Health Care. *Journal of biomedical informatics, 43*, 159-172. doi:10.1016/j.jbi.2009.07.002

Hooper, D., Coughlan, J., & Mullen, M. (2007). Structural Equation Modeling: Guidelines for Determining Model Fit. *The Electronic Journal of Business Research Methods, 6*.

Huang, C., & Kao, Y. (2015). UTAUT2 Based Predictions of Factors Influencing the Technology Acceptance of Phablets by DNP. *Mathematical Problems In Engineering*, *2015*, 1-23. https://doi.org/10.1155/2015/603747

Iqbal, M., Nisha, N., & Rifat, A. (2018). E-Government Service Adoption and the Impact of Privacy and Trust. In (pp. 3579-3590).

Jones, T. L., Baxter, M. A. J., & Khanduja, V. (2013). A quick guide to survey research. *Annals of the Royal College of Surgeons of England, 95*(1), 5-7. doi:10.1308/003588413X13511609956372

Khan, A. G. (2016). Electronic Commerce: A Study on Benefits and Challenges in an Emerging Economy. *Global Journal of Management and Business Research, 16*.

Kunene, L., & Mbhele, T. (2018). Barriers to E-commerce adoption in African Countries. A qualitative insight from Company Z. *15*.

Maillet, É., Mathieu, L., & Sicotte, C. (2015). Modeling factors explaining the acceptance, actual use and satisfaction of nurses using an Electronic Patient Record in acute

care settings: An extension of the UTAUT. *International Journal of Medical Informatics, 84*(1), 36-47. doi:https://doi.org/10.1016/j.ijmedinf.2014.09.004

Makhitha, K., Scheers, L., & Mogashoa, C. (2019). Which consumer attributes influence South African consumers to shop online. *Journal of Business & Retail Management Research, 13*. doi:10.24052/JBRMR/V13IS04/ART-29

Mapande, F., & Appiah, M. (2018). *The Factors Influencing Customers to Conduct Online Shopping: South African Perspective*.

McCombes, S. (2019). How to write a research methodology. Retrieved from https://www.scribbr.com/dissertation/methodology/

Michael, H. (2020). What is digital Experience. Retrieved from https://www.liferay.com/resources/l/digital-experience

Mortimer, G., Fazal e Hasan, Syed Muhammad, Andrews, L., & Martin, J. (2016). Online grocery shopping: the impact of shopping frequency on perceived risk. *The International Review of Retail, Distribution and Consumer Research, 26*, 1-22. doi:10.1080/09593969.2015.1130737

Musikavanhu, T. B. (2017). *Consumer adoption of online grocery shopping In the Cape Metropolitan Area, South Africa*.

Nasution, M., & Azmin, A. (2018). Consumer Acceptance of Trustworthy E- Commerce: An Extension of Technology Acceptance Model. *Academy of Strategic Management Journal, 17*, 1939-6104.

Othman, Z., Mohd Zahari, M. S., & Radzi, S. (2013). Customer Behavioral Intention: Influence of Service Delivery Failures and Service Recovery in Malay Restaurants. *Procedia - Social and Behavioral Sciences, 105*, 115–121. doi:10.1016/j.sbspro.2013.11.013

Palau-Saumell, R., Forgas, S., Sánchez-García, J., & Robres, E. (2019). User Acceptance of Mobile Apps for Restaurants: An Expanded and Extended UTAUT-2. *Sustainability, 11*, 1210. doi:10.3390/su11041210

Phua, P. L., Wong, S. L., & Abu, R. (2012). Factors Influencing the Behavioural Intention to use the Internet as a Teaching-Learning Tool in Home Economics. *Procedia - Social and Behavioral Sciences, 59*, 180-187. doi:10.1016/j.sbspro.2012.09.263

Reid, M., & Levy, Y. (2008). Integrating Trust and Computer Self-Efficacy with TAM: An Empirical Assessment of Customers' Acceptance of Banking Information Systems (BIS) in Jamaica. *Journal of Internet Banking and Commerce, 12*, 1-18.

S'ahin, M., & Aybek, E. C. (2019). Jamovi: An Easy to Use Statistical Software for the Social Scientists. *International Journal of Assessment Tools in Education, 6*, 670-692.

Singh, M. (2002). E-services and their role in B2C e-commerce. *Managing Service Quality, 12*, 434-446. doi:10.1108/09604520210451911

Snyman, A. N. (2014). *Barriers and motivators to online grocery shopping in South Africa : a supply chain perspective*.

Swiegers, L. (2018). *Perceived Risk Barriers To Online Shopping: Experiences of Technologically Enabled Generation Y Consumers.* (Masters of Commerce). University of Stellenbosch, Retrieved from http://scholar.sun.ac.za/handle/10019.1/103625

Taher, G., & Alnoor, A. (2021). E-Commerce: Advantages and Limitations. *International Journal of Academic Research in Accounting Finance and Management Sciences, 11*, 153-165. doi:10.6007/IJARAFMS/v11-i1/8987

Teuteberg, S. (2020). *The Future Of Retail In Africa*. Retrieved from Cape Town, South Africa: https://www.lrs.org.za/wp-content/uploads/2021/01/The-future-of-retail-in-Africa.pdf

Thomas, T., Singh, L., & Gaffar, K. (2013). The Utility of the UTAUT Model in Explaining Mobile Learning Adoption in Higher Education in Guyana. *International Journal of Education and Development using ICT*.

Tran, V., Zhao, S., el Bachir, D., & Song, W. (2019). Travelers' Acceptance of Electric Carsharing Systems in Developing Countries: The Case of China. *Sustainability, 11*, 5348. doi:10.3390/su11195348

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), 425-478. doi: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), 157–178. https://doi.org/10.2307/41410412

Villa, E., Ruiz, L., Valencia, A., & Picón, E. (2018). Electronic Commerce: Factors Involved in its Adoption from a Bibliometric Analysis. *Journal of theoretical and applied electronic commerce research, 13*, 39-70. Retrieved from https://scielo.conicyt.cl/scielo.php?script=sci_arttext&pid=S0718-18762018000100104&nrm=iso

Wallace, T. (2020). The State of Ecommerce Platforms: Cloud Commerce, Open SaaS and The API Economy (Updated 2020). Retrieved from https://www.bigcommerce.com/blog/ecommerce-platforms/#executive-summary

Weber-Snyman, A. (2015). *BARRIERS AND MOTIVATORS TO ONLINE GROCERY SHOPPING IN SOUTH AFRICA: A SUPPLY CHAIN PERSPECTIVE.* Retrieved from https://www.researchgate.net/profile/Alicia-Weber-Snyman/publication/316687239_BARRIERS_AND_MOTIVATORS_TO_ONLINE_GROCERY_SHOPPING_IN_SOUTH_AFRICA_A_SUPPLY_CHAIN_PERSPECTIVE/links/590c71140f7e9b5a6ab770bb/BARRIERS-AND-MOTIVATORS-TO-ONLINE-GROCERY-SHOPPING-IN-SOUTH-AFRICA-A-SUPPLY-CHAIN-PERSPECTIVE.pdf

Wen, L. Z., & Guy, H. A. (2019). Factors and Barriers to Adoption of E-Commerce: The Case of Developing Countries. *Journal of Entrepreneurship & Organization Management* doi:DOI: 10.4172/2169-026X.1000265

Widodo, T., Setiadjie, R., & Sary, F. (2017). *Analysis of the e-commerce use behavior on music products*.

Wright, K. B. (2017). Researching Internet-Based Populations: Advantages and Disadvantages of Online Survey Research, Online Questionnaire Authoring Software Packages, and Web Survey Services. *Journal of Computer-Mediated Communication, 10*(3). doi:10.1111/j.1083-6101.2005.tb00259.x

Wymer, S., & Regan, E. (2005). Factors Influencing e-commerce Adoption and Use by Small and Medium Businesses. *Electronic Markets, 15*, 438-453. doi:10.1080/10196780500303151

Yaseen, H., Alhusban, M., Alhosban, A., & Dingley, K. (2017). E-Commerce Adoption Model for Traditional Retailers in Developing Countries. *International Journal of Infonomics, 20*. doi:10.20533/iji.1742.4712.2017.0159

Zaineldeen, S., Li, H., Koffi, A., & Mohammed, B. (2020). Technology Acceptance Model' Concepts, Contribution, Limitation, and Adoption in Education. *Universal Journal of Educational Research, 8*, 5061-5071. doi:10.13189/ujer.2020.081106