Online grocery shopping in South Africa: Underlying motivations and challenges

by

Kelelo Mpanana Maja

Supervisor

Dr Emmanuel Quaye

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

Wits Business School

Johannesburg, 2022

ABSTRACT

While many countries imposed COVID-19-related restrictions, global online shopping adoption has recently improved, but not at the same rate as fashion and electronics. However, the disparity among the online segments is yet to be established. The study identified and examined factors influencing South African consumers' intention to use online grocery shopping. A model was proposed to investigate and test hypotheses relating to effects of social influence (SI), word of mouth (WoM), brand intent, convenience, and order fulfilment constructs on customer purchase. Data was collected from 839 respondents via an online questionnaire. The Structural Equation Modelling (SEM) technique was used to evaluate the relationships between the constructs and customer purchase intention. Social influence, WoM, convenience, and order fulfilment significantly influenced customer purchase intentions, while brand intent showed an insignificant impact. Also, COVID-19 was found to significantly moderate the relationship between convenience and purchase intention, but Age and experience were insignificant.

Keywords: Online grocery shopping; online shopping influence; online shopping motivations; customer purchase intention, Online shopping; South Africa

DECLARATION

I, Kelelo Mpanana Maja, 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: Kelelo Signature: 

Signed at … Pretoria……

On the 28 day of February 2022

Table of Contents

CHAPTER 1

1 INTRODUCTION

This chapter provides a background for the online grocery shopping study, as well as an introduction to the field of study and the reasons for conducting the study. First, the characteristics of the online market and its evolution are presented. The research problem is then defined to indicate the difficulties encountered as well as the desired outcomes of the study. This is to provide context for the study and to explain the objectives. Finally, the study's limitations are discussed.

1.1 Background of the study

An increase in readily available technological tools has seen many businesses, including food retailers, develop innovative ways to improve services offerings and move them closer to the customers. The endeavour is intended to meet changing customer needs, expand retailer value proposition, increase customer base, and improve revenue generation avenues. This saw retailers change their business models, previously dominated by traditional physical store visits, to online services offerings that may be personalised and accessed at the customers' convenience. Online grocery shopping is increasingly becoming a familiar option for customers to purchase much-needed groceries over the internet using connected devices at their convenience. This online offering by retailers is supported by increasing access to internet connectivity and smart devices within South Africa. Food retailers in South Africa are now afforded the opportunity to exploit the online market through technological innovation to improve services.

The online retail market includes segments such as Fashion, electronics, and groceries. Reports on the online retail market in South Africa suggest that the market reached a value of 30.2 billion rands by the end of 2020. However, the achievement surpassed the market value attained in 2018 and the 20 billion rand market value projected for 2020 (WorldWideWorx, 2021). The online market is reported to be a lucrative domain for retailers, with a total of 21.3 million people reported to have purchased consumer goods online by the end of 2020.

South Africa is reported to have had a population of 59.67 million by the end of 2021, of which 38.19 million of the population was declared to be internet users (Kemp, 2021). Although online grocery shopping in South Africa has shown massive adoption over the years, its maturity has been inconsistent. The majority of the growth reported was attributed to recent events of COVID-19 lockdown, in which countries enforced strict rules governing movement among people and business activities. SyndiGateMediaInc (2020) reported that the COVID-19 lockdown restrictions promoted the use of online grocery shopping. Findings presented suggest that prior to the COVID-19 lockdown, only 2% of internet users were regular users of online grocery shopping; however, this increased during the lockdown to about 10% by the end of 2020. Eriksson and Stenius (2022) agree that the major accelerator of growth within the online grocery shopping market was COVID-19 lockdown restrictions, especially among customers concerned with their health. The gradual increase or maturity of the segment also seems to have been impacted by customers' attitudes towards grocery shopping.

Schaefer and Bulbulia (2021) suggest that although the online market is gaining momentum, online grocery shopping only accounts for about 35% of South African online shoppers. This is in comparison to 58% and 54% popularity, which is reported for fashion and electronics, respectively. Schaefer and Bulbulia (2021) further indicate that South African online shoppers consider the following factors when shopping online: smooth checkout process for items selected, diverse options for order delivery, quality of service, protection of customer data (personal and financial information), clear returns and refunds policies, brand trust, and ease of browsing the application. Given the reports or findings outlined, the studies do not conclude on the question of whether, beyond the COVID-19 pandemic, there will be continually improved adoption of online grocery shopping. Moreover, no statistical results were identified affirming the factors influencing intention of consumers to buy groceries online. This context is the basis of the study conducted, with a specific focus on the South African online grocery shoppers.

Acceptance of online service technologies

Adoption of online technologies is on the rise in South Africa, as presented in the stats by Kemp (2021); however, these do not eliminate the scepticism among customers in accepting online grocery shopping (SyndiGateMediaInc, 2020). The study reviewed and explored findings reported for widely used technology acceptance models (TAM) such as Theory of planned behaviour (TPB), Unified Theory of Acceptance and Use of Technology (UTAUT) model, and Expectancy Disconfirmation Theory (EDT) model to develop an understanding of the influences on customers' decision to adopt online grocery shopping. Ajzen (2011) introduced the TPB model in the ’80s, and this was to enable the prediction of human social behaviour. The TPB model emerged from the Theory of Reason Action (TRA), incorporating assessment of supposed behavioural

control to improve predictions of customer behaviour where limited control over situations exist. While the TPB model has received great support, it has been criticised for not catering to behaviours of implicit attitude, unconscious processes, and intentions toward technology acceptance (Ajzen, 2011). Thus, growing criticism of the models gave rise to subsequent models, including one by Venkatesh et al. (2003), referred to as the UTAUT. This model defines social influence, effort expectancy, performance expectancy and facilitating conditions as factors that predict behaviour towards technology use or adoption. The model is deemed very effective; however, findings may differ among industries or economies under investigation. The claim that findings are industry-dependent was found to be true. Human et al.'s (2020) application of the UTAUT model to investigate technology acceptance within emerging markets affirmed the model's limitation, meaning that its result may not be generalised across industries or economies.

However, Oliver (1977) proposed an alternative model of EDT, which suggest that customer expectations and the degree of positive or negative disconfirmation determine the perceived performance of online service technology. The EDT model further proposed that pre-adoption expectations predict the overall satisfaction of technology. Qazi et al.'s (2017) study into expectations affirms that customer opinions positively impact customer expectation and predict satisfaction.

Results presented for these models prove that customers are influenced by a set of factors, through which an intentional decision is taken to either adopt or reject the use of technology. However, it is also clear that generalisation of the results is not practical when assessing or attempting to estimate customer intentions. Thus, this study creates and examine a model that illustrates the influences of customer purchase intention of South African online grocery shoppers.

Online grocery shopping influences

Many studies on the online retail market focus on assessing customer behaviour and acceptance of online shopping for Fashion and electronics; however, little was investigated on purchase intention of online grocery shopping. Redda (2019) presented the results of a study conducted with the TPB model to examine the attitudes of South African online shoppers towards online shopping. Redda (2019) confirmed that normative beliefs precede subjective norms concerning online shopping in emerging markets. However, the study did not present any results relating to informational social influence, WoM, and brand intent constructs to indicate their impact on the intention to buy groceries online. Singh and Söderlund (2020) also explored customer service, product, internet site, delivery, and brand knowledge factors as a precursor for better online experience and satisfaction of grocery shoppers. Results show that customer services account for 68% of online experience and 42% of satisfaction; however, no significant impact exists in relation to product experience. However, the study did not test these factors against customer purchase intention. Weber and Badenhorst-Weiss (2016) investigated the impact of time in online grocery shopping in South Africa. The results give perspectives drawn from retailers and customers, indicating the importance of time in providing online grocery services and meeting customer needs. However, the study did not confirm if time influences customer purchase intention

Thus, it is clear from the above observations of previous studies that there is gap of knowledge regarding customer purchase intentions to using online grocery shopping; hence the current study was carried out. Constructs investigated include social influence, WoM, brand intent, convenience, and order fulfilment. The findings of the study provide knowledge of customer behaviours or intentions towards adoption or use of online grocery shopping. The study also provides insights retailers may use in their

strategic development processes to improve customer experience and promote frequent online grocery shopping. Lastly, the findings improve the existing body of knowledge, with a focus on the South African online grocery shopping segment.

1.2 Research Problem

Online grocery shopping is becoming increasingly essential, especially with recent unprecedented events like the COVID-19 pandemic, where governments had to introduce strict regulations to promote practices of social distancing and limit footprint in stores (SyndiGateMediaInc, 2020). While online grocery shopping in South Africa has shown improved adoption of online services, as reported by WorldWideWorx (2021), Kemp (2021), and Schaefer and Bulbulia (2021), recent events do not explain or identify the factors with significant impact on customer intention to buy groceries online. Research work relevant to this study was mainly centred around e-commerce/online shopping in general, with specific attention to fashion and electronics. Studies on the online grocery segment are limited, especially in developing countries like South Africa. Although online grocery shopping is gaining traction based on increased internet and smartphone access, acceptance is not even across the different segments of the online retail market. Factors that drive adoption or decision to use the online services also seem to be segment-specific and cannot be generalised (Brink et al., 2019; Redda, 2019; Weber & Badenhorst-Weiss, 2018). Businesses are increasing customer-centric building models, and their success is highly dependent on their ability to understand and serve their customers' needs. Therefore, developing knowledge about influences of customer decision improves the current theory and assist retailers in directing their innovations more effectively. (SyndiGateMediaInc, 2020) suggested that the sooner retailers understand the effects of customer intentions towards online grocery offerings, the more lucrative and popular will online grocery market become. Besides, it is evident

that the retail market, like many other markets, has become highly competitive, and services are largely personalised. As a result, any retailer seeking to lead the market and increase online sales must improve their customer value proposition. It is in this regard that this South African based research was conducted. The insights gained will allow for a favourable influence of customer intentions and encourage regular the use of online grocery shopping.

1.3 Purpose of the study

The study sought to ascertain the effects of social influence and customer expectations on customer purchase intention concerning buying of groceries online in South Africa. The effects on customer intent were assessed by collecting data and analysing the feedback received in relation to social influence, WoM, brant intent, convenience, and order fulfilment. The study outlines and proposes a model for understanding the effects of the constructs on customer purchase intention. The findings contribute to the current body of knowledge and assist retailers in better understanding South African online grocery shoppers.

1.4 Research questions

The primary question answered by the study is:

- *What are the factors that influence customer purchase intention on online grocery shopping?*

1.5 Research objectives

The intention was to extract insights into the effects of online grocery shopping on customer purchase intentions. The objectives are as follows:

- To examine the impact of social influence on customer online purchase intention of groceries.
- To investigate the impact of Word of Mouth (WoM) on customer online purchase intention of groceries.
- To investigate the impact of Brand intent on customer online purchase intention of groceries.
- To investigate the impact of convenience on customer online purchase intention of groceries.
- To investigate the impact of order fulfilment on customer online purchase intention of groceries.

1.6 Delimitations of the study

The focus was to investigate influences of customer purchase intentions toward online grocery shopping for individuals, i.e., business to customers. There may be business-to-business interactions associated; however, these are not covered in the study. The study referenced works done on online shopping or e-commerce in general; however, this was done for comparative reasons. Therefore, the works do not form part of the study's objective. A full investigation into constructs of EDT and UTAUT theories was not performed; however, some constructs from these models were included in the study. The research pursued the investigation into influences of identified factors on customer purchase intention and not the performance of retailers. While the research

refers to concepts such as customer experience, satisfaction, and loyalty, these are used to elaborate on potential outcomes and are not the basis of this research. The association factors identified for the study and customer satisfaction or loyalty were not investigated. Factors excluded from this study are not deemed insignificant in determining influences of customer perchance intentions on online grocery shopping; they provide an opportunity for future research that may endeavour to undertake an investigation into their impact.

1.7 Structure of the report

The report is divided into five chapters. Chapter one presents a background explaining the framework of online grocery shopping, the problem investigated, study objectives and rationale, and contribution of the study. Chapter two then outlines existing literature reviewed and discusses essential theory relating to the identified factors. These include social influence, word of mouth, brand intent, convenience, and order fulfilment. The chapter also includes the conceptual framework, which is the model studied to understand the effects of the factors. Chapter three introduces the methodology applied when conducting the study. Chapters four and five present and discuss the results of analysis done on data collected for the constructs defined. Lastly, implications to theory, industry practices, and proposed future research are provided to conclude the report.

CHAPTER 2

2 LITERATURE REVIEW

2.1 Introduction

This section contains literature relevant to the factors identified as influences of customers' intention to buy groceries online in South Africa. Details of identified factors that are aligned with current literature are discussed, along with hypotheses tested.

2.2 Theoretical framework

Unified Theory of user Acceptance of Technology (UTUAT)

Technology acceptance models have evolved as researchers strive to identify the internal and external factors influencing individuals' behaviour. The Theory of Reason Action (TRA), which was introduced in the early 1970s, proposes that people's beliefs are influenced by attitude and subjective norms. As a result, it implied that behavioural intention drives people's actions. The TPB was expanded in the late 1970s to include a third factor known as perceived behavioural control (Taherdoost, 2018). This model was not without criticism, suggesting that the theories did not account for behaviours, implicit attitudes, unconscious processes, and intention towards technology acceptance (Ajzen, 2011). Emanating from shortcomings, the TAM was born in the late 80s as an extension of TRA, which became famous in adoption studies relating to internet and mobile technology. The model identified perceived usefulness and ease of use as determining factors of behavioural intention. This was also criticised for being a model most suited for organisational context and not the consumer. Besides, it lacks consideration of social and trust context (Taherdoost, 2018). Following TAM was the UTUAT, developed to envisage behavioural intentions towards technology acceptance and use. It was established as a comprehensive fusion of TRA, TPB, and TAM models. The model was developed after critics indicated existing ones were fragmented and did not account for

technology acceptance (Moghavvemi et al., 2016). The UTUAT model suggests that facilitating conditions, effort expectancy, social influence, and performance expectancy are the main determinants of user behaviour (Venkatesh et al., 2003). Although it is believed that the model is robust, Venkatesh et al. (2003) emphasised that other external factors, such as unforeseen events between initiation intention creation and time of actual action, may affect behavioural intention but cannot be predicted by the model. We also see this in the study by Human et al. (2020), where the result is not coherent with Venkatesh et al.'s (2003) findings. It is clear from the various findings that UTUAT model identifies critical factors that influence adoption, however, results associated to the factors may differ based on unexpected external factors which may appear throughout the adoption life cycle. The current study leveraged on some of the UTUAT factors, also considering the models weakness, to establish the relevance of the factors on customer purchase intension of online grocery shopping.

Expectancy Disconfirmation Theory (EDT)

The EDT model was introduced to explain post-purchase or satisfaction from expectation, performance, and invalidation of beliefs. Predictions driven by a person's expectation, perceived performance, and beliefs in relation to products, services, or technology, according to the theory, determine the satisfaction a person ultimately gains (Oliver, 1977). This was also found in investigations by Qazi et al. (2017), where customer beliefs influenced through online sentiments were found to be the determinant of expectation, performance, and ultimate satisfaction. However, Liu et al. (2020) found that for e-commerce sites' expectation was not a key determining factor of satisfaction. According to Qazi et al. (2017) and Liu et al. (2020), the findings associated with the application of the EDT model do not provide generalisable clarity because there may be additional external characteristics that influence satisfaction but are not covered in the model. Although the above models are believed to be robust, they both seem to yield

results that are context-based, therefore, difficult to generalise. The study was built on these theories by verifying how some of the factors discussed influence customer intention and use, ultimately supporting the degree to which certain influences and expectations drive customer purchase intention and use.

2.2.1 Effect of social influence on online grocery intention

Venkatesh et al. (2011) suggest social influence as one of the key factors influencing customer intention and describe it as a degree to which an individual favour others' opinion. Hu et al. (2019) defined social influence as a shift in an person's conduct because of emotions or attitudes instilled by other individuals. Fu et al. (2020) expanded the definition by incorporating the theory of informational social influence that includes social media reviews, comments, and likes as additional influencers of customer intention. Venkatesh et al. (2011) suggest that correlation social influence is higher in pre-usage than in post-usage activities. However, no significant influence on pre-usage intentions is evident, although it may increase over time. In their study of the acceptance of near field connection (NFC) mobile-based payment in restaurants, Khalilzadeh et al. (2017) concluded that social influence has a direct and significant impact on behavioural intention. Human et al. (2020) discovered that the effect of social influence on behavioural intention was insignificant in their study of the online grocery shopping market in Mauritius. These studies clearly report inconsistent conclusions. Thus, Venkatesh et al. (2011) suggest that future research work may be undertaken with the focus on social networks to assess the significance of behavioural intention. At the same time, Human et al. (2020) indicate that the variation may be because of cultural differences among countries or economies. There is also improved access to the internet and smart devices in South Africa, enabling communities to engage and share information more frequently and with ease. Especially when looking into the

growing utilisation of social networks and how businesses are now targeting customers via social networks (Kemp, 2021). In this regard, the study suggests that social influence impacts customer purchase intention when shopping for groceries online. The present study leveraged on the expanded definition by Fu et al. (2020), which includes informational social influence, and considers limitations presented by Venkatesh et al. (2011) and Human et al. (2020) to investigate the hypotheses below relating to social influence of purchase intention on online grocery shopping:

***H1**: Social influence positively affects customer online purchase intention of groceries*.

2.2.2 Effect of Word of Mouth (WoM) on online grocery intention

Word of mouth is regarded as the cheapest and most effective influential instrument for customer behaviour. It is defined as person-to-person interactions, including communication via the internet regarding products and services (Beneke et al., 2016). Beneke et al. (2016) suggest that negative customer reviews significantly influence customer intention when looking into products such as electronics. In contrast, Singh and Söderlund (2020) indicate that positive WoM recommendations are driven by customer service and satisfaction. In both studies, WoM has a significant influence on purchase intention. Identified studies did not assess the effect WoM on customer intention to buy groceries online. In this regard, the following hypotheses relating to WoM were assessed:

***H2**: Social influence affects WoM of online grocery shopping*

***H3**: WoM affects customer purchase intention on online grocery shopping*

***H8**: The relationship between social influence and customer online groceries purchase intentions is mediated by WoM.*

2.2.3 Effect of brand intent on online grocery intention

Bilgihan (2016) indicated that brand is a prominent concept in the marketing space and is regarded as the business's promise or value offered to the customer. Additionally, the author suggested that businesses are increasingly engaging in activities that aim to enhance the brand's value and build brand equity in order to impro customer experience and loyalty. Beneke et al.'s (2016) investigation into the association of WoM and brand equity established that there is a significant effect of WoM on brand equity and purchase intention. Singh and Söderlund (2020) also affirmed that brand experience is critical for an overall grocery shopping experience. Thus, in the studies outlined, the focus has been on how customers' positive or negative reviews in the form of WoM impact brand equity and purchase intention. However, investigations into the effect of brand intent on customer intention to buy groceries online are not evident. This resulted in the present study, which examined the following brand intent hypotheses:

***H4**: Social influence affects brand intent of online grocery shopping*

***H5**: Brand intent affects customer purchase intention on online grocery shopping and impact of social influence.*

***H9**: The relationship between social influence and customer online groceries purchase intentions is mediated by brand intent.*

2.2.4 Effect of convenience on online grocery intention

Online service offerings are usually associated with the business's ability to provide quality, timely, and effective services to customers. It is also predicted that customers will always have some expectations, which they will weigh against the actual experience of a service received (Dlamini & Barnard, 2020). Some of these expectations are the ability to save time and return unwanted or low-quality products. Izogo and Jayawardhena (2018) investigated the drivers of online shopping experience and have confirmed convenience construct as key determinants that influence customer experience. Weber and Badenhorst-Weiss (2016) also confirmed that customers perceive buying groceries online as a time-saving activity; therefore, the overall fulfilment of the customer needs is measured against the time factor and effectiveness of complaints handling. Singh's (2019) assessment of why customers stay or switch from online grocery shopping confirmed that item returns capability is one of the service excellence factors that influence customer intention. This is the context in which the convenience construct was examined, with a particular emphasis on time and returns aspects.

Time-saving

Weber and Badenhorst-Weiss (2016) investigated time factor as a deterrence from the use of online shopping. The study indicated that customers perceive shopping online for groceries as a time-saving activity. However, findings presented suggest that customers felt that the need to prepare for grocery buying in advance, availability of delivery time slots, and arrangement for grocery receiving are some of the issues deterring them from using online grocery shopping. Weber also indicated that some customers prefer the flexibility of buying at any given time.

Brand et al. (2020) found that time pressure and daily schedules are factors that encourage or deter customers from using online shopping. This includes activities such

as planning for buying and ensuring availability to receive orders. Results showed that time pressure has a significate positive influence on perceived behavioural control.

Returns items policy

The emergence of online shopping has come with both positive and negative conditions when compared to traditional shopping. In the traditional physical way of shopping, customers are accustomed to the touch and feel of products before buying. In contrast, they rely on reviewing images and information of the products intending to buy on the online platform. This brings the need to have effective and efficient online return policies that provide quality and convenient service. Studies on retailer logistical challenges allude to the issue of reverse logistics (Brink et al., 2019; Weber & Badenhorst-Weiss, 2018), which relates to the capability enabled for customers to return unwanted or low-quality products. They further found that if no capability is given to customers to return products, this will lead to the abandonment of online shopping. Singh's (2019) investigation into why customers choose to stay, or switch alludes to the return policy as a critical component of service excellence that influences customer intentions.
The identified studies applied qualitative methods wherein industry specialists were interviewed, and findings compiled. A quantitative approach was taken to test the following hypotheses:

H6: *Convenience affects customer online purchase intention of groceries.*

2.2.5 Effect of order fulfilment expectation on online grocery intention

Order fulfilment is the ability to deliver on customer demands to meet their needs. In an online grocery shopping setup, the retailer's ability to deliver all needed products at the right quality, price, and time is regarded as order fulfilment. Weber and Badenhorst-Weiss's (2016) findings indicated that around 93% of orders are fulfilled; however, the

customer expects 100%. The researchers further indicated that although 93% is high, the difference may still deter customers from online grocery shopping. Some of the key determinants associated with order fulfilment, and investigated in this study, are product assortment and order picking.

Products assortment

Sreeram et al. (2017) conducted a study investigating product assortment as one of the additional factors not included in TAM but plays a critical role in influencing shopping behaviour. Sreeram et al. (2017) defined product assortment as the variety of product offerings available to the customer. The study concluded that product assortment has a significant effect on perceived ease of use and usefulness and influences purchase behaviour in the form of satisfaction and loyalty.

Singh's (2019) study on why customers choose to stay or switch also defines some of the customer return in investment factors, of which product assortment is listed as one of the economic benefits that influence customers' purchase intention.

Order picking trust

Weber and Badenhorst-Weiss (2016) identified additional issues that customers raise in relation to perishables, fruit, and vegetables. It was found that the majority of the customers prefer to pick their own perishables given that they do not trust that picker will pick the best quality of products ordered. It is also indicated that the flexibility of buying at the most needed time is also a deterrence for customers. Mkansi et al.'s (2018) study acknowledged the issue of picking the right products and quality to be reliant on the capability of retailers to effectively and efficiently manage inventory and for pickers to use optimal picking strategies that will ensure that good quality products are picked for customers. Brink et al.'s (2019) study also supports the above findings, indicating that lack of confidence in pickers, self-picking preference, and inconvenience

of having to return unwanted products all act as deterrents to customer behaviour towards online grocery shopping.

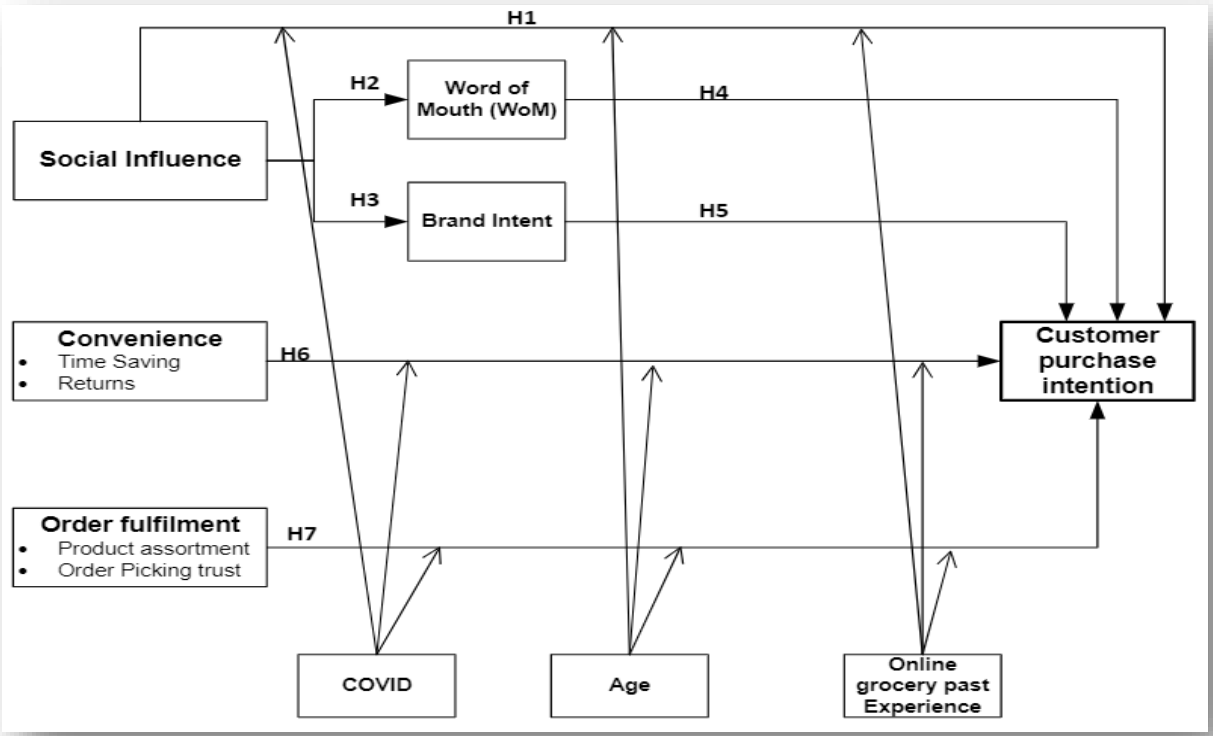
Based on the the aforementioned literature, this study investigated the following Order fulfilment hypotheses:

***H7**: Order fulfilment affects customer online purchase intention of groceries*

2.3 Conceptual framework

The present study investigates constructs of social influence, WoM, Brand intent, and expectations (convenience and order fulfilment) as predictors of customer purchase behaviour. According to the study, the aforementioned constructs are influencers of customer purchase intent and, as a result, predictors of online grocery shopping. Below is a graphical representation for the study:

Figure 1: *Conceptual framework*



2.4 Conclusion of Literature review

Online grocery shopping is a unique segment within the e-commerce environment that provide retailers with an opportunity to provide convenient services and expand their value streams. Besides, Mortimer et al. (2016) predicted exponential growth in the nearest future. While Brand et al. (2020) suggest that the market is changing rapidly in line with customers' shopping needs. However, from the literature presented herewith, there are clear gaps in knowledge around the influence of online grocery shopping. The study investigated hypotheses suggested in relation to the social influence, WoM, brand intent, convenience, and order fulfilment variables to affirm their ability to predict customer purchase intention regarding online grocery shopping. Chapter 4 summarises the findings to demonstrate their contribution to existing knowledge and how they differ from previous studies.

CHAPTER 3

3 RESEARCH METHODOLOGY

This chapter outlines details of the methodology used to assess the hypotheses being tested to answer the research questions. The research design is described to indicate the kind of data collected, method of data collection, the research instrument utilized, population and sampling applied, data analysis approach, and ethics adopted.

3.1 Research approach

The study performed a quantitative study to examine the effect social influence, WoM, brand intent, convenience, and order fulfilment factors has on customer intention to buy groceries online in South Africa. Quantitative research is described as a study of quantity, frequency or magnitude of an occurrence (Schindler, 2019). The approach also assists in measuring the variables in relation to theory-associated research questions and hypotheses (Creswell, 2018). The approach was chosen because it enables the description of trends, opinions, and relationships between variables through surveying. It is also inexpensive and has quicker turnaround times for data collection (Creswell, 2018). To conduct the study using this approach, the following assumptions were made:

- Respondents will provide greater insights into the factors that influence their decision to buy groceries online.
- The approach can develop a sufficient understanding of the factors and their impact on online grocery shopping purchase intention.

The approach was found to be suitable to answer the research questions asked. It enabled the use of statistical tools to validate the relationships described for the study.

3.2 Research design

A survey design was adopted to gather primary data. This design helped answer the research question: What factors influence customer purchase intention on online grocery shopping? The study benefited from this design in that it was able to access a large group of respondents, distribution was simple, and accurate predictions could be made from the data collected. It also enabled computerised analysis, which improved the ability to provide clear distinctions among the facts and judgements. Although the design did not allow the ability to probe deeper during data collection, the results derived were sufficient. Any facts that the study was unable to deduce provided an opportunity for additional field-based studies to be conducted to provide additional clarity where necessary. The conclusion section of this report contains a list of facts that remain to be investigated to guide future research.

3.3 Data collection methods

The internet-based method was used to distribute an online questionnaire consisting of demographic information, online grocery experience and sections relating to social influence, WoM, brand intent, convenience and order fulfilment constructs defined for the study. The online questionnaire was captured on Qualtrics, a web-based application that allows for the creation and management of surveys results. A preliminary test was performed to assess the measures for importance, structure, and completeness. The pre-test conducted on the questionnaire requested respondents to input the sequence and clarity of the questions. Inputs were incorporated, and the final questionnaire link was distributed using social media (WhatsApp) and email (personal email repository and university mail server). It was assumed that respondents have access to the

internet and might have experience using online grocery shopping. Intention and participation considerations were shared in the questionnaire to clarify and address any potential concerns, e.g., confidentiality or privacy concerns. A pre-requisite for using online grocery shopping is that a customer should have a device(s) with an internet connection to access the services. Therefore, it was important that data be collected using an internet-based method, eliminating the need to assess accessibility issues in completing the survey. Hence the study assumed that all respondents would have internet access and are potential users of online grocery shopping.

3.4 Population and sample

3.4.1 Population

The population targeted included respondents of any gender, who were at least 18 years old, had access to a device (for example; smartphone, tablet, laptop, or desktop) and may have used traditional (physical store visit) or online means to buy groceries from any South African retailers. Online grocery shopping is the process of purchasing food or household supplies that are typically available in supermarkets or retail outlets. Besides, some South African food outlets include Pick n Pay, Checkers, Woolworths, etc. A total of 400 respondents with or without online grocery shopping experience were targeted to complete the online survey, and at least a minimum of 300 with valid responses was required to complete the analysis. The study managed to collect 839 completed questionnaires, of which 529 were valid responses after cleansing.

3.4.2 Sample and sampling method

Based on the responses received, a stratified random sampling method was used. This method was used to ensure that a proportional sample of the targeted population was obtained (Acharya et al., 2013). This allowed the study to assess sample representation of varied groups of respondents defined by age, gender, and grocery buying history. The main proportional splits identified were those based on gender and respondents with or without past online grocery shopping experience. These splits allowed for a balanced analysis and result presentation among the varied groups. The study collected 839 completed questionnaires, of which 529 were valid responses, exceeding the targeted minimum of 300 valid responses.

3.5 The research instrument

An online questionnaire with 54 questions was distributed. The questionnaire began with an introduction to the study and was then divided into five (5) sections. All scale questions used a 7-point Likert scale answering method, and no open-ended questions were asked. Section A requested information such as age, gender, ethnicity, and level of education. Section B asked questions about previous experience, grocery buying patterns, and current or future intentions of online grocery shopping. Section C, D, and E then asked questions specific to the constructs of the study. Social influence was measure with six items from Venkatesh et al. (2003), WoM measured with four items from Beneke et al. (2016) and Singh, (2019), brand intent measured with four items from Bilgihan, (2016), convenience (time-saving & returns) measured with twelve items from Brand et al. (2020); Weber & Badenhorst-Weiss, (2016) and Brink et al. (2019), and order fulfilment (products assortment & order picking trust) measured with twelve items from Weber & Badenhorst-Weiss, 2016; Sreeram et al. (2017) and Brink et al.

(2019). All items were measured on a 7-point Likert scale; 1 – strongly disagree, to 7 = strongly agree, and are included in the question instrument attached in *"**Appendix X - Research instrument**".*

3.6 Procedure for data collection

The survey was performed using the Qualtrics survey tool. An online link was used to capture and render a structured questionnaire. The link was first sent to a few respondents as a trial run, requesting that they provide inputs into the questionnaire. All feedback from the trial run was collated, and updates made were necessary. To collect primary data, a final survey link was distributed to the broader respondents. Distribution was done via university mail server, social media (WhatsApp), and personal email repository.

3.7 Data analysis and interpretation

Screening was performed on data collected to reduce the risk of invalid outcomes. Prior to data analysis, the screening process checked for missing, incomplete, or invalid data from received feedback. This step is essential to ensure that the results are good quality, sufficient responses were received, and conclusions are drawn using only valid responses. In addition, descriptive statistics are deemed to be useful for providing summaries and characteristics involved in a selected sample (Fisher & Marshall, 2008). Thus, once validation was completed, descriptive statistics were performed to identify data features of the factors within the selected sample. The study also wanted to prove the connection between social influence, convenience, order fulfilment, and customer intention to buy groceries online. Structural equation modelling was used, which allows execution of confirmatory factor analysis (CFA) and structural path analysis to

determine the independence of variables and prove the connections of identified constructs (Schindler, 2019). Thus, the CFA was applied in the study to affirm the independence and connection of the variables. Lastly, the study listed various hypotheses that needed to be proven in relation to customer purchase intention of online grocery. Further, inferential statistics is described as using inductive reasoning to make conclusions about a targeted population (Schindler, 2019). Given that the study wanted to prove the hypothesis defined, inferential statistics were applied to affirm conclusions about the impact of constructs.

3.8 Limitations of the study

The study accepted the following limitations:

- Although the study attempts to capture the online grocery shopping intention from an overall South African context, respondents and results do not represent all regions across the country.
- The study did factor in the issue of digital divide and inequalities within the South African context, which means that the results may not be generalised.
- Given that the study used a quantitative method, a deeper understanding of each variable was not possible as the method does not enable deeper probing into the constructs. This gives rise to future research that could be done to gain a deeper understanding of constructs using a qualitative method.

3.9 Validity and reliability

3.9.1 External validity

External validity assesses the ability for data to be generalised among people or periods (Schindler, 2019). The research sampled from a population that was assumed to have access to the internet and be familiar with online transactions. Therefore, bias may have been introduced, given that the result may not be generalised to those customers without internet or who are unfamiliar with online grocery shopping. While this was of concern, the study noted the increase in access and use of the internet in South Africa (Kemp, 2021) and also deemed access to the internet to be secondary to the investigation into the influence of identified constructs on online grocery shopping. Therefore, results from this study can still be maximised and used to predict influences towards online grocery shopping for groups not having access to the internet.

3.9.2 Internal validity

Internal validity assesses whether the investigation will give results that are a true reflection of the intention (Schindler, 2019). The following approach was adopted to ensure the validity of the instrument used:

- Variable used were extracted for previous studies, as they are known concepts.
- The instrument was piloted with the intention to gather inputs from experts and some of the population to enable modification of the instrument to make it more relevant.
- Respondents were asked to confirm their experience with online grocery shopping. This allowed the validation of responses based on customer history.

3.9.3 Reliability

Schindler (2019) defined reliability as the accuracy of the measurement procedure. Cronbach's alpha was used to evaluate the factors' internal consistency. The influence of the factors was measured by asking questions about customer intent of online grocery shopping across all constructs. Some of the examples are:

- I intend to use online grocery shopping.
- Using online grocery shopping would save me time that I usually spend to plan and travel to buy my groceries.
- I would use online grocery shopping if the return process were easy.

3.10 Ethical considerations

The study undertaken did not constitute any intention to harm or infringe any rights of the respondents. All ethical protocols were followed to defend the rights of all respondents. The study acknowledged the privacy, anonymity, and confidentiality of all respondents. All respondents reserved the right to participate. No data that could be used to identify the respondent was shared with the university or any person or company. Only insights and features from the data are included in the final report; no personal data was included. Data was kept in a password-protected computer and will be discarded within ten years after research results are published. Participation was fully voluntary, and no incentives were used to encourage participation. The aim and restrictions of the study were communicated clearly and openly upfront, using a cover page or declaration attached to all methods used for survey distribution. This was to ensure that respondents were knowledgeable of the study's intent.

Chapter 4

4 Collected data analysis and results

4.1 Introduction

Service delivery has evolved over time given the increased internet adoption levels, enabling border access to services by communities and society at large. This provided numerous companies, in this case, retailers, with the opportunity to provide services via technology or online solutions to reach out and serve their customers. Online grocery shopping is one of the methods retailers use to serve their customers to simplify service delivery. However, it also comes with mysteries such as what factors influence the intention of customers to buy or use online grocery shopping. The literature review provided for this study identified these factors, data was collected, analysis was completed, and now results will be presented in this chapter.

This chapter presents statistical analysis results from the data collected to study the influence of customer online grocery shopping purchase intention. Statistical packages used for the analysis are the statistical package for social sciences (SPSS) 27 and SmartPLS 3. Results are presented firstly by describing the demographic profile to illustrate the frequency distribution of the respondents. Descriptive statistics are then presented to further describe the characteristics of the sample. Measurement model results derived from reliability and validity tests of constructs and associated measures identified are provided, followed by structural model results that outline the relationships and the significance among the identified constructs. Hypotheses test results are presented to indicate if they are statistically valid or supported. Lastly, the results are summarised.

The study investigated and collected data relating to eleven (11) constructs to assess their influence on online grocery shopping purchase intention. These included: purchase Intention, Social Influence, word of mouth, brand intent, convenience, time saving, return Items, order Fulfilment, product assortment, and order picking.

4.2 Demographics of Respondents and frequencies

A total of 839 completed questionnaires were collected during the data collection period. All respondents gave consent and voluntarily completed the online distributed questionnaire. Respondents with valid and complete responses amounted to N = 529, which is 63% of all the respondents. The data was cleansed by removing all responses with missing data and questionnaires that were not completed. Responses with missing data amounted to 310, representing 37% of the respondents. Analysis for the study was based on the 529 valid responses.

Table 4.1 outlines the participation distribution by gender, age, and overall online grocery shopping experience. Sample of valid respondents showed gender distribution of (36.3% male and 63.7% female), and age distribution (91.5% in the age bracket 18 to 44 years, while bracket 45 to older had 8.5% of the sample). Respondents who had shopped for groceries online accounted for 56.9% of the final sample, and 50.3% had shopped for groceries online between one and six months ago. Devices mostly used by the respondents to buy groceries online were indicated to be Laptops (19.1%) and Smartphones (46.1%). Among respondents, monthly grocery buying patterns were mainly between once a month (30.6%) and twice a month (23.8%).

Table 1: Demographics and frequency of Respondents

	Characteristics	N	%
Respondents	Total respondents	839	100%
	Total valid respondents	529	63%
Gender	Male	192	36.3%
	Female	337	63.7%
Age	18 – 24	223	42.2%
	25 – 34	146	27.6%
	35 – 44	115	21.7%
	45 – 54	39	7.4%
	55 - older	6	1.1%
Online grocery shopping experience	Yes	301	56.9%
	No	228	43.1%
Last time shopped for groceries online	1 to 3 months ago	218	41.2%
	4 to 6 months ago	48	9.1%
	7 to 9 months ago	15	2.8%
	10 to 11 months ago	3	0.6%
	12 months +	12	2.3%
	Never	5	0.9%
Devices used for online grocery shopping	Desktop computer	19	3.6%
	Laptop	101	19.1%
	Smartphone	244	46.1%
	Tablet	26	4.9%
	Other	9	1.7%
Monthly groceries patterns	Once a month	162	30.6%
	Twice a month	126	23.8%
	3 times a month	84	15.9%
	4 times a month	64	12.1%
	5 or more a month	50	9.5%
	Never	43	8.1%

Intention to use online grocery shopping

The overall descriptive statistics for INT (intention) show a mean value of 4.24 (SD = 1.1614). Table 2 compares mean scores for the intention to use online grocery shopping attributes by gender distribution. Females had the highest mean score of 4.27 (SD = 1.589). This indicates a positive observation that females are likely to buy groceries online than males. In addition, a comparison among the age group distribution reveals an overall highest mean score of 4.55 (SD =1.611), which is attributed to respondents between the ages of 35 to 44 years. This demonstrates a favourable attitude toward online grocery shopping among the aforementioned age group.

Finally, when mean scores for intention and prior online grocery shopping experience are compared, respondents with prior online grocery shopping experience receive the highest mean score of 4.84 (SD = 1.484). This shows positive observation that respondents with experience are willing to continue using online grocery shopping.

Table 2: Mean and standard deviation: Intention, age, gender & experience

Characteristic	Items	Mean	SD
Purchase Intention (INT)		4.24	1.614
Gender	Male	4.19	1.660
	Female	4.27	1.589
Age	18 - 24	3.92	1.545
	25 - 34	4.44	1.668
	35 - 44	4.55	1.611
	45 - 54	4.37	1.606
	55 - older	4.33	1.339
Online grocery shopping experience	Yes	4.84	1.484
	No	3.44	1.427

4.3 Descriptive statistics

Table 3 outlines the mean, standard deviation, skewness, and kurtosis values of the eleven (11) constructs being assessed and the associated indicators or items used to measure the constructs. The result reveals that the construct with the highest mean scores is Convenience (CO), with a score of 5.47 (SD = 1.153); followed by Brand Intent (BI), with a mean of 5.32 (SD = 1.159); Time Saving (TS), with mean of 5.05 (SD = 0.958); Order Fulfilment (OF), with a score of 4.89 (SD = 1.0670); Product Assortment (PA), with mean of 4.70 (SD = 1.051); Word of Mouth (WoM), with mean of 4.56 (SD = 1.584); Return Items (RI), with mean of 4.29 (SD = 0.958); and Purchase Intention (INT), with mean of 4.24 (SD = 1.614). Skewness and Kurtosis analyses of the constructs reveal that the data is within an acceptable normal range (-3 to +3).

Table 4 further illustrate indicators with the highest mean to show which statements received the highest rating, demonstrating what respondents have agreed. The following indicators had the highest mean scores: (CO3 = 5.89 (SD = 1.253), RI2 = 5.85 (SD = 1.209), CO4 = 5.84 (SD = 1.290), PA1 = 5.81 (SD = 1.648), RI1 = 5.79 (SD = 1.242), BI4 = 5.79 (SD = 1.352), BI1 = 5.76 (SD = 1.440), PA2 = 5.67 (SD = 1.194), TS3 = 5.50 (SD = 1.409), and CO1 = 5.47 (SD = 1.525)). This reveal that respondents had a high and positive perception towards the indicators. While mean scores above average related to the following indicators: (OF2 = 5.43 (SD = 1.406), OF1 = 5.34 (SD = 1.520), BI3 = 5.26 (SD = 1.571), INT3 = 5.25 (SD = 1.686), TS4 = 5.11 (SD = 1.637), TS2 = 4.86 (SD = 1.744), WM3 = 4.85 (SD =1.738), OF4 = 4.84 (SD = 1.483), TS1 = 4.74 (SD = 1.790), CO2 = 4.67 (SD = 1.721), OP1 = 4.63 (SD = 1.648), INT1 = 4.60 (SD =1.920), WM4 = 4.58 (SD = 1.781), and WM1 = 4.51 (SD = 1.761)). This demonstrates a subset of respondents who are somewhat in agreement with the

indicators. The remaining indicators elicited either a neutral response or disagreement with the statement. Skewness and Kurtosis analyses on the constructs indicate that the data is within an acceptable normal range (-3 to +3).

Table 3: Mean, Standard deviation, Skewness, and Kurtosis: Constructs

#	Construct	Mean	SD	Skewness	Kurtosis
1	Purchase Intention (INT)	4.24	1.614	-0.014	-0.935
2	Social Influence (SI)	3.23	1.503	0.193	-0.940
3	Word of Mouth (WoM)	4.56	1.584	-0.629	-0.539
4	Brand Intent (BI)	5.32	1.159	-1.327	2.211
5	Convenience (CO)	5.47	1.153	-1.179	2.071
6	Time Saving (TS)	5.05	0.958	-0.428	0.791
7	Return Items (RI)	4.29	0.929	0.321	1.073
8	Order Fulfilment (OF)	4.89	1.067	-0.700	0.787
9	Product Assortment (PA)	4.70	1.051	-0.148	0.503
10	Order Picking (OP)	3.28	1.121	0.349	0.690

N = 529

Table 4: Mean, Standard deviation, Skewness, and Kurtosis: Construct indicators

Indicators	Ref	Mean	SD	Skewness	Kurtosis
I intend to buy groceries online.	INT1	4.60	1.920	-0.451	-0.992
The next time I want to buy groceries, I would purchase them online.	INT2	3.88	1.890	0.100	-1.185
I am willing to purchase groceries online.	INT3	5.25	1.686	-1.025	0.149
I believe that online shopping is my first choice for groceries.	INT4	3.22	1.974	0.587	-0.955
I would buy groceries online if people who influence my behaviour think I should do so.	SI1	3.10	1.760	0.412	-1.065
I would buy groceries using online shopping if people whom I value think I should do so.	SI2	3.41	1.832	0.149	-1.329
I would buy groceries using online shopping if people important to me think I should do so.	SI3	3.56	1.818	0.017	-1.326
People who influence my behaviour think that I should use online grocery shopping.	SI4	3.03	1.667	0.426	-0.944

People whose opinions I value think I should use online grocery shopping.	SI5	3.14	1.717	0.339	-1.118
People who are important to me think that I should use online grocery shopping.	SI6	3.15	1.705	0.339	-1.122
Reviews regarding online grocery shopping increase my interest to buy groceries online.	WM1	4.51	1.761	-0.520	-0.867
I make a decision to buy groceries online based on reviews I receive or find.	WM2	4.29	1.813	-0.338	-1.104
Reviews shared by other people verbally or on social media regarding online grocery shopping are useful to me.	WM3	4.85	1.738	-0.795	-0.419
Reviews regarding online grocery shopping will influence my choice to continue to use online shopping.	WM4	4.58	1.781	-0.598	-0.767
I would only buy groceries online from a retailer that is well-known.	BI1	5.76	1.440	-1.564	2.078
I would only buy groceries online from a retailer that is involved in community social development.	BI2	4.47	1.549	-0.343	-0.316
I would only use online grocery shopping of a retailer that has deep experience and has been in the market for a long time.	BI3	5.26	1.571	-0.919	0.160
I would only use online grocery shopping of a retailer that has a creditable service track record.	BI4	5.79	1.352	-1.594	2.635
It would be easy for me to buy groceries using online shopping.	CO1	5.47	1.525	-1.215	0.904
Buying groceries online will enable me to manage my groceries more effectively.	CO2	4.67	1.721	-0.405	-0.850
Learning to use online grocery shopping would be easy for me.	CO3	5.89	1.253	-1.646	3.238
It would be easy for me to be skilful in using online grocery shopping.	CO4	5.84	1.290	-1.594	2.970
I have a flexible schedule that would enable me to buy and receive groceries at any time when using online grocery shopping.	TS1	4.74	1.790	-0.487	-0.917
If I cannot buy all groceries items I need, then online grocery shopping will be a waste of my time.	TS2	4.86	1.744	-0.571	-0.810
Using online grocery shopping would save me time that I usually spend to plan and travel to buy my groceries.	TS3	5.50	1.409	-1.079	0.640

If I have to return some of the items I bought, then using online grocery shopping will be a waste of my time.	TS4	5.11	1.637	-0.799	-0.265
I would buy groceries online if the return process is easy.	RI1	5.79	1.242	-1.378	2.112
I would buy groceries online if the return process is clear and understandable.	RI2	5.85	1.209	-1.378	2.035
I would continue to use online grocery shopping even if I am not allowed to return unwanted or low-quality items.	RI3	2.83	1.825	0.835	-0.457
I would continue to use online grocery shopping if the return process for unwanted or low-quality items is not simple and efficient.	RI4	2.70	1.750	0.940	-0.214
Buying groceries online will enable me to do my groceries more quickly.	OF1	5.34	1.520	-1.021	0.272
I would buy groceries online only if I can find all items or products I needed.	OF2	5.43	1.406	-1.138	0.950
I would find using online grocery shopping useful even if I do not find all the items I need.	OF3	3.97	1.844	-0.083	-1.282
Using online grocery shopping will enable me to accomplish things that are important to me when buying groceries.	OF4	4.84	1.483	-0.552	-0.223
I would buy groceries online if a variety of products are available.	PA1	5.81	1.191	-1.493	2.761
I would buy groceries online if enough number of items of a product are made available.	PA2	5.67	1.194	-1.227	1.765
I would continue to use online grocery shopping even if a limited variety of products are available.	PA3	3.68	1.746	0.233	-1.100
I would continue to use online grocery shopping even if a limited number of items of a product are made available.	PA4	3.63	1.711	0.229	-1.113
I trust that the people picking groceries on my behalf would choose the correct products if I buy groceries online	OP1	4.63	1.648	-0.604	-0.561
I trust that the people picking groceries on my behalf would choose fresh or quality products if I buy groceries online	OP2	4.39	1.616	-0.330	-0.755
I would continue to use online grocery shopping even if people picking groceries are not trustworthy	OP3	2.16	1.465	1.514	1.695

I would continue to use online grocery shopping even if people picking groceries on my behalf do not pick fresh or quality products	OP4	1.96	1.397	1.859	3.054

4.4 Measurement model

The measurement model allows for evaluating the relationship between variables and their indicator/measures. It enables the investigation of the extent to which a measure correlates with its dependent variable. It also allows for assessing the reliability and validity of the constructs and their indicators. This process involved the use of SEM tools such as Cronbach's Alpha, composite reliability (CR), Average variance extracted (AVE) and discriminant validity to establish data reliability and validity. SmartPLS application was used to calculate and analyse the relevant scores to ascertain the reliability and validity of the data.

Table 5 shows the loading scores calculated as part of the model evaluation process. According to Gefen and Straub (2005), indicators with a score < 0.600 represented low factor loading and were removed from the model. The number of indicators removed amounted to 17 (TS1-4, RI1-4, OF1-3, PA1-4, OP3 and OP4) because of low scoring. Cronbach's alpha and CR tests were also conducted to examine reliability. All constructs had high CR scores exceeding the endorsed value (> 0.700). Cronbach's alpha for all constructs also had scores greater than 0.700, indicating a positive trajectory for data reliability. To affirm validity, the AVE was calculated. The results indicated that all constructs had acceptable convergent validity, with an AVE (> 0.500) except for Brand Intent (0.494), COVID-19 (0.499), and Order fulfilment (0.499).

Table 5: Reliability and Convergent Validity

Constructs	Ref	Loadings	T Statistics	α	CR	AVE
Purchase intent				0.886	0.885	0.659
I intend to buy groceries online	INT1	0.839	101.830			
The next time I want to buy groceries, I would purchase them online.	INT2	0.785	74.955			
I am willing to purchase groceries online	INT3	0.863	56.484			
I believe that online shopping is my first choice for groceries.	INT4	0.755	57.569			
COVID-19				0.628	0.656	0.499
Impact of COVID-19 pandemic on your daily living activities	COVID3	0.548	4.955			
Impact of COVID-19 pandemic on your professional life or business	COVID5	0.835	9.261			
Social Influence				0.929	0.928	0.686
I would buy groceries online if people who influence my behaviour think I should do so	SI1	0.635	35.450			
I would buy groceries using online shopping if people whom I value think I should do so.	SI2	0.756	46.713			
I would buy groceries using online shopping if people important to me think I should do so.	SI3	0.786	53.800			
People who influence my behaviour think that I should use online grocery shopping.	SI4	0.874	66.349			
People whose opinions I value think I should use online grocery shopping.	SI5	0.931	79.092			
People who are important to me think that I should use online grocery shopping	SI6	0.945	67.997			

Word of Mouth				0.915	0.913	0.728
Reviews regarding online grocery shopping increase my interest to buy groceries online	WM1	1.016	83.082			
I make a decision to buy groceries online based on reviews I receive or find	WM2	0.817	91.485			
Reviews shared by other people verbally or on social media regarding online grocery shopping are useful to me	WM3	0.726	59.021			
Reviews regarding online grocery shopping will influence my choice to continue to use online shopping	WM4	0.826	74.120			
Brand Intent				0.793	0.789	0.494
I would only buy groceries online from a retailer that is well-known	BI1	0.653	21.428			
I would only buy groceries online from a retailer that is involved in community social development	BI2	0.644	10.763			
I would only use online grocery shopping of a retailer that has deep experience and has been in the market for a long time	BI3	0.527	22.902			
I would only use online grocery shopping of a retailer that has a creditable service track record	BI4	0.925	30.549			
Convenience				0.817	0.803	0.510
It would be easy for me to buy groceries using online shopping	CO1	0.722	31.638			
Buying groceries online will enable me to manage my groceries more effectively	CO2	0.860	31.199			
Learning to use online grocery shopping would be easy for me	CO3	0.621	34.025			

It would be easy for me to be skilful in using online grocery shopping	CO4	0.628	38.499			
Order Fulfilment				0.800	0.799	0.499
Buying groceries will enable me to do my groceries more quickly	OF1	0.703	29.030			
Using online grocery shopping will enable me to accomplish things that are important to me when buying groceries	OF4	0.731	38.596			
I trust that the people picking groceries on my behalf would choose the correct products if I buy groceries online	OP1	0.729	42.947			
I trust that the people picking groceries on my behalf would choose fresh or quality products if I buy groceries online	OP2	0.660	42.974			

A correlation examination was completed to assess the significance of the relationships among the constructs identified or the study. Correlations between constructs are shown in **Table 6**. The results indicate that purchase intent is significantly correlated with all constructs except COVID-19. Also, COVID-19 has a negligible effect across all constructs. Social influence, word of mouth, brand intent, convenience, and order fulfilment constructs have a significant correlation.

Table 6: Correlation among variables

Constructs	Mean	SD	1	2	3	4	5	6	7
Purchase intent	4.239	1.614	1.000						
COVID	3.299	1.028	0.070	1.000					
Social Influence	3.230	1.503	.306**	0.037	1.000				
Word of Mouth	4.561	1.584	.405**	0.054	.347**	1.000			
Brand intent	5.319	1.159	.190**	0.014	.201**	.403**	1.000		
Convenience	5.467	1.153	.528**	0.028	.237**	.431**	.364**	1.000	
Order Fulfilment	4.893	1.067	.516**	0.032	.290**	.458**	.350**	.633**	1.000

N= 529, **. Correlation is significant at 0.01 level.

The sample validity was further evaluated by assessing discriminant validity using the Fornell-Larcker criterion and Heterotrait–Monotrait Ration (HTMT). Additionally, the square root of the AVE across all constructs was greater than the value of the correlated construct. The HTMT assessed also showed correlated values of less than 0.900 (Henseler et al., 2015). Tables 7 and 8 illustrate the discriminant validity results.

Table 7: Fornell-Larcker criterion

	A	B	C	D	E	F
A. Brand intent	***0.703***					
B. Convenience	0.465	***0.714***				
C. Purchase intent	0.245	0.624	***0.812***			
D. Order fulfilment	0.326	0.667	0.658	***0.741***		
E. Social influence	0.231	0.277	0.350	0.334	***0.828***	
F. Word of mouth	0.470	0.499	0.456	0.460	0.381	***0.853***

Values in bold represent are the square root of AVEs are greater than correlations values

Table 8: Heterotrait – Monotrait Ration (HTMT)

	1	2	3	4	5	6
1. Brand intent						
2. Convenience	0.461					
3. Purchase intent	0.235	0.608				
4. Order fulfilment	0.327	0.644	0.656			
5. Social influence	0.234	0.256	0.340	0.331		
6. Word of mouth	0.476	0.489	0.452	0.456	0.377	
Correlation (< 0.900)						

4.5 Structural model

Structural model assessment allows the study to reflect on relationships and determine the correlation among identified variables. This was done to evaluate paths hypothesised for the study. The model was assessed using calculated path coefficients, R square (R^2), Q square (Q^2), and significance of paths (P Values).

To assess the strength of the variation among dependent and independent variables, R^2 value was calculated to establish the model's integrity. It is recommended that the value of the R^2 must be equal to or greater than 0.1. Table 7 shows the results of R^2 calculations and all variable values, with the exception of Brand Intent (BI) (0.053), are greater than (0.100). This means that BI causes little variation to customer purchase intention. Furthermore, Q^2 was calculated to establish the predictive relevance of the constructs. Q^2 values (> 0.000) are deemed good, and the model has a predictive relevance. Table 7 demonstrates the Q^2 values calculated for the constructs, and all values are greater than 0.000. Therefore, the model has predictive relevance. Lastly, the model fit was evaluated using Standardised Root Mean Squared (SRMR) to determine the degree to which observed correlation fit mode implied correlations. It is

recommended that the SRMR value of less than or equal to 0.080 indicate an acceptable fit (Sarstedt et al., 2020). The value of SRMR in this study was calculated to be 0.073, which is below the value of 0.080, indicating an acceptable model fit.

Hypotheses statistical significance

Hypotheses were evaluated to affirm the significance of the relationships among the identified constructs. H1 assessed whether SI has a significant positive impact on INT. The results show that SI has a significant effect on INT ($\beta = 0.112$, $t = 3.006$, $p = 0.003$). Therefore, SI can predict INT, and H1 is supported. H2 assessed the effect of SI on WoM. The results showed a significant positive effect of SI on WoM ($\beta = 0.356$, $t = 9.544$, $p < 0.001$); therefore, H2 is supported. H3 assessed the effect of SI on BI. The results showed a significant positive impact of SI on BI ($\beta = 0.204$, $t = 5.302$, $p < 0.001$); therefore, H3 is supported. H4 assessed the effect of WoM on INT. The results showed a significant positive effect of WoM on INT ($\beta = 0.155$, $t = 3.648$, $p < 0.050$); therefore, H4 is supported. H5 assessed the impact of BI on INT. The results showed an insignificant negative effect of BI on INT ($\beta = -0.068$, $t = 1.735$, $p = 0.033$); therefore, H5 is not supported. H6 assessed the effect of CO on INT. The results showed a significant positive effect of CO on INT ($\beta = 0.275$ $t = 6.495$, $p < 0.001$); therefore, H6 is supported. H7 assessed the effect of OF on INT. The results showed a significant positive impact of OF on INT ($\beta = 0.313$, $t = 7.190$, $p < 0.001$); therefore, H7 is supported. All results are demonstrated in Table 9.

Table 9: Path coefficients, R2, Q2, and model fit (SRMR)

	β	SD	T Statistics	P Values
SI -> INT	0.112	0.037	3.006	0.003
SI -> WM	0.356	0.037	9.544	0.000
SI -> BI	0.204	0.038	5.302	0.000
CO -> INT	0.275	0.042	6.495	0.000
OF -> INT	0.313	0.044	7.190	0.000
WM -> INT	0.155	0.042	3.648	0.000
BI -> INT	-0.068	0.039	1.735	0.033
	R^2	Q^2		
BI	0.041	0.022		
INT	0.448	0.317		
WM	0.126	0.095		
	SRMR			
Saturated model	0.068			

Mediation Analysis

Medication exists when a relationship among independent and dependent variables are affected by other variable(s) facilitating the relationship. Three types of mediation are found in statistics: Indirect effect, full, and partial mediation (Mathieu & Taylor, 2006). Mediation of any type only exists if the mediating variable's effect is significant on the independent and dependent variables. An indirect effect arises when the influence between independent and dependent variables is minor but significant with a mediating variable. Full mediation exists when the effect between the independent and dependent variable is significant, but the effect becomes insignificant if mediating variable is involved. Partial mediation exists when the independent variable has a significant effect on both dependent and mediating variables, while the mediating variable also has a significant effect on the dependent variable (Mathieu & Taylor, 2016).

The mediating role of SI, WoM, BI, and INT was investigated. The results show full mediating role of BI (β = -0.014, t = 1.757, p = 0.115) while SI (p < 0.050) has a significant effect on INT. This means H9 is not supported, i.e., "*Brand intent positively affect social influence impact on customer online purchase intention of groceries*". The results further show a partial mediating role of WoM (β = 0.055, t = 3.449, p < 0.001), while SI (p < 0.050) has a significant effect on INT. This means H8 is supported, i.e., "*WoM positively affect social influence impact on customer online purchase intention of groceries*". See Table 10 for the results.

Table 10: Mediation analysis

	Total Effect	**Sig**	**Direct Effect**	**Sig**
SI->INT	0.153	0.000	0.112	0.003

	Indirect Effect	**T-Statistics**	**P-Value**
SI->BI->INT	-0.014	1.576	0.115
SI->WM->INT	0.055	3.449	0.001

4.6 Post hoc analysis

Moderation Analysis

Moderation exists when the magnitude or route of an independent variable to a dependent variable is influenced by a moderating variable (Memon et al., 2019). Moderation analysis may be in the form of simple moderation analysis or multigroup analysis (MGA). Besides, MGA enables the assessment of two or more variables to establish if they have the same or different relationships across groups, testing every structural path across groups. In contrast, simple moderation analysis expects a moderator to reveal its effect on structural paths to support the available theory. It

indicates whether the moderator influences the direction of the association among independent and dependent variables (Memon et al., 2019).

Simple moderation evaluation was performed to examine the moderating role of COVID-19, age, and online grocery shopping experience variables (see **Table 11)**. The results revealed an insignificant moderating role of COVID-19 on the relationship between SI and INT (B = 0.021, t = 0.329, p = 0.742), significant moderating role between CO and INT (B = -0.109, t = 2.038, p = 0.042), and moderately significant moderating role between OF and INT (B = 0.122, t = 1.659, p = 0.097). The moderating role of age was also assessed, and the results reveal an insignificant moderating role on all relationships. Age-related values for SI and INT were calculated (B = 0.051, t = 0.800, p = 0.424), CO and INT (B = 0.005, t = 0.107, p = 0.915), and OF and INT (B = -0.022, t = 0.526, p = 0.599). Lastly, the moderating role of respondents with previous experience on online grocery shopping was also assessed. Results reveal an insignificant moderating role on all relationships. Also, SI and INT values were calculated for respondents with past online grocery shopping experience (B = 0.050, t = 1.320, p = 0.187), CO and INT (B = -0.061, t = 1.027, p = 0.305), and OF and INT (B = -0.044, t = 0.629, p = 0.530).

Table 11: Moderation results

COVID	**β**	**SD**	**T Statistics**	**P Values**
Mod SI -> INT	0.021	0.065	0.329	0.742
Mod CO -> INT	-0.109*	0.053	2.038	0.042
Mod OF -> INT	0.122^{+}	0.073	1.659	0.097
Age				
Mod SI -> INT	0.051	0.063	0.800	0.424
Mod CO -> INT	0.005	0.043	0.107	0.915
Mod OF -> INT	-0.022	0.042	0.526	0.599

Online Grocery Shopping experience				
Mod SI -> INT	0.050	0.038	1.320	0.187
Mod CO -> INT	-0.061	0.059	1.027	0.305
Mod OF -> INT	-0.044	0.071	0.629	0.530

$^{*}p < 0.05$; $^{+}p < 0.10$

4.7 Hypotheses results summary

Table 12: Hypothesis Testing Summary

	Hypothesis	Outcome
H1	Social influence positively affects customer online purchase intention of groceries.	Supported
H2	Social influence affects WoM of online grocery shopping.	Supported
H4	Social influence affects brand intent of online grocery shopping	Supported
H3	WoM affects customer purchase intention on online grocery shopping.	Supported
H8	The relationship between social influence and customer online groceries purchase intentions is mediated by WoM.	Supported
H5	Brand intent affects customer purchase intention on online grocery shopping.	Not Supported
H9	The relationship between social influence and customer online groceries purchase intentions is mediated by brand intent.	Not Supported
H6	Convenience affects customers' online purchase intention of groceries.	Supported
H7	Order fulfilment affects customer online purchase intention of groceries.	Supported

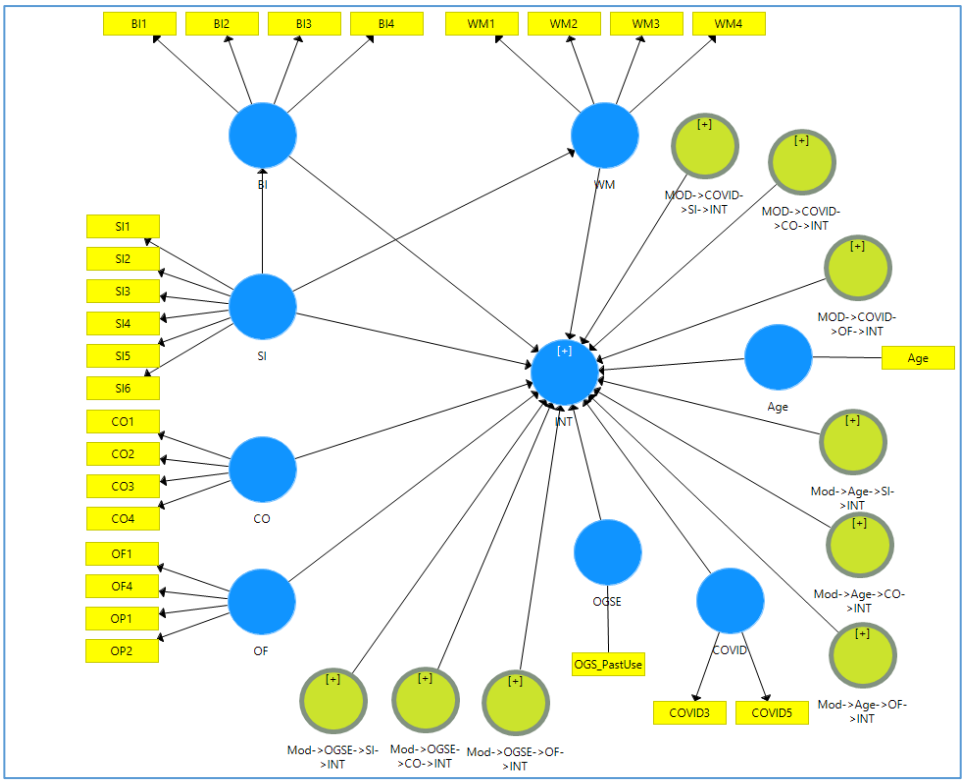


Figure 2: Online grocery shopping Model

Chapter 5

5 Discussion of the results

Findings of the study conducted are discussed and associated with the literature identified. The chapter first discusses findings related to the demographics of the sample in association with intentions to use online grocery shopping. Then, the analysis findings are explained in relation to the study questions and defined hypotheses, as well as relevant literature. Lastly, the findings are summarised with emphasis on factors that have shown significant influence on customer purchase intention for online grocery shopping.

5.1 Introduction

It is evident that the business, social, and technological landscapes are fast-changing, resulting in remarkable innovations in business models adopted by organisations, in this case, food retailers. Customer centricity is on the top agenda of most food retailers who endeavour to secure the differentiated advantage of providing grocery services without high reliance on physical stores. This was specifically critical during the COVID-19 lockdowns, which restricted the movement of many customers, elevating online services as one of the key services. Like many other organisations, food retailers rely on attaining knowledge about their customers to provide relevant services. Prior studies and industry reports have also indicated that the more technological solutions became accessible and inexpensive on a global scale, the more improvements were seen in relation to user adoption and use of internet-based products and services (Kemp, 2021 and Schaefer & Bulbulia, 2021) . Specific to the South African online shopping market, high growth was reported, with the online retail market reaching a value of 30 billion

Rands by the end of 2020. Online shopping for fashion and electronics has certainly been reported as the most popular segment, with online grocery shopping popularity still lagging. Prior research indicates that the grocery shopping segment is a unique domain, given that customers are mostly driven by the timeliness, freshness, quality, and physical viewing of products. This affects the online grocery market, given that the virtual and physical shop visit experiences are not the same. The main purpose of the study was to answer, "*What factors influence customer purchase intention on online grocery shopping?".* The study investigated the effect of factors such as social influence, convenience, and order fulfilment on customer purchase intention on online grocery shopping.

5.2 Main findings of the study: Influences of customer purchase intention

5.2.1 Effect of social influence on online grocery shopping intention

It is evident that technology has made it easier for people to communicate, especially with the growing acceptance of social networks or platforms (Fu et al., 2020). These platforms give people easy access to information and large groups of people, enabling social engagements on a large scale. Qazi et al. (2017) suggest that customers are increasingly exposed to sentiments about online purchases, which influences their decision about online shopping. Fernandes et al. (2021) also support that social influence plays a critical role in customer decision to buy groceries online rather than information quality. Retailers are under pressure to secure new value streams to understand and meet customer needs while increasing their revenues. Online grocery shopping is a growing lucrative revenue stream; however, to be successful in the online market, you need to understand the influences of customer behaviour. (Venkatesh et al. (2003) introduce the UTAUT model that proposed that social influence significantly

impacts customer purchase intention. One of the objectives of the study was to establish the extent to which social influence affects customer purchase intention on online grocery shopping in South Africa. It is understood that models such as UTAUT have been used on a global scale to assess the impact of social influence; however, studies in emerging markets are minimal and have yielded different results from those in developed countries (Human et al., 2020). The results reveal that customers reflect on advice received from people important to them and use it when deciding on online grocery shopping. This is further reflected by the statistical results presented, which showed a significant relationship between social influence and customer purchase intention. This means social influence plays an important role in customers' intention to use online grocery shopping. The result is in line with the study's expectation and supports the defined hypotheses.

When looking at previous studies of emerging markets, the result is contrary to this study. Human et al. (2020) suggest that social influence has an insignificant influence on the intention of online grocery shopping in Mauritius, which is an emerging market. Human et al. (2020) further suggest that media in Mauritius may not be as mature as in developed or other developing countries. Although other studies by Fernandes et al. (2021) and Venkatesh et al. (2003) were not conducted on emerging markets, their findings align with the current study, which supports the notion that social influence has a significant effect on customer intention. The study also took a further step of assessing whether WoM and BI as mediating factors enhance the effect of social influence on customer purchase intention. The next sections discuss the findings of these mediating factors.

Effect of word of mouth on customer purchase intention

Bearden (1989, as cited in Chu & Kim, 2011) proposed that WoM has the potential to be the most effective means of obtaining information for customers prone to social influence. Since then, WoM has evolved, with customers being able to engage via the internet using social networks (Beneke et al., 2016). According to marketing communication studies, marketers and advertisers are growingly incorporating the WoM component, in the form of social media, in their strategies because they believe it allows for strong relationships and engagement with customers (Chu & Kim, 2011). Past studies further indicate that WoM significantly influences customer intention; however, these findings did not relate to online grocery shopping (Beneke et al., 2016 and Singh, 2019). Beneke et al. (2016) investigated whether customers rely on reviews or experiences shared by other people on any communication platform, not necessarily connected to them when deciding to use online grocery shopping. Results suggest that customers consider experiences shared by other people not connected to them when considering online grocery shopping. This is shown by a significant association between WOM and customer purchase intention. The results also showed a significant relationship between social influence and WoM. Lastly, the results showed that WoM significantly enhances the relationship between social influence and customer purchase intention. This is clearly demonstrated by the significant effect observed between social influence and customer intention to buy groceries online in South Africa. The results are coherent with past studies performed in the online fashion and electronics segments, suggesting that WoM significantly affects purchase intention (Beneke et al., 2016; Singh & Söderlund, 2020). In addition to the previous studies, the present study discovered

that WoM had a considerable impact on social influence's impact on customer purchase intention.

These findings support the hypotheses (H2, H3, and H8) defined for the study. The study agrees that social influence is dictated by customers' interactions and experiences shared by others on any communication platform, which subsequently influences customer intention to use online grocery shopping. Ultimately, the decision a customer takes about online grocery shopping will depend on advice or reviews given by other people, regardless of whether they are connected to them or not.

Effect of brand intent on customer purchase intention

Various studies on generational cohorts suggest that values, influences, and preferences differ among customers' age groups. This is important for retailers, marketers, and advertisers because it drives strategies that will enable effective targeting and delivery of services to customers, ultimately building their brand (Bilgihan, 2016). Organizations have, over the years, directed their efforts to build brand equity to secure customer trust, sustain customer base, and improve revenue streams. Besides, Beneke et al. (2016) suggest that negative reviews significantly affect Brand equity, which in turn negatively impact customer intention. Interestingly, the studies mainly investigated the importance of brand as a precursor for loyalty or how negative reviews affect it. The effect of brand intent on customer purchase intention was not evident hence the study performed this investigation with the focus on online grocery shopping in South Africa. In addition, the study investigated whether customers rely on retailer popularity when choosing to buy groceries online. The result showed that customers consider retailer popularity when thinking about using online grocery shopping. This is demonstrated by the significant association between brand intent and customer

purchase intention. Furthermore, the results showed a significant relationship between social influence and brand intent. However, brand intent has no effect on the relationship between social influence and customer purchase intention. This is evident in the results, which show an insignificant effect of brand intent on social influence and customer purchase intention. Although customer considers retailer popularity when deciding to use online grocery shopping, it has little effect on their decision to use online grocery shopping. Therefore, brand intent (or retailer popularity) is not an important factor for customers when deciding to use online shopping. These findings agree that social influence affects brand intent but disagrees with studies by Beneke et al. (2016) and Singh and Söderlund (2020), which suggest that there is a significant impact on purchase intention. It is clear from the study that brand intent effect as a mediating factor or on its own has an insignificant effect on customer purchase intention. These findings support H4, which suggest that social influence affects brand intent. However, H5 and H9, which investigated brand intent as a direct and indirect influence of customer purchase intention, are not supported.

5.2.2 Effect of convenience on online grocery shopping intention

Customers often expect online service offers to be simply available, convenient, simple to understand, and provided on time. Dlamini and Barnard (2020) suggest customers will always compare expected experience with actual experience. In the case of this study, customers would also compare online and physical shop visits experiences. Besides, customers' consideration relates to whether time usually spent on grocery shopping will be reduced, even in instances where there are disputes. While online shopping offers perks of convenience, the question still remains whether online shopping benefits outweigh pre-planning activities (Weber & Badenhorst-Weiss, 2016).

Customers' lifestyle also plays a big role in whether online shopping will be suitable (Brand et al., 2020). It is alluded that grocery shopping is different from any other shopping because customers are accustomed to touching and feeling products before buying. However, the online experience does not offer the same comfort level, which leads to the issue of reverse logistics allowing for customers to return unwanted products. The argument is that failure to have proper return policies negatively impact customer purchase intention on online grocery shopping (Brink et al., 2019). Given these findings, an investigation into convenience impact on customer intention to buy groceries online was carried out. The results showed that there is a significant correlation and effect of convenience on customer purchase intention on online grocery shopping. This means that customers view convenience as a critical factor that influences their decision. Therefore, the ability to provide easy and timely access to buying groceries online is a key consideration for customer purchase intention. Weber and Badenhorst-Weiss (2016) and Izogo and Jayawardhena (2018) suggest that the ability of online shopping to save time and facilitate easy access to services influence customer experience. In contrast, Singh (2019) suggests that retailers' ability to effectively handle customer queries and item returns influences customer purchase intention. This study is consistent with previous studies' findings by showing that convenience plays a key role. Therefore, the findings support H6 defined for the study.

5.2.3 Effect of Order fulfilment on online grocery shopping intention

Traditional grocery shopping, which involves customers physically visiting the retail shops, allows for shop hopping in an attempt to find all items required by the customers. Sometimes, the hopping may be influenced by the need for specific brands or varied products. Weber and Badenhorst-Weiss's (2016) findings of customer expectations in

relation to order fulfilment suggest that customers want their orders to be fulfilled at 100%. The question remained whether failure by retailers offering online services to fulfil customer orders at 100% will impact customer intention to buy groceries online. Among other factors, the issue of product assortment and order picking trust are aspects deemed important for order fulfilment (Sreeram et al., 2017; Weber & Badenhorst-Weiss, 2016). Product assortment and order picking trust concerns are acknowledged as direct consequences of customers' inability to touch and feel products before buying online. This raised the issue of reliance on another person or order picker to pick quality and fresh products (Mkansi et al., 2018). Previous studies suggest that the issue of product assortment and order picking trust is a hindrance to customer purchase intention in online shopping (Brink et al., 2019; Singh, 2019). To affirm the previous findings, the factors were investigated as indicators of order fulfilment construct to establish the impact on customer purchase intention on online grocery shopping. The result suggests that order fulfilment had a significant correlation and effect on customer purchase intention. This means the ability of the retailer to provide quality, fresh, correct, and timely products to the customer play an important role in the customers' intention to use online grocery shopping. Failure to meet these expectations would lead to negative impacts on customer intention. Identified literature suggest that customer expect 100% fulfilment of their order. Otherwise, they would turn to abandon online shopping (Weber and Badenhorst-Weiss (2016). Sreeram, Kesharwani, and Desai (2017) suggest that the ability to fulfil customer orders is reliant on product availability and assortment, and these play a significate role in influencing customer behaviour. While Brink et al. (2019) suggest that the retailers' inefficiencies and delivery of products with low quality impact customer confidence in pickers of the order, deterring customers from using online grocery shopping. Based on the study results, it

is true that order fulfilment significantly affects customer intention on online grocery shopping. This means that retailers' failure to meet customer order requirements discourages customers from using online grocery shopping.

5.2.4 Moderation effect of factors on customer purchase intention

Age

Venkatesh et al. (2003) proposed the UTAUT model and suggested that age is a moderating variable amongst all the model constructs. The justification for this inclusion is that different age groups are understood, and in some cases verified, to be influenced by various conditions. Dries et al. (2008, as cited in Bilgihan, 2016) suggest that sharing experiences and social cohesion advance the beliefs and expectations of generational groups over time. This means customers may behave differently because of their age and exposure. It is also believed that millennials are more technology-savvy than other generations; therefore, they are more inclined to adopt online services (Bilgihan, 2016). In this regard, age was investigated to understand if it has a moderating effect on the relationship between the constructs and customer purchase intention on online grocery shopping.

The results suggest that age has an insignificant moderating effect on the relationships between all constructs (social influence, convenience, order fulfilment) and customer purchase intention. This means age does not play any role in the customer's decision to use online grocery shopping in South Africa. This is contrary to Venkatesh et al.'s (2003) findings of the UATUT model. It also proves that the results may not be generalised. Human et al. (2020) also suggest that the results of the UTAUT model may differ because of the type of environment or country reviewed. As shown in the results of the South African context, online grocery shopping adoption is not affected by age.

COVID-19 pandemic

The COVID-19 pandemic has recently been experienced on a global scale and has led to unprecedented changes to the business environment. One of these is the introduction of lockdown restrictions in many countries in an attempt to reduce community infection (Hao et al., 2020). Yao and Guo et al. (2020, as cited in Hao et al., 2020) suggested that since the emergence of COVID-19, businesses have had to find alternative ways to provide services while limiting footprints in physical stores. Online grocery shopping is one of the key services that enabled food distribution and limited customer panic buying. The unprecedented event of COVID-19 has raised many questions, including whether customer behaviours seen since the start of COVID-19 will continue beyond the pandemic (SyndiGateMediaInc, 2020). The study investigated the moderation effect of COVID-19 on relationships between the identified constructs and customer purchase intention. The results show that COVID-19 significantly affects the relationships between convenience and customer purchase intention. This proves that COVID 19 played a big role in enhancing the relationship between convenience and customer purchase intention on online grocery shopping. It also confirms the claim by Yao and Guo et al. (2020, as cited in Hao et al., 2020) that online grocery shopping contributed significantly to food delivery at the convenience of customers while lowering the risk of infection. From the South African context, the increase in frequent online grocery shoppers from 2% to 10% since the commencement of COVID-19 shows that the pandemic did raise the magnitude of convenience effect of customer purchase intention on online grocery shopping (SyndiGateMediaInc, 2020).

Furthermore, COVID-19 moderately affected order fulfilment and customer purchase intention. This means the magnitude of the effect was reasonably present but not extreme. Hao et al. (2020), in their investigation of online channels stockpile behaviour,

revealed that during the COVID-19 lockdown, people's unpreparedness and panic buying play a key role in online grocery shopping demand. This is consistent with the study because COVID-19 has a considerable impact on customer intention as an independent variable rather than a mediating variable. However, this was not tested as part of the study. There is limited literature from which comparisons could be drawn, so the study can not make sufficient arguments that conclusively affirm or discredit the findings. Further studies may be conducted to confirm the findings presented below regarding the impact of COVID-19 on customer intention in South Africa.

Online grocery shopping experience

Venkatesh et al. (2003) proposed the UTAUT model and suggested that experience moderates social influence and behavioural intention. The rationale behind this inclusion is that the more familiar a customer is with the online service, the more accurately purchase intent may be predicted. The study's goal was to determine how previous online grocery shopping experiences influenced customer purchase intentions. The results suggest that customer experience on online grocery shopping has an insignificant moderating effect on all identified factors (social influence, convenience, and order fulfilment) and customer purchase intention. This agrees with Venkatesh et al.'s (2003) findings. Also, this means South African customers do not rely on their past experience when deciding to use online grocery shopping. These results imply that retailers cannot rely on a customer's past experience to predict the use of online grocery shopping. Customers may decide to switch or abandon the use of online grocery shopping even though they have used it before.

5.2.5 Model for customer purchase intention on online grocery shopping.

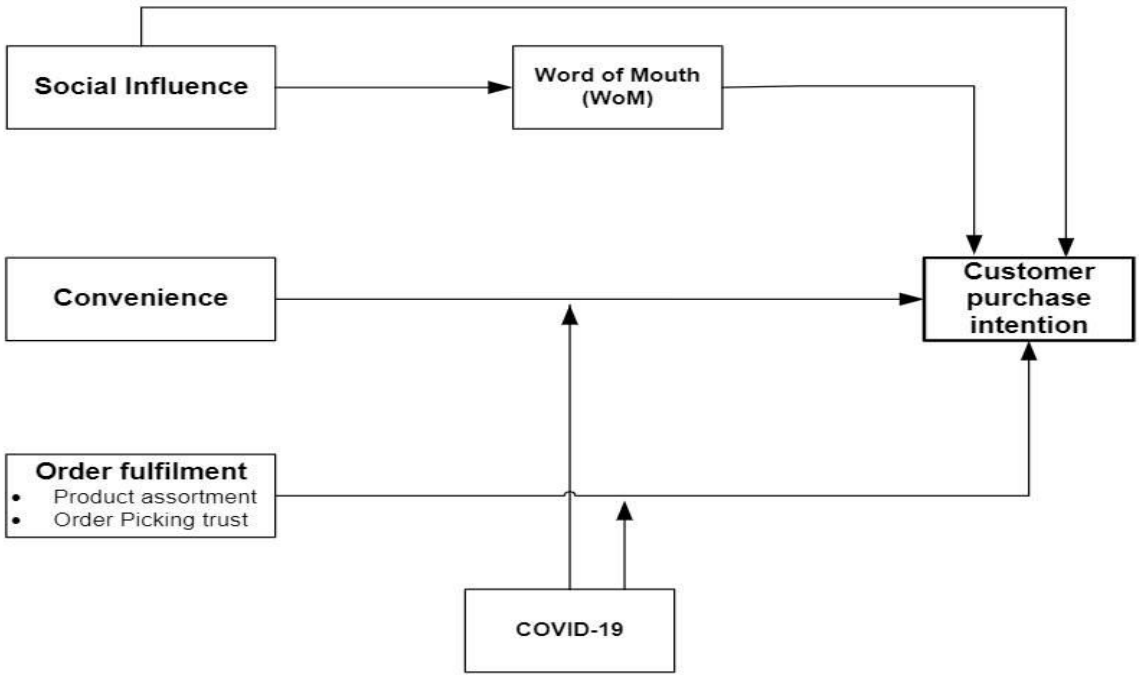


Figure 3: Customer purchase intention model on online grocery shopping in South Africa

Figure 3 shows the customer purchase intention model on online grocery shopping in South Africa, considering the results.

5.3 Contribution of the study

Theoretical contribution

The findings build onto the existing body of knowledge by revealing facts associated with influences of customer purchase intention on South African online grocery shoppers, focusing on the impact of social cohesion and expectation in their decision-making. While the existing models, such as the EDT and UTAUT, provide facts around the social influence and expectation constructs, the present study subsidises the knowledge with findings specific to the online grocery-shopping segment and South

Africa as an emerging market. The study results confirm that social influences and expectations are key factors when customers consider online grocery shopping in the South. These findings are key to the existing body of knowledge because existing literature presents conflicting findings and views of studies performed by applying the models in different markets or countries. In a study employing the UTAUT model, Human et al. (2020) discovered that social influence has less of an impact on customers intention in Mauritius, an emerging market. However, Venkatesh et al. (2003) suggest that social influence significantly impacts behavioural intention. While the UTAUT model seems to have been applied extensively in developed countries, few studies relate to emerging markets. Liu et al. (2020) also suggest that customer online shopping behaviour in Africa with dissimilar environments may result in different conclusions. The study draws from Liu et al.'s (2020) findings to investigate and present results of consumers' behaviour in emerging markets.

Furthermore, Venkatesh et al. (2003) suggest that the UTAUT model does not cater to unforeseen events between the time a consumer intent is developed and actual action. The study contributes new knowledge from investigating the impact of social influence, convenience, and order fulfilment on customer purchase intention moderated by age, experience on online grocery shopping, and COVID-19 pandemic variables. The emergence of the COVID-19 pandemic enabled the study to assess and confirm whether unforeseen events have an effect on customer purchase intention on online grocery shopping. Venkatesh et al. (2003) assert that customer purchase intention effect on the use of technology is stronger if a customer has less experience. The study results showed that an emerging market experience does not significantly affect customer purchase intention. The finding is supported by the notion that dissimilar online environments may present different results (Liu et al., 2020). This finding

contributes to the phenomena alluded by Venkatesh et al. (2003), which suggest the UTAUT model's inability to establish the impact of unexpected events.

Lastly, age is deemed one of the key factors influencing adoption, especially in the technological sphere. Human et al. (2020) suggest that the role of age brings mixed results. The results demonstrate that age has an insignificant impact on online grocery shopping in South Africa, while the UTAUT model suggests that age may moderate all constructs identified for the model and behavioural intention (Venkatesh et al., 2003). There is a literature gap regarding the influences of customer purchase intention, specifically on online grocery shopping. Although the models are not fully applied in this study, they guided the framework of the study, and the results allow for comparative analysis. This improves the literature in terms of online grocery shopping acceptance. The findings of this study show that indeed the level of influence of customer intention on online grocery shopping in South Africa differ from that of other economies or environments. Furthermore, factors previously not included in the EDT and UTAUT models extend the body of knowledge within the South African context and improve the relevance of the models to varied economies.

Practical contribution

The study provides insights for South African retailers to enable the development of practical strategic solutions that drive customer behaviour and promote continued use of online grocery shopping. Prior studies have alluded to the fact that people follow a series of steps and considerations, as guided by their beliefs or social exposure when making a decision about things in their lives. As seen in this study, social influence is one factor that is important in a customer's decision about online grocery shopping. The study confirmed that people connected to an individual may share opinions based on

experience or assumptions of the online offerings, which will significantly influence the customer's decision to use online grocery shopping. Therefore, it is important for marketers, advertisers, and researchers to develop an understanding of different types of customers, so to target the right customers, position and drive the correct perception about service offerings. Many tools are available to industry players to source information about customers' perceptions. Some of the tools are social media and online customer satisfaction surveys, which allow customers to express themselves about online grocery services. These tools are normally promoted and recognised as WoM. The results also show that customers in the online grocery shopping segment do not rely on retailer familiarity; therefore, they are willing to use any online retailer offering services. This makes the market highly competitive, necessitating retailers to establish effective business models that will give them the edge to lead the market. The study also confirms that customers want effortless and convenient access to online shopping. This means online grocery shopping offerings need to make the customers feel confident and learn to use them easily. Unforeseen phenomena, such as the COVID-19 pandemic, were also observed. The pandemic, which led to lockdowns, put extreme pressure on online retailers as customers' demands increased due to either new adopters or panic buying. Given the unprecedented changes in lifestyles or trade in general, some retailers and the supply chain did not cope with the demands. However, this experience has revealed the need for online retailers to have contingency plans and institute partnerships that will enable them to cope with unforeseen circumstances. Lastly, failure by the retailer to fulfil customer orders or provide quality products will lead to a high avoidance of online grocery shopping. However, if the right quality and quantity of products are provided, online grocery shopping use will improve.

The results clearly suggest that social influence, convenience, and order fulfilment significantly affect customer intention to purchase groceries online. The findings support the suggestion that online grocery shopping marketers, advertiser, retailers or suppliers should understand the influences of customer decisions to provide effective, quality and efficient services. This is to ensure that changing customer needs are met, services are continuously improved, and loyalty is retained. The present study demonstrates that if online service providers do not understand customer behaviours, the following may happen:

- Slow growth in the grocery segment
- High abandonment online grocery service
- Retailers may struggle to develop themselves in the market due to failure to understand customer needs
- Wrong customers may be targeted
- Innovative budgets may be directed at less valuable features of online grocery shopping

This study is a stepping-stone for researchers, retailers, or any other intermediaries to understand the influences of customer intention with a specific focus on South Africa as an emerging market. The study enables comparison with other markets to establish a concrete understanding of customer behaviours.

5.4 Study limitations and direction for future research

Limitations experienced while conducting the study included limited legacy studies on the online grocery shopping segment, especially in developing countries. This made it difficult to make a comparison with previous studies' results or findings. However, given the availability of studies conducted on online services in general, comparisons could

be drawn, considering that behaviour may differ based on the segment involved. The study also did not fully investigate the proposed theories of the EDT and UTAUT. It merely picked some of the constructs and included them in the model tested for the study. This means that the study could not fully assess the theories to the extent that conclusions reached could fully be attributed or rejected in relation to the online grocery shopping segment. However, for the constructs evaluated within the scope of the study, conclusions could be extracted and compared. The study also did not fully investigate the concept of customer experience, satisfaction, and loyalty to determine how they impact the frequency of using online grocery shopping. This would have practical implications on retailers, as it will guide customers to stay or continue to use online grocery shopping. South Africa is a diverse country and hosts many people who practice varied cultures and stay in different locations, which potentially plays a big role in influencing customer behaviour. While the study acknowledges the existence of these diverse cultures, it did not fragment the study into specific cultures or locations. This is because there was not enough time to allow for such an assessment. Lastly, the study took a quantitative approach, which gives access to many customers, but it does not allow a deeper investigation to understand the customers' behaviour. It thus provides an opportunity for future studies to perform qualitative studies to further probe the factors. Factors excluded in this study are not in any way deemed insignificant to determining influences of customer perchance intentions on online grocery shopping; they provide an opportunity for future research that may endeavour to investigate their impact.

Future research could expand investigation by categorising customers inside the country according to regions, such as urban vs rural vs semi-urban or cultural. This is because, in an emerging market like South Africa, there are still many developmental

challenges that expose customers to varied conditions, which are key to customer decision-making. These studies may fully investigate theories of the EDT and UTAUT while applying regional classification to give more context. Other prominent issues in the digital era are digital divide issues and ethics in the use of data. Future studies may incorporate these in their studies to establish how they impact the customer purchase intention. The qualitative approach across the different groupings or classifications of online grocery shopping should also be made to extract deeper insights from probing the facts. Lastly, the issue of sustainability is contentious in any digital era. Therefore, researchers should investigate the issue of shopping frequency which is aligned to the aspects of customer experience, satisfaction, and loyalty. These proposed approaches are not exhaustive; they merely demonstrated some questions that arose while conducting the study, but time was limited to investigate these aspects.

5.5 Conclusion of the study

The study extends the knowledge of factors that influence customer purchase intention of online grocery shopping. It also demonstrates the impact of social influence, convenience, and order fulfilment on the decision to use online grocery shopping. It extends understanding of the social influence construct by including analysis results of the mediating effect of Word of Mouth and Brand intent on the relationship between social influence and customer purchase intention on online grocery shopping. Results presented confirmed that all the listed factors, except brand intent, significantly impact customer intention to use online grocery shopping. Interestingly the study anticipated that customers look out for known retailers when deciding whether to use online shopping, but this was proved not to be the case. This paves the way for the development of online grocery services. Customers are more concerned with the quality

of service than with the retailer's familiarity. Brand intent may significantly impact product level; however, this was not tested in the study. Future research may examine brand intent at the product level to determine whether a different conclusion can be drawn. The study also assessed whether age, COVID-19, and customers' previous experience of online grocery shopping impact customer purchase intention. Interestingly, these moderating factors did not significantly impact customer purchase intention.

The findings of this study are mostly aligned to the theory presented by Venkatesh et al. (2003) when applying the Unified theory of user Acceptance of Technology (UATUT) to assess technology adoption and Expectancy Disconfirmation Theory (EDTI) by Oliver (1977). However, given that the study examined only a subset of the factors stated in the theories, it is critical that future research thoroughly test the theories on the online grocery shopping segment to evaluate whether the same results can be drawn. It is also recommended that in-depth studies be conducted using a qualitative approach to gain a deeper understanding of the factors by probing the facts. One other viewpoint not explored in the study is the effects of digital divide on online grocery shopping intention. As a developing country, South Africa is faced with digital divide challenges that may limit access to online services. It is important that future studies investigate the effects of digital divide on customer purchase intention. This will improve knowledge of how emerging economies, such as South Africa, are affected by the digital divide phenomena, even when improvements are seen in relation to internet connectivity access.

Lastly, an in-depth understanding of these factors will, in practice, allow retailers to appropriately position their value proposition based on solid insights of motivations and challenges that impact customers' perchance intention.

6 REFERENCES

Acharya, A. S., Prakash, A., Saxena, P., & Nigam, A. (2013). Sampling: Why and how of it. *Indian Journal of Medical Specialties, 4*(2), 330-333.

Ajzen, I. (2011). The theory of planned behaviour: Reactions and reflections. In: Taylor & Francis.

Beneke, J., de Sousa, S., Mbuyu, M., & Wickham, B. (2016). The effect of negative online customer reviews on brand equity and purchase intention of consumer electronics in South Africa. *The International Review of Retail, Distribution and Consumer Research, 26*(2), 171-201.

Bilgihan, A. (2016). Gen Y customer loyalty in online shopping: An integrated model of trust, user experience and branding. *Computers in Human Behavior, 61*, 103-113.

Brand, C., Schwanen, T., & Anable, J. (2020). 'Online Omnivores' or 'Willing but struggling'? Identifying online grocery shopping behavior segments using attitude theory. *Journal of Retailing and Consumer Services, 57*, 102195.

Brink, B., Heyns, G., & Kilbourn, P. (2019). Service quality expectations of online grocery consumers in Gauteng, South Africa. *Journal of Contemporary Management, 16*(2), 599-620.

Chu, S.-C., & Kim, Y. (2011). Determinants of consumer engagement in electronic word-of-mouth (eWOM) in social networking sites. *International journal of Advertising, 30*(1), 47-75.

Creswell, J. W. C. D. J. (2018). *Research design: qualitative, quantitative, and mixed methods* (Fifth edition ed.). Department of family medicine, University of Michigan, Los Angels: SAGE.

Dlamini, M., & Barnard, B. (2020). Customer Expectation, Satisfaction and Loyalty: A Study of Grocery Retail Sector in South Africa. *IUP Journal of Marketing Management, 19*(3).

Eriksson, N., & Stenius, M. (2022). Online grocery shoppers due to the Covid-19 pandemic-An analysis of demographic and household characteristics. *Procedia Computer Science, 196*, 93-100.

Fernandes, S., Venkatesh, V., Panda, R., & Shi, Y. (2021). Measurement of factors influencing online shopper buying decisions: A scale development and validation. *Journal of Retailing and Consumer Services, 59*, 102394.

Fu, J.-R., Lu, I.-W., Chen, J. H., & Farn, C.-K. (2020). Investigating consumers' online social shopping intention: An information processing perspective. *International Journal of Information Management, 54*, 102189.

Gefen, D., & Straub, D. (2005). A practical guide to factorial validity using PLS-Graph: Tutorial and annotated example. *Communications of the Association for Information systems, 16*(1), 5.

Hao, N., Wang, H. H., & Zhou, Q. (2020). The impact of online grocery shopping on stockpile behavior in Covid-19. *China Agricultural Economic Review*.

Hu, X., Chen, X., & Davison, R. M. (2019). Social support, source credibility, social influence, and impulsive purchase behavior in social commerce. *International Journal of Electronic Commerce, 23*(3), 297-327.

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

moderation. *Management Dynamics: Journal of the Southern African Institute for Management Scientists, 29*(3), 15-37.
Izogo, E. E., & Jayawardhena, C. (2018). Online shopping experience in an emerging e-retailing market. *Journal of Research in Interactive Marketing*.
Kemp, S. (Producer). (2021, Feburuary 11). DIGITAL 2020: SOUTH AFRICA. *Datareportal*. Retrieved from https://datareportal.com/reports/digital-2021-south-africa
Khalilzadeh, J., Ozturk, A. B., & Bilgihan, A. (2017). Security-related factors in extended UTAUT model for NFC based mobile payment in the restaurant industry. *Computers in Human Behavior, 70*, 460-474.
Liu, F., Lim, E. T., Li, H., Tan, C.-W., & Cyr, D. (2020). Disentangling utilitarian and hedonic consumption behavior in online shopping: An expectation disconfirmation perspective. *Information & Management, 57*(3), 103199.
Mathieu, J. E., & Taylor, S. R. (2006). Clarifying conditions and decision points for mediational type inferences in organizational behavior. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior, 27*(8), 1031-1056.
Memon, M. A., Cheah, J.-H., Ramayah, T., Ting, H., Chuah, F., & Cham, T. H. (2019). Moderation analysis: issues and guidelines. *Journal of Applied Structural Equation Modeling, 3*(1), 1-11.
Mkansi, M., Eresia-Eke, C., & Emmanuel-Ebikake, O. (2018). E-grocery challenges and remedies: Global market leaders perspective. *Cogent Business & Management, 5*(1), 1459338.
Moghavvemi, S., Salleh, N. A. M., & Standing, C. (2016). Entrepreneurs adoption of information system innovation: The impact of individual perception and exogenous factors on entrepreneurs behavior. *Internet Research*.
Mortimer, G., Fazal e Hasan, S., 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*(2), 202-223.
Oliver, R. L. (1977). Effect of expectation and disconfirmation on postexposure product evaluations: An alternative interpretation. *Journal of applied psychology, 62*(4), 480.
Qazi, A., Tamjidyamcholo, A., Raj, R. G., Hardaker, G., & Standing, C. (2017). Assessing consumers' satisfaction and expectations through online opinions: Expectation and disconfirmation approach. *Computers in Human Behavior, 75*, 450-460.
Redda, E. H. (2019). Attitudes towards online shopping: Application of the theory of planned behaviour. *Acta Universitatis Danubius. Œconomica, 15*(2), 148-159.
Sarstedt, M., Ringle, C. M., Cheah, J.-H., Ting, H., Moisescu, O. I., & Radomir, L. (2020). Structural model robustness checks in PLS-SEM. *Tourism Economics, 26*(4), 531-554.
Schaefer, S., & Bulbulia, A. (2021). *Digital Commerce Acceleration*. Retrieved from
Schindler, P. S. (2019). *Business reseach Methods* (Thirteen edition ed.). Wittenberg University, New York: McGraw-Hill/Irwin.
Singh, R. (2019). Why do online grocery shoppers switch or stay? An exploratory analysis of consumers' response to online grocery shopping experience. *International Journal of Retail & Distribution Management*.
Singh, R., & Söderlund, M. (2020). Extending the experience construct: an examination of online grocery shopping. *European Journal of Marketing*.

Sreeram, A., Kesharwani, A., & Desai, S. (2017). Factors affecting satisfaction and loyalty in online grocery shopping: an integrated model. *Journal of Indian Business Research*.

SyndiGateMediaInc. (2020). Online shopping has been a lifeline during COVID-19 lockdown in South Africa. *South African Food Review*, N.PAG-N.PAG. Retrieved from http://0-search.ebscohost.com.innopac.wits.ac.za/login.aspx?direct=true&db=bsu&AN=143003994&site=ehost-live&scope=site

Taherdoost, H. (2018). A review of technology acceptance and adoption models and theories. *Procedia manufacturing, 22*, 960-967.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS quarterly*, 425-478.

Venkatesh, V., Thong, J. Y., Chan, F. K., Hu, P. J. H., & Brown, S. A. (2011). Extending the two-stage information systems continuance model: Incorporating UTAUT predictors and the role of context. *Information Systems Journal, 21*(6), 527-555.

Weber, A., & Badenhorst-Weiss, J. (2016). Time-based competition as a competitive strategy for online grocery retailers. *Journal of Contemporary Management, 13*(1), 433-460.

WorldWideWorx. (2021). SA Online Retail leaps to R30-billion. Retrieved from http://www.worldwideworx.com/online-retail-in-sa-2021/

7 APPENDIX

A. Cross Loadings, Reliability, and Validity

	BI	CO	INT	OF	SI	WM	Cronbach's Alpha	CR	(AVE)
BI1	0.652	0.351	0.187	0.209	0.123	0.329	0.793	0.789	0.494
BI2	0.646	0.202	0.075	0.223	0.232	0.294			
BI3	0.527	0.283	0.149	0.226	0.102	0.293			
BI4	0.925	0.444	0.254	0.264	0.186	0.401			
CO1	0.322	0.722	0.451	0.474	0.158	0.316	0.817	0.803	0.510
CO2	0.288	0.861	0.537	0.585	0.343	0.434			
CO3	0.356	0.621	0.388	0.406	0.099	0.340			
CO4	0.395	0.627	0.392	0.419	0.150	0.329			
INT1	0.233	0.510	0.838	0.536	0.290	0.407	0.886	0.885	0.659
INT2	0.176	0.494	0.800	0.545	0.304	0.339			
INT3	0.265	0.544	0.851	0.543	0.265	0.393			
INT4	0.112	0.479	0.756	0.515	0.280	0.339			
OF4	0.311	0.582	0.504	0.765	0.244	0.406	0.787	0.784	0.548
OP1	0.216	0.475	0.503	0.763	0.260	0.299			
OP2	0.194	0.419	0.455	0.691	0.238	0.316			
SI1	0.195	0.174	0.154	0.228	0.635	0.275	0.929	0.928	0.686
SI2	0.207	0.210	0.227	0.256	0.756	0.304			
SI3	0.221	0.226	0.224	0.259	0.786	0.323			
SI4	0.199	0.235	0.332	0.287	0.874	0.311			
SI5	0.174	0.259	0.364	0.292	0.931	0.344			
SI6	0.168	0.259	0.387	0.329	0.945	0.337			
WM1	0.372	0.460	0.458	0.448	0.393	1.016	0.915	0.913	0.728
WM2	0.367	0.409	0.388	0.370	0.295	0.817			
WM3	0.424	0.410	0.347	0.356	0.259	0.726			
WM4	0.464	0.428	0.355	0.390	0.340	0.826			

X. Research instrument

Introduction to survey

Dear Respondent,

My name is Kelelo Maja and I invite you to take part in answering a 10-15 minutes questionnaire that is investigating motivations and challenges of online grocery shopping in South Africa. As part of my Masters in Management: Digital business studies the research aims to investigate factors that influence customer intention to buy and use online grocery shopping in South Africa.

Kindly take note of the following:

- Your participation is voluntary
- Responses are completely confidential and anonymous
- There will be no personal costs or direct benefits for your participation
- The information provided will be held securely and not disclosed to anyone else.
- The survey does not ask for any identity information like names or ID numbers, therefore cannot be traced back to you.

Should you require further details, please contact me on details listed below

Best regards,
Kelelo Maja
Email: 2289024@Students.wits.ac.za
Mobile: 079 366 6557

Please begin the survey here.

SECTION A: DEMOGRAPHIC INFORMATION

PLEASE SELECT YOUR AGE GROUP	18-24	25-34	35-44	45-54	55+
Age	1	2	3	4	5

PLEASE SELECT GENDER YOU IDENTIFY WITH	Male	Female
Gender	1	2

SECTION B: ONLINE GROCERY EXPERIENCE

ONLINE GROCERY PAST EXPERIENCE	Yes	No
Have you previously shopped online for groceries?	1	2

If you shopped online previously, what device did you use for you online grocery shopping your computer or laptop or smart phone before?	Desktop computer	Laptop	Smart phone	Tablet	Other
	1	2	3	4	5

GROCERY BUYING PATTERNS	Once	Twice	Three	Four	Five +
How often do you buy groceries in a Month?	1	2	3	4	5

ONLINE SHOPPING HISTORY (optional)	1 to 3 Month	4 to 6 Months	7 to 9 Months	10 to 12 Months	12 Months +
When was the last time you shopped for groceries online?	1	2	3	4	5

ONLINE GROCERY SHOPPING INTENT – (Xie, Batra, & Peng, 2015)	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
I intend to buy groceries online	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
The next time I want to buy groceries, I would purchase them online.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I am willing to purchase groceries online	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
I believe that online shopping is my first choice for groceries.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7

Impact of COVID-19 pandemic (Pontin et al., 2013) How has the COVID-19 pandemic affected the following aspects of your life?	Very negative impact	Negative impact	Somewhat negative impact	Neither negative nor positive	Somewhat positive impact	Positive impact	Very Positive impact
Your physical health	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Your financial situation	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Your daily living activities	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Your social life	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Your professional life or business	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
Your family life	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7

SECTION C

1. Here we ask you questions about social influence in relation to online grocery shopping. Please indicate how much you agree or disagree with the following questions.

SOCIAL INFLUENCE (Venkatesh et al., 2003)		Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
SI1	I would buy groceries online if people who influence my behaviour think I should do so	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
SI2	I would buy groceries using online shopping if people whom I value think I should do so.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
SI3	I would buy groceries using online shopping if people important to me thick I should do so.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
SI4	People who influence my behaviour think that I should use online grocery shopping.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
SI5	People whose opinions I value think I should use online grocery shopping.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
SI6	People who are important to me think that I should use online grocery shopping	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
WORD OF MOUTH (WoM) - (Beneke et al., 2016; Singh, 2019)		**Strongly Disagree**	**Disagree**	**Somewhat Disagree**	**Neutral**	**Somewhat Agree**	**Agree**	**Strongly Agree**
WM1	Reviews regarding online grocery shopping increase my interest to buy groceries online	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7

WM2	I make a decision to buy groceries online based on reviews I receive or find	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
WM3	Reviews shared by other people verbally or on social media regarding online grocery shopping are useful to me	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
WM4	Reviews regarding online grocery shopping will influence my choice to continue to use online shopping	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
BRAND INTENT - (Bilgihan, 2016)		**Strongly Disagree**	**Disagree**	**Somewhat Disagree**	**Neutral**	**Somewhat Agree**	**Agree**	**Strongly Agree**
BI1	I would only buy groceries online from a retailer that is well-known	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
BI2	I would only buy groceries online from a retailer that is involved in community social development	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
BI3	I would only use online grocery shopping of a retailer that has deep experience and has been in the market for a long time	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
BI4	I would only use online grocery shopping of a retailer that has a creditable service track record	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7

SECTION D

2. In this section, we ask you questions about the convenience expectations of online grocery shopping. Please indicate how much you agree or disagree with the following questions.

CONVENIENCE - (Brand et al., 2020)		**Strongly Disagree**	**Disagree**	**Somewhat Disagree**	**Neutral**	**Somewhat Agree**	**Agree**	**Strongly Agree**
MA1	It would be easy for me to buy groceries using online shopping	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
MA2	Buying groceries online will enable me to manage my groceries more effectively	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
MA3	Learning to use online grocery shopping would be easy for me	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
MA4	It would be easy for me to be skilful in using online grocery shopping	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
TIME SAVING - (Weber & Badenhorst-Weiss, 2016)		**Strongly Disagree**	**Disagree**	**Somewhat Disagree**	**Neutral**	**Somewhat Agree**	**Agree**	**Strongly Agree**
TS1	I have a flexible schedule that would enable me to buy and receive groceries at any time when using online grocery shopping	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
TS2	If I cannot buy all the groceries items I need, then online grocery shopping will be a waste of my time.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
TS3	Using online grocery shopping would save me time that I usually spend to plan and travel to buy my groceries	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
TS4	If I have to return some of the items I bought, then using online grocery shopping will be a waste of my time.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
RETUN ITEMS - (Brink et al., 2019)		**Strongly Disagree**	**Disagree**	**Somewhat Disagree**	**Neutral**	**Somewhat Agree**	**Agree**	**Strongly Agree**
RI1	I would buy groceries online if the return process is easy	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
RI2	I would buy groceries online if return process is clear and understandable	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
RI3	I would continue to use online grocery shopping even if I am not allowed to return unwanted or low-quality items	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
RI4	I would continue to use online grocery shopping if the return process for unwanted or low-quality items is not simple and efficient	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7

SECTION E

1. Here we ask you questions about order fulfilment expectations in relation to online grocery shopping. Please indicate how much you agree or disagree with the following questions.

ORDER FULFILMENT - (Weber & Badenhorst-Weiss, 2016)		**Strongly Disagree**	**Disagree**	**Somewhat Disagree**	**Neutral**	**Somewhat Agree**	**Agree**	**Strongly Agree**
OF1	Buying groceries will enable me to do my groceries more quickly	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
OF2	I would buy groceries online only if I can find all items or products I need	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
OF3	I would find using online grocery shopping useful even if I do not find all the items I need	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
OF4	Using online grocery shopping will enable me to accomplish things that are important to me when buying groceries	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
PRODUCT ASSORTMENT - (Sreeram et al., 2017)		**Strongly Disagree**	**Disagree**	**Somewhat Disagree**	**Neutral**	**Somewhat Agree**	**Agree**	**Strongly Agree**
PA1	I would buy groceries online if a variety of products are available	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
PA2	I would buy groceries online if enough number of items of a product are made available	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
PA3	I would continue to use online grocery shopping even if a limited variety of products are available	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
PA4	I would continue to use online grocery shopping even if a limited number of items of a product are made available	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
ORDER PICKING TRUST - (Brink et al., 2019)		**Strongly Disagree**	**Disagree**	**Somewhat Disagree**	**Neutral**	**Somewhat Agree**	**Agree**	**Strongly Agree**
OP1	I trust that the people picking groceries on my behalf would choose the correct products if I buy groceries online	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
OP2	I trust that the people picking groceries on my behalf would choose fresh or quality products if I buy groceries online	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
OP3	I would continue to use online grocery shopping people picking groceries are not trustworthy	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
OP4	I would continue to use online grocery shopping if people picking groceries on my behalf do not pick fresh or quality products	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7

You have come to the end of the Survey. Thank you!

XI. Ethics approval

Graduate School of Business Administration
University of the Witwatersrand, Johannesburg

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

Ethics Clearance Certificate

Ethics protocol number:	WBS/DB2289024/578

This certificate is only valid with a legitimate ethics protocol number and signed by the Researcher (below,

Project title	Online grocery shopping in South Africa: Underlying motivations and challenges
Investigator / Researcher	Mr Kelelo Maja
Nature of Project	MM (Digital Business)
Decision of the Committee	Approved, provided stakeholders and participants are guaranteed anonymity and confidentiality.
Issue Date of Certificate	2021-09-26
Expiry date	Date of submission of the project report
Chairperson	Prof Anthony Stacey ☎ +27 11 717 3587 +27 82 880 4531 anthony.stacey@wits.ac.za

Declaration by Researcher

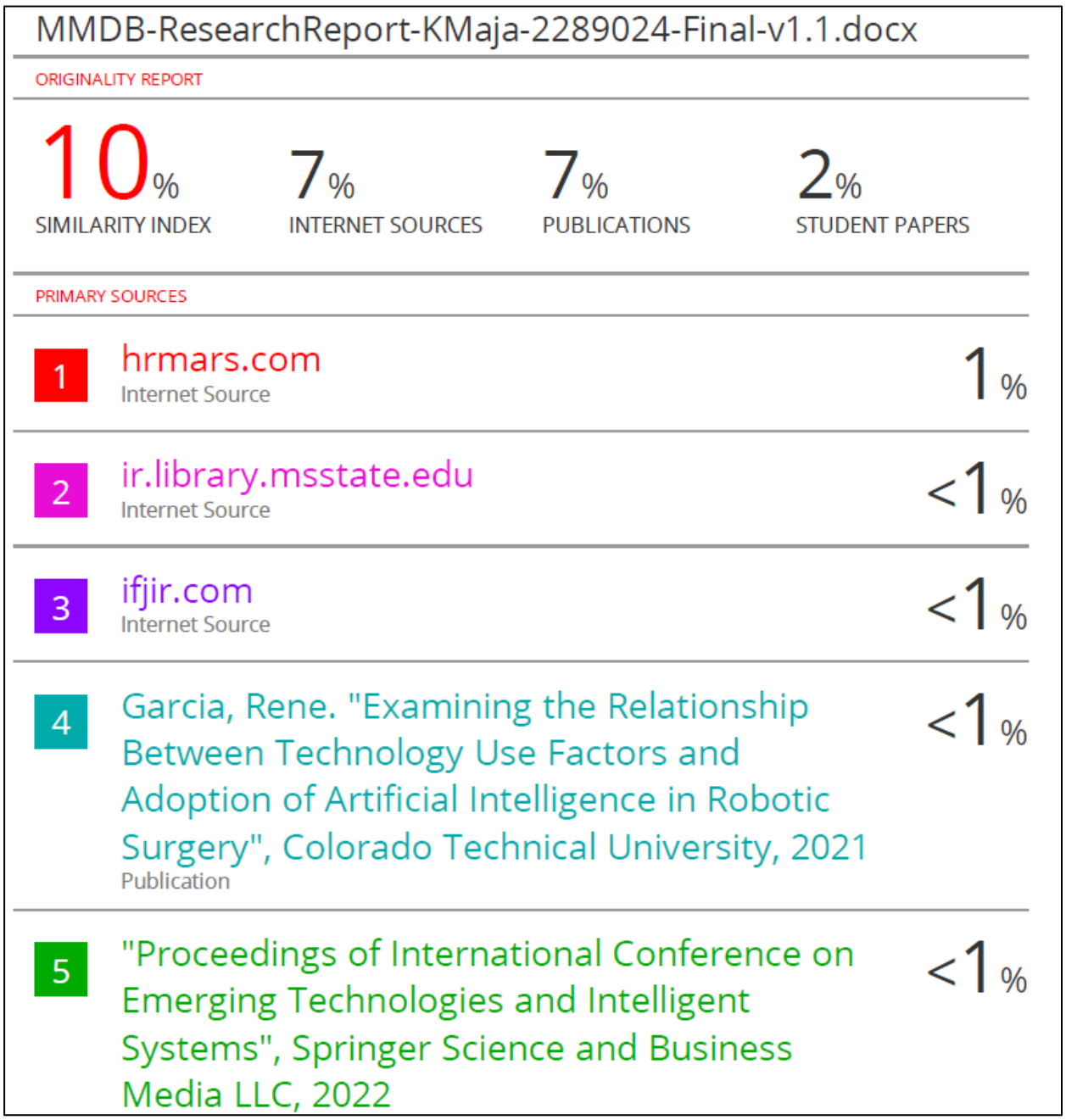
One copy must be signed by the Researcher and returned to the Chairperson of the Wits Business School Ethics Committee.

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

Signature

2021/09/27
Date:

XII. Turn it in report



MMDB-ResearchReport-KMaja-2289024-Final-v1.1.docx

ORIGINALITY REPORT

10%	7%	7%	2%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	hrmars.com Internet Source	1%
2	ir.library.msstate.edu Internet Source	<1%
3	ifjir.com Internet Source	<1%
4	Garcia, Rene. "Examining the Relationship Between Technology Use Factors and Adoption of Artificial Intelligence in Robotic Surgery", Colorado Technical University, 2021 Publication	<1%
5	"Proceedings of International Conference on Emerging Technologies and Intelligent Systems", Springer Science and Business Media LLC, 2022	<1%