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FACTORS INFLUENCING ELDERLY CONSUMERS' BEHAVIOURAL INTENTION TO USE MOBILE GROCERY SHOPPING SERVICES

By

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Field study submitted to the UFS Business School in the Faculty of Economic and Management Sciences in partial fulfilment of the requirements for the degree of Master in Business Administration at the University of the Free State

Date: 30 April 2023

Supervisor: Prof Jacques Nel

DECLARATION

I declare that the field study hereby handed in for the qualification Master's in Business Administration at the UFS Business School at the University of the Free State, is my own independent work and that I have not previously submitted the same work, either as a whole or in part, for a qualification at/in another university/faculty. I also hereby cede copyright of this work to the University of the Free State, South Africa.

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ABSTRACT

While mobile device utilisation is at an all-time high, its use for mobile shopping is essentially low. Therefore, mobile shopping services provide optimistic predictions for the future of retail. Given the widespread adoption of technology and the high rates of population ageing, the study of technology acceptance by elderly consumers has emerged as an important area of research. Although older adults are a growing market segment for all Internet-based services, few studies have examined elderly shoppers as mobile consumers to date. Hence, little is known about the factors influencing elderly shoppers' intention to adopt mobile grocery shopping services. This study examines the factors influencing elderly shoppers' behavioural intention to use mobile shopping services.

The conceptual model used in the study is based on the UTAUT2 and risk perceptions. The factors in predicting technology acceptance behaviour in UTAUT2 are performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price value, and habit. Facilitation conditions were excluded from the conceptual model as access to a smartphone was a screening question. Furthermore, the proposed moderators in the UTAUT2 were excluded as the respondents were non-users of mobile shopping services, and the range of the age variable and adequate gender representation in the sample could not be anticipated at the beginning of the study due to the defined population of the study.

The field study followed an ontological assumption, a positivism approach, and a cross-sectional time horizon. The theory development followed a deductive theory approach. A quantitative research method was followed using a simple random sampling technique to collect data from 247 elderly consumers residing in retirement homes in South Africa. The managers of the identified retirement homes disseminate the self-completion questionnaires to the residents. The self-completion questionnaire consisted of four sections. The first two sections contained screening and background questions. In the third section, statements were presented to test each of the hypotheses using a seven-point Likert scale. The last section contained a lucky draw for respondents who volunteered to enter.

Data analysis was done to test the hypotheses using the statistical software package SmartPLS version.

The results of the hypothesis testing showed that hedonic motivation, price value, subjective norm, and effort expectancy perceptions enhance elderly customers' behavioural intention to use mobile grocery shopping services. On the other hand, risk perceptions reduce elderly shoppers' intention to use mobile shopping services to purchase groceries. The perception of performance expectancy and the habit of doing mobile shopping did not influence the intention of elderly shoppers to use mobile grocery shopping services.

This study's findings will be useful to managers, organisations, and manufacturers in the mobile shopping app environment. Furthermore, the study identified five recommendations that could be used to encourage older shoppers to use mobile grocery shopping services. Lastly, this study discussed several limitations that should be considered in future research.

Key words: Mobile shopping services, mobile shopping applications, UTAUT2, elderly, behavioural intention, risk,

CHAPTER 1

INTRODUCTION TO THE STUDY

1.1 INTRODUCTION

The opportunity exists to study the factors influencing elderly South African consumers' intention to use mobile services for grocery shopping. Technology is changing the way humans live faster than ever before. The exponential increase in smartphone penetration in developed and developing countries has changed how consumers shop. Concurrently, fast developments in mobile technology, and high consumer awareness, have led to tremendous growth in mobile shopping (m-shopping) (Lee and Wong, 2016). Khaskheli, Jun and Bhuiyan (2017) argue that mobile services are growing at such an immense speed that there are applications for many uses, from buying appliances, food, and clothes, to renting an apartment.

According to Marriott (2018), m-shopping has the potential to enhance online sales margins. As a result, according to Marriott (2018), it is essential to investigate what factors influence the initial adoption of mobile purchasing. The elderly is an important demographic to consider when it comes to mobile shopping (Zhu, 2020). In 2022, 10% of the global population was 65 or older, and this figure is predicted to more than double in the next decades (Statista.com, 2022). Mobile shopping should be beneficial to the elderly, who frequently have mobility issues (Msweli, 2020). Mobile grocery shopping has the potential to reduce food insecurity among the elderly (Bezirgani, 2021).

There is no agreement on the age at which someone is considered elderly (Kohijoki, 2013). According to some authors, elderly customers are those 55 years of age and older (e.g., Chaouali, 2019; Moschis, 2003). Others (e.g., Kohijoki, 2011; Peterson, 2001) define them as those aged 65 and older. Thus, for this study, the elderly are individuals 65 years and older, as it also corresponds with the retirement age according to the United Nations (2023).

Although older individuals might have more discretionary income, they are less likely to use mobile shopping (Hou, 2021). Considering the increasing size of the elderly, despite having more disposable income, elderly people are less likely to use mobile shopping (Hou, 2021).

Given the growing size of the older market group, grocery retailers will need to develop methods to increase the use of mobile grocery shopping services by the elderly. Therefore, this study investigated the factors that influence elderly people's use of mobile grocery shopping services.

The rest of the chapter is organised as follows. A literature review of mobile grocery shopping by elderly consumers, followed by articulating the problem statement, research questions and study objectives. Subsequently, the theoretical framework is presented, which includes an analysis of the core theories underlying the theoretical model proposed to fulfil the study's basic objective. The chapter closes with a discussion of the study methodology, ethics clearance application, risks and benefits for participants, the study's contribution, and a conclusion.

1.2. LITERATURE REVIEW

1.2.1 Online shopping

The fast expansion of the Internet drastically changed the lives of shoppers worldwide. The Internet has contributed fundamentally to globalising and changing how consumers shop (Makhitha and Ngoben, 2021). Singh and Rana (2018) describe online shopping as a technological revolution that completely changed the retail environment by offering a stage for shoppers and organisations to trade goods and services over the Internet. Tandon, Kiran and Sah (2018) consider shopping through the Internet more suitable than conventional shopping, presenting shoppers with an extensive assortment of goods. The Internet has allowed consumers to do shopping from the comfort of their homes as they no longer have to go to their local stores or supermarkets to do their shopping. Although there are many online shopping options, this study concentrates on using Internet-enabled grocery shopping.

Online grocery shopping is the practice of buying groceries from a retailer's website (Driediger and Bhatiasavi, 2019). It has several advantages, including providing the buyer with value, convenience, and speedy delivery to their front door. Individuals are so busy lately that they often prefer buying groceries online to save time and energy. According to Djordjevic (2020), by 2022, almost 70% of consumers in the United States of America

(USA) will buy groceries online. According to Statista.com (2022), the global online grocery sales revenue in 2023 will amount to US\$433.5 billion. It is projected that the global online grocery sales revenue will grow to US\$1,003 billion by 2027. China is the leader in online grocery shopping with a sales revenue of US\$202.3 billion projected for 2023 (Statista.com, 2022). Djordjevic (2020) notes that countries like Germany, France and Spain also have an increased stake in the online grocery market. On the other hand, online grocery shopping is unfamiliar in developing countries (Ryadi, Kurniasari and Sudiyono, 2021). South Africa is a developing country and therefore online grocery shopping is still in its adoption stage (Makhitha and Ngobeni, 2021). South Africa's online grocery sales revenue is projected to be US\$641.4 million in 2023 (Statista, 2022).

1.2.2 Mobile shopping

Mobile shopping, or "m-shopping," is the term used to describe shopping done using a mobile device (Marriott et al, 2017). According to Huang, Korfiatis, and Chang (2018), m-shopping is the practice of making purchases using a smartphone or tablet. It is a subset of both m-commerce and e-tailing. According to Natarajan, Balasubramanian, and Kasilingam (2018), m-commerce is the practice of transacting through mobile connections to computer-mediated systems using mobile devices for the exchange of ownership or the use of goods or facilities.

The number of smartphone users globally reached 6.6 billion in 2022, while South Africa had 22 million smartphone users in 2022 (Statista.com, 2022). Furthermore, in 2022 the mobile application industry was worth USD 206.85 billion globally and is predicted to increase at a rate of 13.8% between 2023 and 2030, according to the Grand Research Market Analysis Report (2023).

The number of elderly people is increasing globally (United Nations, 2023). The global number of elderly people in 2021 was 761 million (United Nations, 2023). The United Nations (2023) projects that the number of older people will grow to 1.6 billion by 2050. Furthermore, the number of elderly persons in sub-Saharan Africa will increase from 35 million in 2021 to around 100 million in 2050 (United Nations, 2023). As a result of changing socio-economic circumstances, people's life expectancy has increased significantly worldwide (Huh and Seo, 2015). Lian and Yen (2014) asserted that, as society ages, elder

citizens become a valuable potential market for online shopping services. Yang (2010) pointed out that retailers should take advantage of this new potential market by catering to elderly shoppers and their needs.

1.3. THE BENEFITS OF MOBILE GROCERY SHOPPING

1.3.1 Benefits for customers

There are numerous benefits associated with utilising mobile shopping services. Due to their accessibility and convenience, mobile phones have emerged as key tools for grocery shopping (Hui and Walker, 2018). Smartphones' ubiquity allows accessibility and ease as consumers can access the Internet and do mobile shopping from anywhere, at any time. Therefore, users increasingly use mobile devices to purchase goods and services (Horning, Porter, Hassan, and Edson, 2020). Due to overcrowding and long lines, grocery shopping is often regarded as stressful (Van Droogenbroeck and Van Hove, 2021). As a result of the ease that e-grocery offers, these customers prefer to buy groceries and other daily requirements via mobile shopping services. Furthermore, consumers believe that m-shopping services increases their sense of security because they can buy goods without carrying cash around (Curling, 2018). Almarashdeh et al. (2019) suggest that mobile shopping allows consumers easy access to brands and a variety of products.

1.3.2 Benefits for organisations

The retail industry has experienced a transformation in recent years. Mobile services have significantly contributed to the tremendous changes that have taken place. Significant online grocery shopping services like Checkers Sixty60 and Pick n Pay ASAP have grown in popularity. According to Perez (2020), supermarkets can offer a variety of choices because of the growing number of mobile grocery shopping services. Due to the popularity of these services, numerous retailers now provide an online shopping option. Customers enjoy these services since they can order groceries while relaxing in their homes. Mobile shopping services allow retailers to get to know their customers better. As a result, retailers can analyse their customers' shopping habits and send customised promotions to them (Qodeify, 2021). Customers can pay for their goods using a variety of methods, including PayPal, debit cards, and credit cards.

1.4. MOBILE SHOPPING RESEARCH

Various studies have been done over the years to investigate the adoption of mobile shopping. These studies have employed different theories in their research. The main theories used in these studies will be discussed in this section.

1.4.1. *Innovation resistance theory (IRT)*

According to Hew et al. (2019), innovation resistance is the behavioural resistance of a consumer to potential changes in their current beliefs or status quo because of using a specific technology. The innovation resistance theory (IRT) describes user-resisting behaviours when confronted with the challenges of the widespread adoption of modern technology. Innovation resistance is divided into two groups: (1) active resistance, which assesses the flaws of the innovation's features, and (2) passive resistance, which casts doubt on the benefits that follow from the innovation (Heidenreich and Handrich, 2015). Customers' resistance behaviours, according to O'Connor and Rice (2001), have emerged as critical insights indicating the effectiveness of creative commercialisation and adoption.

The IRT paradigm has drawn significant academic interest for its ability to explain people's conscious and unconscious rejection of technologies including mobile payment (Leong et al., 2020), and mobile banking (Laukkanen, 2016). Research by Laukkanen (2016), Leong et al. (2020), and Sivathanu (2019) revealed the extensive effects of current barriers, including functional, psychological, and risk barriers, as typical restrictions causing resistance.

A study by Cham et al. (2021) aimed to evaluate the influence of functional, psychological, and risk barriers that led to elderly consumers' resistance to adopting such services. The effect of cash attachment as a moderator on the identified relationships was also investigated. The results confirmed the importance of functional, psychological, and risk barriers in impacting resistance to mobile payment services among elderly consumers. As a result, their resistance would influence their attitude and non-adoption intention, with attitude acting as an intermediate between resistance and non-adoption intention.

Nel and Boshoff (2020) researched the mobile website purchasing resistance of users who only used desktop website purchasing. They found that shoppers using just desktop purchasing, reduces mobile website purchasing perceived appeal while perceiving greater

cognitive effort in mobile website purchasing to preserve consonance with their inertia due to cognitive dissonance. Moreover, relative advantage perceptions of mobile website purchasing trivialize views of mobile website shopping attractiveness. The largest influence on desktop purchasing inertia comes from desktop purchasing habit.

1.4.2. Technology Acceptance Model (TAM)

Davis (1989) proposed the TAM which is believed to be the most used and significant model in describing and forecasting a user's approval of a specific information system (Ryadi et al. 2021). The TAM is an information systems model that explaining users' usage and approval of technology by users (Ryadi et al. 2021). According to Park, Amendah, Lee, and Hyun (2019), the TAM presents two new variables, perceived usefulness (PU) and perceived ease of use (PEOU), as important predictors of attitude toward a specific innovation. According to Davis (1989), perceived usefulness is the degree to which people think utilising a system will enhance their ability to accomplish their jobs. Perceived usefulness is the leading forecaster of intention to use technology (Davis et al., 1989). On the other hand, perceived ease of use refers to the extent to which a person believes adopting a specific system would be effortless (Davis, 1989). Davis et al. (1989) found a positive relationship between perceived ease of use and behavioural intention. Similarly, these studies also found that perceived ease of use, directly and indirectly, affects the intention to use the technology.

The TAM was used in a study by Ryadi et al., (2021) on the factors influencing consumers' intention towards e-grocery shopping in Indonesia. For their study, Ryadi et al. (2021) defined perceived use as the extent to which a shopper feels that shopping for groceries online offers better value, while perceived ease of use is the extent to which a shopper believes that buying groceries via the Internet would be easy. The study found that perceived usefulness and perceived ease of use had a positive impact on trust. According to Jain, Kaul, and Sanyal (2021), perceived usefulness positively influenced customer satisfaction and intention toward mobile shopping.

1.4.3. Unified Theory of Acceptance and Use of Technology (UTAUT)

According to Venkatesh, Morris, Davis, and Davis (2003), the UTAUT model is grounded on the mixture of eight well-proven hypotheses to evaluate the probability of success for

new technology. Venkatesh et al. (2003), argue that most studies on the acceptance of information technology had limitations in dealing with the adoption of difficult and complex technology. The UTAUT model was empirically endorsed and performed better than any of the other models making it suitable for scholars examining the elements of the acceptance of technology (Venkatesh et al., 2003).

Four constructs are hypothesised factors for predicting technology acceptance in the UTAUT, namely performance expectancy, effort expectancy, social influence and facilitating conditions. Venkatesh et al. (2003), explain that technology performance expectancy suggests that users find the technology beneficial because it allows them to achieve their goal-orientated tasks. Effort expectancy is the degree of ease related to a customer's technology usage (Venkatesh et al., 2003). Social influence refers to the degree technology users feel that important others think they ought to utilise the technology. The last construct, facilitating conditions, is about users' opinions of the available resources to execute a behaviour. Moreover, performance expectancy, effort expectancy and social influence impact the behavioural intention to use technology, while facilitating conditions are an element of actual technology use. According to Venkatesh et al. (2003), the moderator variables of age, gender, experience, and voluntariness of use influence the relationship between these factors and behavioural intention. These moderator variables can explain how people use technology, and being aware of their effects can help researchers and designers create technology that is more inclusive and accessible to all users.

1.4.4. UTAUT2

Venkatesh (2012) expanded UTAUT to UTAUT2 by adding consumer behaviour elements: habit, hedonic motivation, and price value. The scope of UTAUT2 was increased to give a more thorough and accurate knowledge of the factors influencing user behaviour regarding technology adoption and use. The variance described in behavioural intention and technology use was significantly enhanced by the extensions suggested in UTAUT2. Further, the data from Venkatesh et al. (2012) showed that the influence of hedonic motivation on behavioural intention is moderated by age, gender, and experience; the influence of price value on behavioural intention is moderated by age and gender; and habit

has both direct and mediated effects on technology use and these effects are also moderated by individual differences.

1.4.4.1 The Hedonic Motivation

Hedonic motivation is the pleasure received from technology and is important in establishing technology acceptance (Venkatesh et al., 2012; Brown and Venkatesh (2005). Furthermore, when consumers derive pleasure and fun from using technology, it affects their behavioural intention to take up the technology (Schomakers et al., 2022). Hedonic motivation, therefore, is a strong predictor of the intention to accept and use new technology (Maniglia et al., 2021).

1.4.4.2 Price Value

Consumers carry the monetary cost of using technology because organisations do not provide the technology free of charge to consumers. The cost and the pricing structure could impact customers' adoption of technology (Venkatesh et al., 2012). Downloading mobile shopping apps might be free of charge as retailers want to attract more shoppers to utilise the mobile shopping app and, as a result, increase their sales. Wei et al. (2009) identified added costs for utilising mobile shopping applications as the price and maintenance fees of the mobile device and the Internet cost.

According to Dodds et al. (1991) and Venkatesh et al. (2012), price value is described as shoppers' rational compromise concerning the apparent advantages of the mobile shopping app and the financial cost of using the app. A positive price value exists if the supposed advantages are more than the monetary cost of operating the technology (Venkatesh et al., 2012).

1.4.4.3 Habit

Limayem, Hirt and Cheung (2007) define habit as the extent to which consumers are inclined to do tasks automatically because of learning. In the same way, for this paper, habit is defined as the level to which shoppers use mobile grocery shopping services automatically. Ajzen (2002) explains that the regularity of previous conduct is one of the key causes of present behaviour. Also, Ouellette and Wood (1998) assert that habit can predict users' future behaviour. According to Ouellette and Wood (1998), users more often

intend to do tasks that they have repeatedly done. Habit influences shoppers' behavioural intention to utilise technology (Venkatesh et al., 2012).

1.5 PROBLEM STATEMENT AND RESEARCH QUESTIONS

According to Iancu and Iancu (2020), social changes are widely acknowledged in many nations around the world due to the ageing of the population, an increase in life expectancy, and the necessity for independent living by elderly persons. Because they need to stay informed and in touch with their family, older people are more adept at using technology today (Iancu and Iancu, 2020). This emphasizes the importance of elderly consumers as a consumer segment that retailers must not overlook when designing their stores (Pantano, Viasonne, Boardman and Dennis, 2022). This may necessitate careful consideration, as seniors may suffer from disabilities that impair their movement and access to public places like retail stores, as well as their autonomous use of these technologies (Pantano et al., 2022). The physical, statistical, psychological, social, and behavioural traits of this market segment may, therefore, have an impact on retailing in terms of location, services, and layout (Oeser et al., 2018; Seegebarth et al., 2019; Zhang and Mao, 2020). Mobile grocery shopping provides an excellent opportunity for retailers to take advantage of this potential market to increase their sales revenue.

There has been little research on mobile grocery shopping by elderly shoppers. Macedo (2017) asserts that few studies have been done to explain technology acceptance by elderly consumers. Furthermore, Hansson, Holmberg, and Post (2022), state that the inclusion of elderly shoppers in previous studies is scarce. There is little information about online grocery shopping for the elderly (Bezirgani and Lachapelle, 2021) and most studies on the topic have focused on younger age groups (Blitstein et al., 2020). According to Statista.com (2022), the elderly aged 65 and over will more than double over the coming decades, highlighting the significance of the elderly as a market sector that merchants should not overlook. When it comes to embracing new technologies, elderly customers encounter numerous hurdles, primarily because of age-related health problems (Pargaonkar et al., 2019).

Although older people are increasingly interacting with technology (Hough and Kobylanski, 2009; Golant, 2017) and the significance of studying the elderly has been highlighted in

literature for decades, research to date appears to be inadequate to influence the behavioural intention of elderly shoppers to purchase groceries using mobile shopping services (Pantano et al., 2022). Friemel, (2014) points out that the lack of studies on elderly consumers is largely a result of the challenges in data collection due to practical considerations. Recruitment and interviewing of elderly consumers is particularly difficult due to mobility concerns (Melis et al., 2022). Researchers must discover a technique to attract older participants by reaching out to their specific community, which can be difficult to do, especially if they are not ICT-savvy (Melis et al., 2022). However, as retail outlets become more technologically advanced, research must seek to solve these issues by researching whether an aging population feels excluded in physical retail environments and how technologies might be employed to help them feel included (Pantano et al., 2022).

The problem statement for this research is: scant research exists on mobile grocery shopping by elderly consumers to assist retailers in increasing their adoption (Pantano, et al., 2022). Based on the problem statement, the research question this study attempted to answer was:

- Which factors influence elderly shoppers' intention to purchase groceries through mobile shopping services?

1.6 OBJECTIVES OF THE STUDY

1.6.1 Primary objective

The study's primary aim is to identify the factors influencing the acceptance of mobile grocery shopping services by elderly consumers.

1.6.2 Secondary objectives

The secondary objectives are as follows:

- a. To give a synopsis of mobile shopping.
- b. To review the UTAUT2.
- c. To review the literature on mobile shopping to identify additional factors that can be used to extend the UTAUT2.
- d. To develop a theoretical model of the factors influencing elderly shoppers' intention to do mobile shopping based on the UTUAT2.

- e. To empirically test the model.
- f. To make recommendations to grocery chains conducting mobile shopping to enhance mobile shopping by elderly consumers.

1.7 METHODOLOGY

1.7.1 Research design

According to Bryman et al. (2014), research might be approached statistically or qualitatively. The key distinction between the two methodologies is that quantitative research requires expressing data numerically. A qualitative research approach, on the other hand, reflects data via the use of words, such as interviews. According to the distinction made above, the intended research study will use a quantitative research design to address the research questions, with statistical data collected by self-completion questionnaires. This study implements the philosophy of positivism, adopting the philosophical stance of the natural scientist.

1.7.2 Population and sampling

Most countries do not have a definitive definition of "older adults", as stated by the World Health Organisation (2018). It is customary in many developed countries to classify 65-year-old persons as elderly (Kowal, 2001). Reisenwitz et al. (2007) studied elderly individuals over 65 years of age to determine their willingness to adopt online shopping. Therefore, the population for this study was elderly consumers in the age group 65 years and older. Furthermore, the sample size of this study was 247 elderly consumers residing in retirement homes in South Africa. To guarantee that respondents could relate to the topic, they had to be active in grocery shopping in their households. Purposive sampling was used in the study, and the sampling was non-probability. According to Bryman, Bell, Hirschsohn, Dos Santos, Du Toit, Masenge, Van Aardt and Wagner (2011), the goal of purposeful sampling is to select participants in a way that will assure their relevance to the research questions.

1.8 DATA COLLECTION

Questionnaires were given to the management of the retirement homes in South Africa to distribute to the people interested to participate in the study. Following that, management

collected the completed questionnaires on an agreed-upon date. This guaranteed that potential respondents were reached, and it also made it easier for responders to access the questionnaires. Management permission was acquired to guarantee that they approved this research.

Residents at retirement homes were given an information pamphlet outlining the study's purpose. The leaflet made it clear that participation in the study was voluntary. Before the study commenced, each participant had to complete an informed consent form. Basic demographic data were obtained in the questionnaire's first section to allow a synopsis of the responses. In the following respondents were asked to rate their agreement with the statements made regarding the adoption of mobile grocery shopping.

1.9 DATA ANALYSIS

The statistical analyses are based on the completed questionnaires received from 247 respondents. To test the hypotheses in the conceptual model, developed in Chapter 2, the statistical software package SmartPLS version 4.0 was used. PLS-SEM results were evaluated in accordance with Hair, Risher, Sarstedt, and Ringle's (2019) recommendations in order to assess the measurement and structural models.

1.10 ETHICS CLEARANCE APPLICATION

According to Agwor and Adesina (2017), ethics are moral standards that guide conduct and decision-making behaviour in interpersonal encounters or dealings. Because this research will involve obtaining data about people's behaviour, ethical considerations will be essential throughout the research process to protect both the researcher and the participants. Bryman et al. (2014) divide ethical considerations into four categories: participant harm, informed consent, privacy protection, and the level of deceit. All the foregoing ethical considerations were strictly followed during the research.

Chapter 3 will go into the research techniques and ethical considerations for the study.

1.11 CONTRIBUTION OF THE STUDY

Most research has focused on the young adult market and has not investigated mobile shopping habits among elderly consumers (Kuoppamaki, Taipale and Wilska, 2017). It is critical to do research to identify the factors influencing elderly consumers' behavioural intention to adopt mobile shopping services to purchase groceries. This study would contribute to the academic knowledge regarding the factors influencing older consumers' intention to accept mobile grocery shopping services.

The overall managerial contribution is that the study would provide knowledge on the psychological process leading to elderly shoppers' behavioural intention to use mobile shopping services to purchase groceries. Furthermore, the study would provide insights to managers and marketers regarding the factors that motivate elderly shoppers to adopt mobile grocery shopping.

1.12 CONCLUSION

With the convergence of the information technology age and the increasingly ageing population, elderly consumers are becoming important potential customers for mobile shopping. Mobile shopping has continuously developed, and consumers' perceptions have changed over time. Scant research exists on mobile grocery shopping by elderly consumers.

The remainder of the study is organised like this: in chapter 2 the literature review on the topic of mobile grocery shopping is presented. Chapter 3 will discuss the research methodology to accomplish the primary and secondary objectives of the research study. Chapter 4 will discuss the data analysis and interpretation. Finally, Chapter 5 will discuss the study's findings, conclusions, and recommendations.

CHAPTER 2

MODEL DEVELOPMENT

2.1 INTRODUCTION

This chapter (Chapter 2) will review the theoretical framework adopted to achieve the study's primary objective which is to identify the factors influencing elderly consumers' intention to use mobile grocery shopping services. The UTAUT2 model with perceived risk was identified to be relevant to the context of the study. The conceptual model and the relationships between factors of interest and hypotheses will be discussed in section two. Finally, a conclusion will be provided.

2.2 THEORETICAL FRAMEWORK

The theoretical framework consists of three components. The first component is the UTAUT. The UTAUT2 is the second component. Perceived risk is the final component.

2.2.1 UTAUT

The UTAUT model is grounded on a combination of eight well-proven theories to evaluate the probability of the successful adoption of new technology (Venkatesh, Morris, Davis, and Davis, 2003). The UTAUT included eight concepts, consisting of the Technology Acceptance Model (TAM) (Davies, 1989), Innovation Diffusion Theory (IDT) (Rogers, 1995), the Theory of Reasoned Action (TRA) (Fishbein and Ajzen, 1975), the Motivational model (MM) (Davies et al., 1992), the Theory of Planned Behaviour (TPB) (Ajzen, 1991), a model combining the TAM and TPB (Taylor and Todd, 1995), the Model of PC Utilization (Thompson et al., 1991) and Social Cognitive Theory (SCT) (Bandura, 1986). Four constructs were hypothesised and endorsed as essential factors in predicting technology acceptance behaviour in the UTAUT: performance expectancy, effort expectancy, social influence and facilitating conditions. While the research aids in understanding the usefulness of UTAUT in various contexts, a systematic analysis and theorising of the pertinent factors that pertain to a context of consumer technology usage are still required.

Therefore, four individual difference variables were theorised to moderate the various UTAUT relationships: age, gender, experience, and voluntariness (Venkatesh et al., 2012).

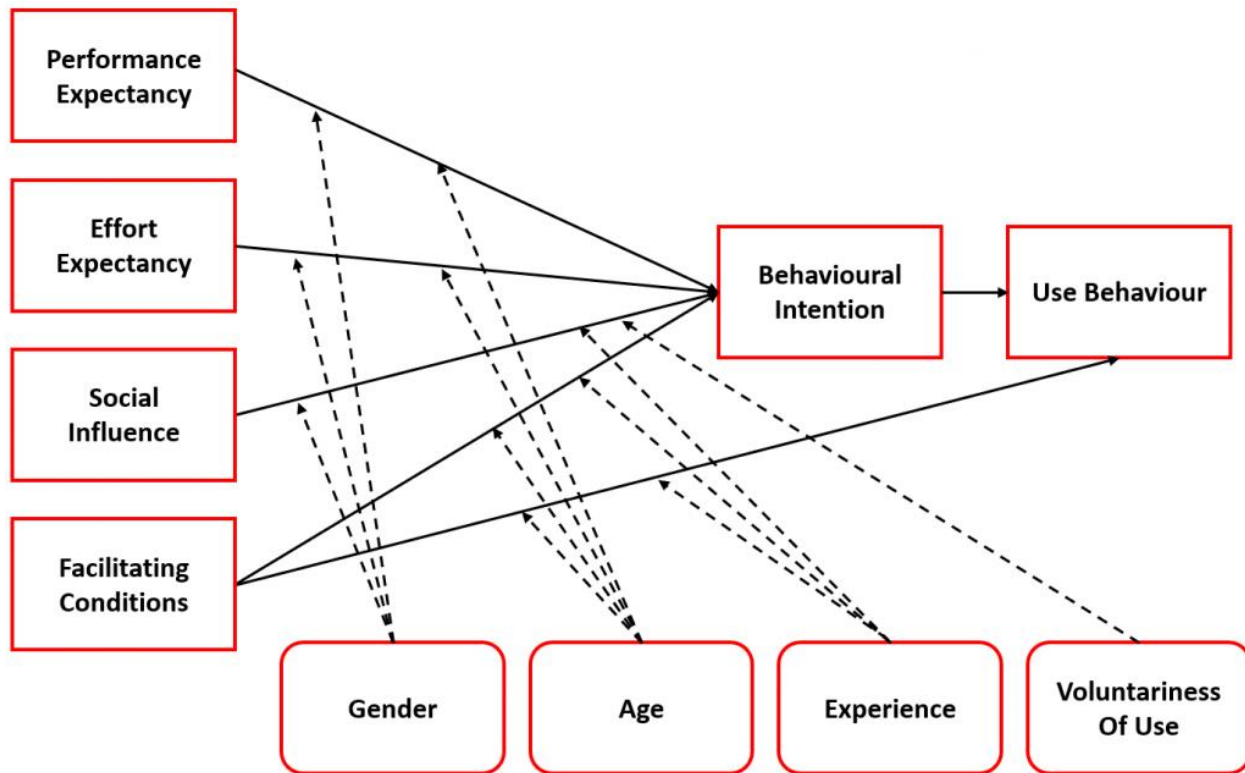


Figure 2.1 UTAUT

Source: Venkatesh et al., 2003

Users' perceptions of how using a technology would help them perform their jobs more effectively is known as performance expectation (Venkatesh et al. 2003). Effort expectancy was described as the amount of ease related to consumers' use of technology (Venkatesh et al. 2003). The third construct, social influence, was described as the level of social pressure exercised on an individual to accept innovation (Venkatesh et al. 2003). The final construct, facilitating conditions, refers to the degree to which individuals feel that the required infrastructures to utilise the expected system is available (Venkatesh et al. 2012). According to Venkatesh et al. (2003) performance expectancy, effort expectancy and social influence have an impact on the behavioural intention to use technology, whereas behavioural intention and facilitating conditions decide technology use.

The UTAUT model was applied to investigate mobile shopping services in past research. For instance, Yang (2010) used the UTAUT model to examine American consumers' intention to utilise mobile shopping services. The research employed the four main factors from the UTAUT model and added the attitude to use and hedonic performance expectancy to extend the UTAUT. The research observed that effort expectancy was a motivating element that influenced mobile shopping services' utilitarian and hedonistic performance expectancy. The researcher reported that social influence directly affected behavioural intention to use mobile shopping services. This means that the opinions of important others regarding mobile shopping services were regarded as vital in customer adoption of such services. Lastly, the study found that facilitating conditions of mobile shopping app usage was essential to the acceptance of mobile shopping services.

As depicted in Fig. 2.1, Venkatesh et al. (2003) also proposed that specific relationships are moderated by individual characteristics like age and gender. The UTAUT also proposed that specific relationships in the model could be moderated by a person's technology experience and voluntariness of use.

2.2.2 UTAUT2

Venkatesh et al. (2012) identified the necessity for modification to be context-specific, namely working versus non-working environment, and adapted the UTAUT framework to display the features of shoppers. The UTAUT model was amended to predict information technology usage more accurately within the consumer context, leading to the extended UTAUT2 framework (Venkatesh et al. 2012). The constructs price value, hedonic motivation and habit were included as additional variables in the UTAUT2 model.

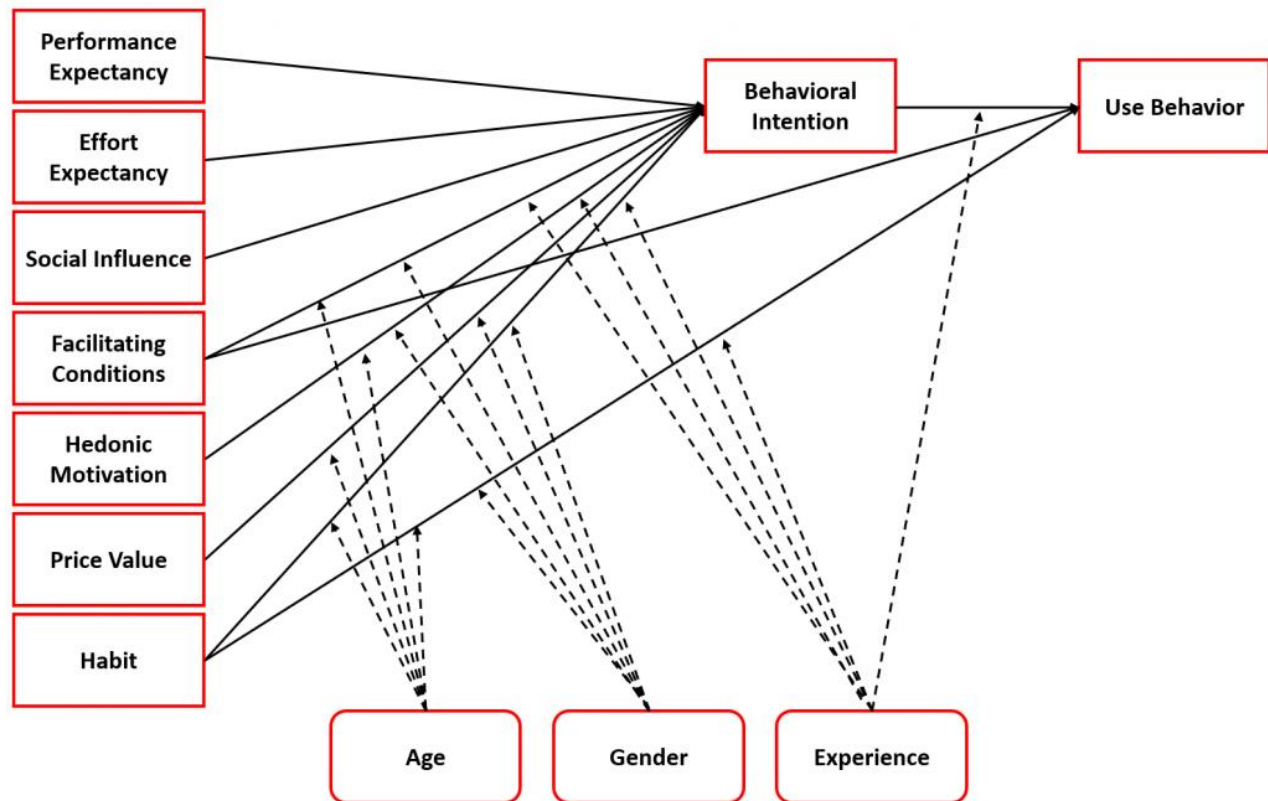


Figure 2.2 UTAUT 2

Source: Venkatesh et al., 2012

Price value was included to deal with the cost matter of technology usage. Venkatesh et al. (2012:161) define price value as "consumers' cognitive trade-offs between the perceived benefits and cost of using various applications". Price value may include the device and data costs and applicable service charges (Chopdar et al., 2018). Therefore, if the advantages of using the technology are seen to exceed the cost, then price value positively affects use behaviour.

Brown and Venkatesh (2005) describe hedonic motivation as the pleasure of using technology. Brown and Venkatesh (2005) argue that hedonic motivation is critical in influencing the acceptance and usage of technology. Users who find pleasure and delight in using different mobile applications are more inclined to accept these applications (Kim et al., 2014).

Habit is the final construct that was included in the UTAUT2 model. Venkatesh et al. (2012) showed that habit has a direct influence on use and an indirect influence through

behavioural intention. Habit was defined as “the extent to which people tend to perform actions automatically because of learning” (Chopdar et al., 2018:114).

Another distinction between the UTAUT2 and the UTAUT was the exclusion of the voluntariness of use as a moderator. The change was made to adapt the UTAUT2 application to contexts where use is voluntary (Venkatesh et al., 2012).

UTAUT2 is especially appropriate because it integrates hedonic motivation, price value and habit, which are connected to mobile shopping adoption (Chopdar et al., 2018). Research by Chopdar et al. (2018) examined elements influencing shopper behavioural intention and use of mobile shopping services by adding security and privacy risks. The study found that UTAUT2 can sufficiently illuminate the behavioural intention and use of mobile shopping services in cross-cultural situations.

2.2.3 Perceived risk

Pavlou (2001) asserts that consumers are reluctant to utilise online purchasing services because of perceived risk concerns. The proposition by Pavlou is also likely to apply to mobile shopping services. Featherman and Pavlou (2003:114) defined perceived risk as “the user’s subjective expectation of suffering a loss in pursuit of a desired outcome”. Risk perceptions make consumers experience uncertainty, anxiety, cognitive dissonance, and mental discomfort (Featherman and Pavlou, 2003). Hanafizadeh, Behboudi, Koshksaray and Tabar (2014) state that consumers are unlikely to use new technology when the perceived risks associated with the technology are high.

Jacoby and Kaplan (1972) have defined the various dimensions of perceived risk as follows:

Financial risk is defined as the possible monetary expense associated with the initial acquisition price and the ensuing maintenance cost of the product. Groß, (2016) asserts that financial risk refers to the possibility of losing money when using a mobile shopping app. Due to the remote nature of online transactions, financial risks are more prevalent (Bezes, 2016; Hubert et al., 2017).

Performance risk means the likelihood that the product will malfunction and not perform as envisioned and advertised; hence it neglects to deliver the required benefits (Featherman and Pavlou, 2003). Bezes (2016) claims that performance risk is higher in the online shopping environment because consumers are unable to effectively assess the quality of the items they purchase due to distance shopping. The proposition by Bezes (2016) is also likely to apply to mobile shopping services.

Time risk refers to consumers who feel that they have wasted time by researching and buying a product, learning to use it, and then having to substitute it because it does not perform as anticipated. According to Aghekyan-Simonian et al. (2012), time risk in the context of online shopping refers to the potential loss of time and effort and includes problems with website navigation, waiting periods before receiving products, returning the wrong items, and processing and delivery delays. The proposition by Aghekyan-Simonian et al. (2012), is also likely to apply to mobile shopping services.

Social risk suggests to the possible damage of status in the consumer's social group. The possible damage could be caused by the acceptance of a product or service, looking silly or untrendy. According to Amirtha et al. 2022¹, social risk is high when people are unsure whether technology will be accepted by significant others.

Security risk is the possible monetary loss that could arise because of the use of online payment systems (Thakur and Srivastava, 2015). The proposition by Thakur and Srivastava (2015) is also likely to apply to mobile shopping services.

2.3 CONCEPTUAL MODEL

Figure 2.3 depicts the conceptual model employed in the study to achieve the primary objective of the research. The conceptual is based on the UTAUT2 and risk perceptions. In this section, the hypotheses forming the conceptual model are presented. In the study, facilitation conditions were excluded from the conceptual as access to a smartphone was a screening question. The proposed moderators in the UTAUT2 were excluded as the respondents were non-users of mobile shopping services, and the range of the age variable and adequate gender representation in the sample could not be anticipated at the beginning of the study due to the defined population of the study.



Figure 2.3 UTAUT 2

Source: Adapted from Venkatesh et al., 2003

2.3.1 Performance expectancy influencing elderly consumers' intention to use mobile grocery shopping services

Performance expectancy in the context of mobile shopping services takes into account how customers view the advantages of utilizing the service to perform different purchasing tasks (Chopdar et al., 2018). Performance expectancy is one of the concepts of the UTAUT model that received extensive interest from various researchers in several fields of study (Venkatesh et al., 2003; Bugembe, 2010; Tossy, 2014). Research showed that performance expectancy influenced consumers' intention to accept and utilise new technology (Venkatesh et al., 2012). Chong (2013) affirmed a positive relationship between performance expectancy and the behavioural intention to accept mobile shopping. Behavioural intention refers to "indications of how hard people are willing to try, how much of an effort they are planning to exert, to perform the behaviour" (Ajzen, 1991:181). Regarding this study, behavioural intention relates to the intention of elderly shoppers to utilise mobile grocery shopping services. This study suggests the next hypothesis:

H1: Performance expectancy positively influences elderly consumers' intention to use mobile grocery shopping services.

2.3.2 Effort expectancy influencing elderly consumers' intention to use mobile grocery shopping services

For this study, effort expectancy refers to the ease of access to mobile grocery shopping sites and how easy it is to navigate the features and functionalities of these sites. Concerning mobile shopping services, users perceive the app application as easy and straightforward when they can quickly learn about the services and their usage (Grace et al., 2018). A study by Venkatesh et al. (2012) found effort expectancy to be a major determinant of intention. Effort expectancy is more significant in the technology adoption phase (Venkatesh et al., 2003). Chaouali and Souiden (2019) asserted that elderly consumers are less inclined to engage in learning activities and less likely to consider innovation convenient. Cognitive and functional challenges like poor memory, the pace of information processing, visual impairments and dexterity problems could be potential

barriers to mobile grocery shopping adoption by elderly consumers (Chaouali and Souiden, 2019).

Chopdar et al. (2018) affirmed that mobile shopping services are effortless to use and do not involve much effort from the user, resulting in a higher intention to accept and use them. Therefore, if shoppers feel that mobile shopping is effortless, they would be more likely to adopt it. This proposition should also hold in the context of the study. Research done by Hew et al. (2015), found a strong positive relationship between effort expectancy and behavioural intention to use mobile shopping services. This study suggests the next hypothesis:

H2: Effort expectancy positively influences elderly consumers' intention to use mobile grocery shopping services.

2.3.3 Social influence influencing elderly consumers' intention to use mobile grocery shopping services

Social influence, in the context of this study, means the degree to which customers sense important others think they ought to use mobile shopping services. The opinions of important others regarding mobile grocery shopping services are anticipated to influence elderly consumers' behavioural intention to utilise these services (Yang, 2010). In other words, social influence refers to how much elderly shoppers perceive that their important others think they should use mobile grocery shopping services. Important others include family, friends, subordinates, and colleagues.

Nyesiga et al. (2017) explained that social influence can be image, social factors, or subjective norm. Subjective norm means a consumer's belief that a significant other will agree and support a specific behaviour and the extent to which a consumer is likely to concur with these opinions (Fishbein and Ajzen, 1975). Karahanna et al. (1999) identified subjective norms as a critical factor in social influence. Therefore, subjective norms can be considered to influence elderly shoppers' behavioural intention to adopt mobile grocery shopping services.

Because of the novelty of mobile shopping services, elderly customers of grocery retailers are likely to rely on important others' opinions of mobile shopping services' abilities and

features (Yang, 2010). The encouragement and information provided by important others could enhance elderly shoppers' intention to utilise mobile shopping services (Zhou et al., 2010). Therefore, this study suggests the next hypothesis:

H3: Social influence positively influences elderly consumers' intention to use mobile grocery shopping services.

2.3.4 Price-value influencing elderly consumers' intention to use mobile grocery shopping services

Price value, in this study, refers to elderly shoppers' cognitive compromises between the supposed advantages of mobile grocery shopping services and the monetary price of operating these services. Price value in the mobile shopping environment refers to the price paid for the mobile phone, the price paid for data, and any other type of service charges that might be applicable (Chopdar et al., 2018). Information technology researchers have started to put more emphasis on price value in recent years (Huang and Kao, 2015). Venkatesh et al. (2012) incorporated the price value construct into UTAUT2 to highlight the cognitive trade-off between the perceived advantages of services and the financial cost of using them. The benefit of using mobile shopping services is convenience, whereas the cost of using them is a sacrifice (Pura, 2005). According to Shaw and Sergueeva (2019), when buying a product, the benefits of quality and comfort are compared to the price to be paid, which might influence the buyer's perception of value.

Mobile grocery shopping apps are often free to download in order to entice more consumers to utilize them (Huang and Kao, 2015). Wei et al. (2009) identified the other costs applicable to mobile grocery shopping as, the cost to buy the mobile device, maintenance of the device, and data cost to have Internet access. Huang and Oppewal (2006) suggest that delivery charges were an important element that shape consumers' behavioural intention to use online shopping services. Shoppers tend to compare the cost of travelling to a brick-and-mortar store and the delivery fee charged for online purchases (Huang and Oppewal, 2006). Likewise, Clarke (2000) asserts that many consumers deem

delivery fees a key barrier to online grocery shopping. This proposition should also hold in the context of the study.

Shoppers could see price value as either positive or negative, subject to the perceived advantages being higher than the financial price of using the technology (Venkatesh et al., 2012). Therefore, elderly shoppers could either consider price value as positive or negative, depending on their perception of the benefits of using mobile grocery shopping were higher than the costs of using the mobile shopping services. This study proposes the following hypothesis:

H4: Price value positively influences elderly consumers' intention to use mobile grocery shopping services.

2.3.5 Hedonic motivation influencing elderly consumers' intention to use mobile grocery shopping services

Hedonic motivation refers to the joy or pleasure derived by technology. Research by Yang (2010) found that hedonic motivation is an important determining factor of mobile shopping consumer usage. Hedonic motivation is an important element that guides a shopper's behavioural intention to use mobile services (Venkatesh et al., 2012). Concerning this study, hedonic motivation refers to the pleasure that elderly shoppers derive from using mobile grocery shopping services. Lee (2009) argues that the enjoyment and fun that users derive from using technology will affect their behavioural intention to use technology. Developers of shopping apps include elements of enjoyment, fun and excitement by adding voice search, social sharing, and personalisation to attract more users (Chopdar et al., 2018). Furthermore, Chopdar et al. (2018) postulated that the greater the level of perceived pleasure of the mobile shopping app consumer, the higher the behavioural intent to adopt the service. This study suggests the next hypothesis:

H5: Hedonic motivation positively influences elderly consumers' intention to use mobile grocery shopping services.

2.3.6 Mobile shopping habit influencing elderly consumers' intention to use mobile grocery shopping services

Habit is the point to which consumers execute behaviour unconsciously due to learning (Venkatesh et al., 2012). Additionally, Venkatesh et al. (2012) asserts that consumers' behavioural intentions to accept technology are influenced by habit. Consumers tend to use the technology automatically as they become more skilled in handling a technology (Venkatesh et al., 2012). Gardner (2015) suggested that individuals act without intentionally deciding to do so and without the actions being encouraged by the intentional pursuit of objectives when habits are fostered. According to Hew, Lee, Ooi, and Wei (2015), habit is the best predictor of a person's behavioural intent to use mobile services. The behavioural intention of using mobile purchasing services is also positively impacted by habit (Chopdar et al., 2018).

As users become more skilled in using a specific technology in general, it also impacts their use of a more focused form of technology for a specific purpose (Chopdar et al., 2018). Thus, in general, customers who use smartphones for shopping may likewise intend to use them for grocery shopping. Therefore, habit can be defined as a person's propensity to use mobile shopping services automatically (Chou et al., 2013). This study suggests the following hypothesis:

H6: Mobile shopping habit positively influences elderly consumers' intention to use mobile grocery shopping services.

2.3.7 Perceived risk

As stated previously, Featherman et al. (2003:114) described perceived risk as "the user's subjective expectation of suffering a loss in pursuit of a desired outcome". For this study, we define perceived risk as the possibility of suffering a loss while pursuing a desirable outcome by elderly consumers using mobile grocery shopping services. Rose, Hair, and Clark (2011) assert that perceived risk is a widely recognised barrier in technology acceptance studies. Furthermore, Chopdar et al. (2018) believe that perceived risk prevents consumers from using and adopting mobile shopping services.

Perceived risk, rather than objective risk, impacts shoppers' purchase decisions (Pavlou, 2003). Laukkanen (2016) describes the risk barrier as the threat and danger that is associated with innovation. Risk is a key element that prevents users from adopting mobile shopping due to the perceptions of uncertainty and vulnerability regarding mobile transactions (Luo et al., 2010). Users are uncertain and doubt the performance, financial and security risks associated with mobile transactions. Users are anxious that the mobile device, the system, or the Internet connection would fail to complete the transaction successfully. Laukkanen (2016) argues that the perception that risk exists is a key factor in why elderly consumers do not adopt mobile shopping.

The dimensions of risk in a mobile shopping context are explored next:

Financial risk

Various studies have found that financial risk is an important deterrent of intention (Jacoby and Kaplan, 1972), but is even extra noticeable in the online and mobile shopping milieu as there is no direct interaction between customers and sellers (Huber et al., 2017). Previous studies identified that financial risk is a key barrier to online shopping as individuals are not comfortable sharing their debit or credit card details with the retailer (Wee and Ramachandra, 2000). Concerning mobile shopping, elderly consumers may feel there is a possible financial loss due to debit or credit card information theft when using mobile grocery shopping services.

Performance risk

Performance risk is, to a greater extent technology-driven (Featherman and Pavlou, 2003) and concerns the likelihood that the product is defective and does not perform in the intended manner (Kleijnen, de Ruyter and Wetzels, 2007). Groß (2016) argued that shoppers are more anxious to use mobile technology if the perceived risks are high. Moreover, shoppers are also more judgemental in evaluating mobile shopping services if the perceived risks are high. Consumers may, therefore, be more susceptible to risks associated with technology, as there is a greater chance that the system might be defective and, therefore, the mobile application is associated with a higher performance risk (Hubert, Blut, Brock, Backhaus and Eberhardt, 2017).

Time risk

As stated previously, time risk is linked to the shopper's concern regarding the time spent researching and buying a product, and the effort to learn how to use it and substituting the product if it does not function as expected (Featherman and Pavlou, 2003). In the context of this study, elderly shoppers may feel they have wasted time learning how to operate a mobile grocery shopping app, make a purchase and then have to replace the product because they are not satisfied with the product. Although mobile shopping offers high levels of convenience to customers, Marriott, and Williams (2018), assert that time risks are still very important to shoppers.

Social risk

Featherman and Pavlou (2003) termed social risk as the likely loss of position in the customer's social crowd caused by accepting a product or service, thus looking ridiculous or not cool. Older consumers are bothered about social standards and approval (Parment, 2013). Amirtha, Sivakumar and Hwang (2021) stated that older consumers are less certain regarding their choices and frequently seek validation from others when buying goods to confirm that their selection of products is acceptable. When individuals are uncertain of the approval of technology by important others, the social risk is considered high (Amirtha et al., 2021). However, Natarajan, Balasubramanian and Kasilingam (2018) argued that elderly consumers might find that only a small number of persons in their social crowd have accepted mobile grocery shopping and as a result, they could experience an absence of social confidence.

Privacy and security risks

Decisions by customers to adopt mobile commerce are influenced by security and privacy concerns, according to Tsu Wei et al. (2009). According to Kolsaker and Payne (2002), security risk includes perceptions of security relating to payment methods and information storage and transmission mechanisms. Privacy risk is defined as the possibility of losing control over private data (Chiu et al., 2014). According to Siau and Shen (2003), one of the primary unfavourable aspects leading to the slow adoption rate of m-commerce is security and privacy risks. According to Gurung and Raja (2016), shoppers' privacy and

security worries escalate their risk perception and remain a key hindrance to the acceptance of online shopping. It is, therefore, important to understand shoppers' privacy and security concerns and their relationship to risk perception. Privacy and security risks are key elements that influence shoppers' behavioural intention to pursue online shopping (Hong and Yi, 2012).

Based on the discussion in this section. The following hypothesis was developed.

H7: Perceived risk negatively influences elderly shoppers' behavioural intention to accept mobile shopping services.

2.4 CONCLUSION

This study has applied the UTAUT2 model to study the factors influencing elderly consumers' behavioural intentions to use mobile shopping services. In addition, the effect of perceived risk as a potential hurdle to using mobile grocery shopping services by elderly shoppers was explored along with the other concepts. The insight from the empirical testing of the conceptual model could provide important understandings to all interested parties in the mobile grocery shopping environment.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter will explain the research methodology to provide information on how the research was performed and how the results were achieved. This information is important when inferring the results of the data analysis or when comparing the study to other studies. There are five main sections in this chapter. The research onion approach, which served as a framework for the study's research methodology and design, is introduced in the first section. The study's population and sampling methods are examined in section two. The third section discusses data collection techniques. Section four will discuss the data analysis plan, including the evaluation of the structural model. Section five will discuss the ethical considerations and conclusion.

3.2 RESEARCH ONION APPROACH

The research onion approach (Figure 3.1) proposed by Saunders, Lewis, and Thornhill (2012) is used in the following subsections to give a systematic framework for conducting the study's research design and methodology. The research onion, according to Bryman (2012), encourages an effective process by which a research approach can be designed. Its usefulness is attributed to its adaptability to almost any research methodology in different contexts (According to Bryman, 2012). Figure 3.1 depicts the six primary layers of the research onion principle: 1) research philosophy; 2) approaches to theory creation; 3) research strategy; 4) methodological choice; 5) time horizons; and 6) methodologies and processes. The next part describes and studies the various layers, beginning with the research philosophy.

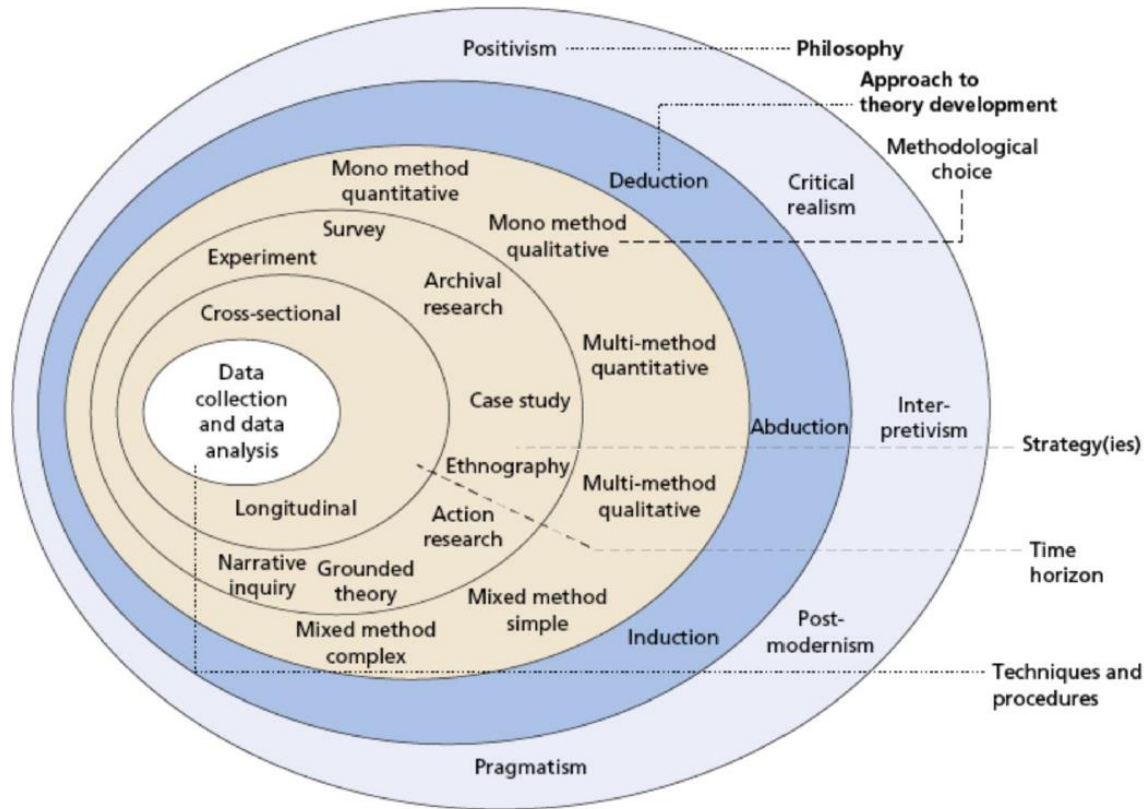


Figure 3.1 Research onion (Saunders et al., 2012)

3.2.1 Research philosophy

Saunders et al. (2016) assert that the first phase in the research process is deciding on the research philosophy. According to Bryman (2011), a research philosophy is a set of beliefs about the essence of the subject that is examined. The assumptions made by a research philosophy validate how the study will be performed (Flick, 2011). The various research philosophies that can be adopted are positivism, critical realism, interpretivism, post-modernism, and pragmatism (Saunders et al., 2012). Previous consumer behaviour studies have adopted positivism and interpretivism philosophical perspectives (Kulatunga, Amaratunga and Haigh, 2007; Saunders et al., 2012).

3.2.1.1 Interpretivism

Saunders et al. (2016) claim that interpretivism is about looking at the specifics of a situation to determine or comprehend the truth hidden behind the specifics. Furthermore,

interpretivism is characterised as being subjective by Saunders et al. (2016). Interpretivism focuses on subjectivism's ontological premise that entities are composed of discourse. Because of this, social constructs like consciousness or language are the only ones that can be used to study socially constructed reality (Saunders et al., 2012).

3.2.1.2 Positivism

On the other hand, positivism supports the belief that real knowledge is gained through inspection and experimentation. Therefore, positivists use scientific approaches to obtain wisdom (Rahi, 2017). Assuming that reality exists apart from the topic under study, positivism holds that events are constant among subjects, according to Newman (1998).

The positivist paradigm, which embraces the philosophical viewpoint of the natural scientist, is used in this study. This is done so that the positivist paradigm, by dealing with obvious social reality, can provide law-like simplifications, like those developed by natural scientists (Remenyi, Williams, Money, and Swartz, 1998). Positivism researchers begin their study by developing hypotheses based on existing theories and past investigations. The following stage is to develop a data gathering research strategy, after which the data is gathered. After the collected data is analysed, the hypotheses are accepted or rejected (Saunders et al. 2019).

The positivist viewpoint is predicated on discovering truths by observing and quantifying reality using quantitative methods. To evaluate assumptions derived from prevalent theories, this study applies positivism to scientifically quantify the factors that affect elderly shoppers' behavioural intention to utilise mobile grocery shopping services. As mentioned previously, positivism uses quantitative methods with large sample sizes; therefore, this study employs a quantitative method and a sample size of 247 respondents.

However, despite researchers' preferences for using one philosophy over the other, there is no fundamentally superior philosophy (Podsakoff, MacKenzie, and Podsakoff, 2012). In a study, the research approach is primarily justified by the chosen philosophy. As a result, the nature of the phenomenon being observed must be considered when developing the methodology.

3.2.2 Approach to theory development

The method for theory development is the second layer of the research onion as one moves from the outside to the inside. The method of thinking to be used in a study is described by the approach to theory development. Building a theory can be accomplished by evaluating prior findings and knowledge acquired from similar studies and understanding related theoretical fields. Deductive or inductive reasoning can be used to create a theory (Saunders et al., 2012). Ketokivi and Mantere (2010) identified a third method of theory development: abductive reasoning. These three approaches will be described briefly.

3.2.2.1 Deductive theory approach

A positivist research philosophy is related to a deductive research approach (Saunders et al., 2016). Researchers who use deductive theory approaches use literature reviews to develop a hypothesis, then empirically (Bryman et al., 2014) test the hypothesis within a specific context for correctness (Greener, 2008). The deductive theory signifies the most general view regarding the relationship between theory and research. The hypothesis will include concepts that need to be studied. The theory and the hypothesis deduced from it serve as the data collection starting point, typically part of a quantitative research approach (Bryman et al., 2014).

The deductive reasoning approach used in this study involves developing a research model based on theories. In this study, the UTAUT2 model and research related to mobile shopping adoption are utilised to develop the conceptual model that was imperially tested.

3.2.2.2 Inductive theory approach

Inductive theory, on the other hand, is a logical procedure that starts with a general premise (Zikmund et al., 2010) based on observations and then deduces additional theories from them (Greener, 2008). Additionally, qualitative research uses an inductive approach more frequently (Bryman and Bell, 2011).

3.2.2.3 Abductive theory approach

Because of its adaptability, the abduction approach can be used by researchers from various research theories. Some argue that most management studies use some type of abduction because pure deduction or induction is impossible to do effectively. An abductive approach combines the deductive and inductive approaches. Conversely, a well-developed abductive approach can be based on pragmatism or postmodernism, but it can also be based on critical realism (Saunders et al. 2019).

3.2.3 Methodological choice

According to Saunders et al. (2019), the third layer of the research onion is the methodological choice for conducting research. The research methodology refers to the overall approach to performing research (Bryman et al., 2014).

Saunders et al. (2019) suggest three options, namely, mono-method, mixed-method, and multi-method research. A study that employs only one approach is called a mono-method. The mixed-method approach incorporates two or more research approaches, and it is most used to combine qualitative and quantitative approaches. Lastly, the multi-method makes use of a wider range of methods.

To further understand why quantitative approaches were chosen for this study, the following section compares and contrasts quantitative and qualitative research.

3.2.3.1 Quantitative research

In order to illuminate a specific occurrence or event, quantitative research gathers data and generalises it over a population (Saunders et al., 2019). Furthermore, a quantitative approach utilises theories, models or hypotheses which are assessed to elucidate the connection of data (Saunders et al., 2019). One of the advantages of quantitative research is its accuracy and ability to attain and analyse huge amounts of numerical data which increases the credibility of the accomplished study. Another benefit of quantitative research is the suitability for analysing and confirming theories about why the events occurred (Johnson and Christensen, 2012).

In order to evaluate the suggested study model and investigate the relationship between the dependent variable - elderly customers' intention to utilise mobile grocery shopping services - and all the separate variables, this study used the quantitative research approach. Quantitative data was collected using questionnaires which were analysed to identify whether the suggested hypotheses should be accepted or rejected.

3.2.3.2 Qualitative research

Malhotra (2007) defines qualitative research as exploratory and typically conducted on smaller samples. Rich data, such as opinions, descriptions, and personal narratives, are important to qualitative research (Malhotra, 2007). Due to the tendency for procedures to change over the course of the research process, qualitative research concentrates on subjective aspects of reality rather than adhering to predetermined processes (Zikmund and Babin, 2010). The theoretical components are also highlighted in qualitative study as actual evidence (Malhotra, 2007). Therefore, qualitative research is primarily concerned with acquiring a better understanding of respondents' perceptions.

3.2.4 Research strategies

The fourth layer of the research onion principle is research strategy. Some of the strategies proposed by Saunders et al (2019) are action research, experimental research, interviews, surveys, case study research, or a comprehensive literature review. Focus groups, personal interviews, photos, video diaries, or observations of events or behaviour are used to collect narrative or visual data in exploratory research, which is a qualitative data set. Small sample sizes or case studies are common in these types of studies. Descriptive or causal research requires large quantitative data that must be collected through surveys or electronic databases, as opposed to the small samples employed in qualitative research (Hair et al., 2020). The research strategy is determined by the data needed for the study and its objective.

Since the study was quantitative in nature, the best way to acquire numerical data was to deliver self-completion questionnaires electronically and in hard copy to elderly customers living in retirement homes.

3.2.4.1 Questionnaire design and structure

A self-completion questionnaire was designed and structured according to the conceptual model suggested in Chapter 2. A self-completion questionnaire is a structured instrument used to collect data from respondents, according to Hair et al. (2020). A self-completion questionnaire is a scientifically developed tool for evaluating important features of businesses, events, individuals, and other phenomena. When conducting a questionnaire-based study, several related tasks must be considered: overall design, questionnaire validation, and questionnaire administration method. A questionnaire is made up of a sequence of open-ended and/or closed-ended questions, the answers to which are typically limited to a few predetermined, mutually exclusive, and exhaustive possibilities. While exhaustive refers to all possible answers having a response category, mutually exclusive means that each answer has a distinct response category. The questionnaire's format is described in more detail in section 3.2.4.3.

3.2.4.2 Measurement scales

A vertical or horizontal Likert scale is widely used in questionnaires as a measurement instrument to determine respondents' attitudes and opinions. On a Likert scale, the degree of agreement or disagreement with a statement is expressed using a five- or seven-point scale. Each point on the scale has a label that describes how strongly the respondent felt at that level. It is also possible to employ other numerical and non-numerical scales (Hair et al., 2020; Bryman et al., 2014). Various scales are increasingly being employed to increase measurement variability and accuracy (Hair et al., 2020). The category labels of scales and the number of scales are important.

The study used a self-completion questionnaire with open-ended questions in the beginning to ask screening and background questions. Then the questionnaire used close-ended questions to establish the respondents' beliefs about mobile grocery shopping services according to a horizontal Likert scale. Approximately 20 minutes were needed for completion of the questionnaire.

3.2.4.3 Number of categories and questions

The self-completion questionnaire was designed and structured according to the conceptual model suggested in Chapter 2. The research followed the conceptual model's order and used a seven-point vertical Likert scale to provide numerical category labels, as shown below:

1 = strongly disagree | 2 = somewhat disagree | 3 = disagree | 4 = neutral | 5 = agree | 6 = somewhat agree | 7 = strongly agree

The categories, code, related measurement items, and sources from the literature review are now presented in table format:

Table 3.1 Construct: Performance expectancy (PE)

Code	Measurement item	Source
PE1	Mobile grocery shopping services would enable me to buy groceries faster	Venkatesh et al. (2012)
PE2	Mobile grocery shopping services would enhance my effectiveness in buying groceries	
PE3	Mobile grocery shopping services would make it easier to buy groceries	
PE4	Mobile grocery shopping services would increase my productivity in buying groceries	
PE5	Mobile grocery shopping services would be useful for purchasing groceries	

Table 3.2 Construct: Effort expectancy (EE)

Code	Measurement item	Source
EE1	Learning how to use mobile grocery shopping services would be easy for me	Venkatesh et al. (2012)
EE2	My interaction with mobile grocery shopping services is clear and understandable	
EE3	I would find mobile grocery shopping services easy to use	
EE4	It would be easy for me to become skillful at using mobile grocery shopping services	

Table 3.3 Construct: Social influence (SI)

Code	Measurement item	Source
SI1	People who are important to me think that I should use mobile grocery shopping services	Venkatesh et al. (2012)
SI2	People who influence my behaviour think that I should use mobile grocery shopping services	
SI3	People whose opinions I value prefer that I use mobile grocery shopping services	
SI4	People around me consider it appropriate to use mobile grocery shopping services	

Table 3.4 Construct: Price value (PV)

Code	Measurement item	Source
PV1	Using a mobile grocery shopping service is worth the order delivery costs	Venkatesh et al. (2012)
PV2	The order delivery cost of mobile grocery shopping services is reasonable	
PV3	At the current delivery cost, mobile grocery shopping services provide good value.	

Table 3.5 Construct: Hedonic motivation (HM)

Code	Measurement item	Source
HM1	Using a mobile grocery shopping service would be fun	Venkatesh et al. (2012)
HM2	Using a mobile grocery shopping service would be enjoyable	
HM3	Using a mobile grocery shopping service would be very entertaining	

Table 3.6 Construct: Habit (HAB)

Code	Measurement item	Source
HAB1	Using mobile shopping services has become a habit for me	Venkatesh et al. (2012)
HAB2	I am addicted to using mobile shopping services	
HAB3	I must use mobile shopping services	
HAB4	Using mobile shopping services has become natural to me	

Table 3.7 Construct: Perceived risk (PR)

Code	Measurement item	Source
PR1	Mobile grocery shopping services may not perform well and process payments incorrectly	Featherman and Pavlou (2003)
PR2	Using mobile grocery shopping services would add great uncertainty to payments	
PR3	The security systems built into the mobile grocery shopping services are not strong enough to protect my account with the retailer.	
PR4	Internet hackers (criminals) might take control of my account if I used a mobile grocery shopping service	
PR5	My decision to use mobile grocery shopping services for shopping involves a higher risk	

Table 3.8 Construct: Behavioural intention (BI)

Code	Measurement item	Source
BI1	I will use mobile grocery shopping services	Venkatesh et al. (2012)
BI2	If I had the chance, I intend to use mobile grocery shopping services	
BI3	I intend to use mobile grocery shopping services frequently	

3.2.5 Time horizon

The fifth layer of the research onion is the time horizon. The time horizon refers to the estimated completion date of the project (Saunders et al., 2016). Time horizons in research are classed into two types, according to Bryman (2012) and Goddard and Melville (2004): longitudinal and cross-sectional. When conducting research on a specific phenomenon at a specific time, the cross-sectional time horizon is used. In contrast, longitudinal data describes observations for a single variable across a lengthy period, such as several years, quarters, months, or days (Saunders et al., 2019). According to Malhotra (2010), cross-sectional time horizons are preferable in research because longitudinal time horizons are more vulnerable to potential sample errors. This research used a cross-sectional time horizon because the questionnaires were

disseminated amongst the elderly by the managers of the retirement villages. The managers had to collect the completed questionnaires afterward.

3.3 DATA COLLECTION, ANALYSIS TECHNIQUES AND PROCEDURES

3.3.1 Target population and sampling frame

The target population is the complete collection of units relevant to the study. They are significant since they contain the information the research investigation needs (Hair et al., 2020). To select suitable data collection sources, the target population must be sufficiently specified at the beginning of the sampling procedure. It is standard practice to provide answers to questions about the population's main features to identify the target population (Zikmund et al., 2010) or sampling frame (Hair et al., 2020). A sampling frame, according to Hair et al. (2020), is a detailed list of all the units from which the sample is obtained.

The target population of this study was elderly consumers in the age group 65 years and older living in retirement villages in South Africa. The following requirements had to be met in order for older customers to take part in the study:

- Be retired.
- Own a smartphone.
- Purchase groceries from Checkers, Pick and Pay or Woolworths.
- Not used the mobile app of Checkers, Pick and Pay and Woolworths to purchase groceries.

3.3.2 The sampling technique

According to Latham (2014), sampling is the process of choosing the target population for data collection. Since it would be expensive to target the entire population, only a sample would be practical (Penman, 2013). The sample consists of a tiny number of items chosen from a larger set of items. A researcher believes that the data acquired from the tiny group will allow for reliable assessments of the larger group. Deploying either a probability or a non-probability sampling strategy is a step to restrict bias to the absolute minimum (Bryman et al., 2014).

3.3.2.1 Probability sampling techniques

Since probability sampling enables researchers to extrapolate results from a sample to the entire population, it is important in social survey research (Bryman et al., 2014). All probability sampling techniques are based on chance or random selection mechanisms, offering each population member a known chance of being selected (Zikmund et al., 2010). Probability sampling reduces sampling error and presents a sample that denotes the overall population.

3.3.2.2 Non-probability sampling techniques

Since random selection is not used in non-probability sampling, some population units have a higher likelihood of being chosen than others (Greener, 2008). Convenience sampling, snowball sampling, and quota sampling are examples of non-probability sampling procedures (Bryman et al., 2014). There are no statistical methods for calculating sampling error for a non-probability sample. Consequently, the researcher cannot generalize the results with confidence to the target population, though utilising the non-probability sampling technique is not ruled out. Convenience sampling involves assembling individuals wherever they can be located, which is usually wherever it is convenient. This method can be used in business research to collect early primary data on certain themes, such as how consumers view a specific brand or how prospective purchasers evaluate a new product design.

Purposive sampling was used in the study, and the sampling was non-probability. The goal of purposive sampling was to test participants tactically to confirm that they were pertinent to the research questions (Bryman, Bell, Hirschsohn, Dos Santos, Du Toit, Masenge, Van Aardt and Wagner, 2011). Not all retirement villages were targeted for the dissemination of the self-completion questionnaires, therefore, not all elderly persons had an equal chance to participate. A convenience sampling strategy (non-probability sampling) was applicable. Convenience sampling enabled the principal investigator to access the population due to its availability (Bryman et al., 2014).

3.3.2.3 Sample size

The sampling size is often limited by time and money. However, in probability sampling, the sample size is very important. Because the larger the sample, the more representative it is (Bryman et al., 2014).

The sample size of the study was 247 elderly consumers residing in retirement homes in South Africa. To ensure that the respondents could relate to the topic, they had to be involved in the purchasing of groceries in their households.

The next section discusses this study's data collection procedures.

3.4 DATA COLLECTION

Data gathering and analysis make up the last layer of the research onion (Saunders et al., 2019). The two methods to collect data are through self-completion questionnaires, which follow a quantitative method, and structured interviews, which follow a qualitative method.

3.4.1 Disseminating of questionnaires

The study endeavours to identify the factors that influence the adoption of mobile grocery shopping by elderly consumers. Because the research design was quantitative, data was collected in a structured approach using a self-completion questionnaire (Bryman and Bell, 2014). Likert-type questionnaires were given to the managers of retirement villages in Bloemfontein and Johannesburg to disseminate amongst the residents willing to participate in the study. Management collected the completed questionnaires from the respondents on an agreed date afterward. This ensured that potential respondents are reached and allowed respondents ease of access to the questionnaires. Permission had been obtained from the retirement homes' management to ensure that this research carries their approval.

Elderly consumers residing in retirement homes received an information leaflet explaining the purpose of the study. The information leaflet emphasised that taking part in the research was voluntary. Before the study began, all participants had to sign the informed

consent form. The first section of the questionnaire gathered elementary demographic information to allow a synopsis of the respondents. In the next section of the questionnaire, respondents specified their agreement with the statements regarding the adoption of mobile grocery shopping. The survey had a total of 247 participants.

Following data collection, the gathered information is analysed for use in decision-making by practitioners and by academics to accomplish the objectives of their research.

3.5 DATA ANALYSIS PLAN

The static SmartPLS version 4.0 software package was used to test the conceptual model's hypotheses. SmartPLS is a variance-based structural equation modeling tool. This statistical software program considers the entire variance of the indicators and uses it to estimate parameters in the structural model (Hair et al., 2019). PLS-SEM is a unique method for analysing composite-based path models (Hair et al., 2019). Nonetheless, the usage of PLS-SEM in this research was based on the advice by Hair et al., (2019).

According to Hair et al. (2019), PLS-SEM results are assessed in two stages. Stage one evaluates the results of the measurement model, whereas stage two evaluates the results of the structural model. The measuring model in this study is reflective since the variables exist independently of the items and are not a combination of the items (Coltman, Devinney, Midgley, and Venaik, 2008). Item reliability, internal consistency reliability, convergent validity, and discriminant validity were utilized to evaluate the conceptual model's reflective measurement model, as Hair et al. recommended (2019).

3.5.1 Item reliability

Outer loadings higher than 0.708 and statistically significant are indicators of item reliability (Hair et al., 2017). Generally, outer loadings should be higher than 0.708. This rule is justified by the fact that an outer loading of higher than 0.708 shows that the construct accounts for more than 50% of the variation in the item. Hulland (1999) asserts that outer loadings in a measurement model are typically found to be at most 0.708. Items with outer loadings of at least 0.4, according to Hair et al. (2017), can be kept in the

measurement model if they do not jeopardize the construct measure's internal consistency, reliability, and convergent validity.

3.5.2 Internal consistency reliability

Cronbach's Alpha and the composite reliability (CR) index are used to assess the internal consistency reliability of a construct measure. The reliability values should ideally be 0.7 and higher. According to Hair et al. (2019), a scale's true reliability lies between the scale's Cronbach's Alpha and CR values. Since the items are unweighted, Cronbach's Alpha value is conservative. The items are weighted in the CR value calculation based on the individual loadings of the construct items, which results in an overly generous estimate of reliability.

3.5.3 Convergent validity

According to Hair et al. (2019), convergent validity refers to how well the construct converges to account for the variance of the items. The average variance extracted (AVE) for each construct's items can be used to assess a construct's convergent validity. A construct measure's AVE must be higher than 0.5.

3.5.4 Discriminant validity

Discriminant validity is assessed to determine how much each construct differs empirically from the others in the conceptual model. The heterotrait-monotrait correlation ratio was used in this study to assess discriminant validity. A ratio of 0.85 or less suggests discriminant validity.

3.6 EVALUATION OF THE STRUCTURAL MODEL

After determining that the measurement model was satisfactory, the PLS-SEM results were used to evaluate the structural model. The following PLS-SEM results were used to evaluate the structural model, according to Hair et al. (2019).

3.6.1 Variance inflation factor (VIF)

A VIF of 3.0 or less implies that the correlation between an independent variable and the dependent variable is not biasing the results.

3.6.2 R^2 of endogenous constructs

The R^2 shows the in-sample predictive accuracy of the independent variables influencing a dependent variable. R^2 values range from 0 to 1. Values that are nearer to 1 show greater in-sample predictive accuracy. R^2 values of 0.75, 0.50, and 0.25 are respectively considered substantial, moderate, and weak in-sample predictive power. R^2 values of 0.75, 0.50, and 0.25 are regarded as having substantial, moderate, and weak in-sample predictive power, respectively.

3.6.3 Path coefficients and p-values

The range of a path coefficient is from -1 to +1. A positive path coefficient denotes a positive relationship between the independent and dependent variables, whereas a negative path coefficient denotes a negative relationship. In PLS-SEM, bootstrapping is employed to determine the relationship's t-statistic, p-value (two-tailed), and confidence interval. The bootstrap method employed in this research was the percentile bootstrapping procedure, with a bootstrap confidence interval of 95% and the usage of 5,000 subsamples (Hair Jr et al., 2017). The statistical significance of path coefficients was assessed at $\alpha = 0.05$ (two-tailed).

3.7 ETHICAL CONSIDERATIONS

Wilson (2014) contends that it is the moral responsibility of the researcher to conduct accurate and truthful research. To sustain ethical research practices and resolve ethical concerns, an ethics policy must be adhered to and put into action. According to Ansah (2016), ethics are moral standards (values) of conduct that should be upheld by professionals or groups and that have a significant impact on the manner in which a researcher carries out research tasks. The objective of ethical clearance is to ensure that

the researcher does not engage in unethical behaviour during the study that could inadvertently or intentionally hurt any party involved in the process. As a result, the researcher acquired ethical clearance to conduct the research ethically. In order to confirm that this study applied for and adhered to all conditions for ethical clearance to be obtained, the university issued the ethics clearance number UFS-HSD2022/1113/22.

3.8 CONCLUSION

Chapter 3 explained the research theory, research design, research methodology, sampling approach, research strategy, data collection, data analysis plan, assessment of the structural model, and ethical considerations needed to meet the primary objective of the intended study. Chapter 4 will highlight the findings from the data gathered.

CHAPTER 4

DATA ANALYSIS AND INTERPRETATION

4.1 INTRODUCTION

The current chapter (Chapter 4) presents the empirical findings gleaned from the data-gathering procedure to accomplish the study's main objectives. A total number of 247 elderly respondents completed a self-administered questionnaire that yielded the results. There are three (3) main sections in this chapter. Descriptive statistics data are presented in Section A, measurement model validity and reliability results are presented in Section B, and hypothesis testing results are reported in Section C. The chapter's conclusion is then provided.

4.2 SECTION A: DESCRIPTIVE RESULTS

The survey's demographic data, including the age, gender, and disposable income of mobile grocery customers, were reported using descriptive analysis. Section A goes into more detail about the descriptive results.

A description of the respondent demographic information opens the next subsection.

4.2.1 Empirical sample results

The demographic data of the respondents was gathered in Section A of the questionnaire and covered their gender, age, ethnicity, disposable income, number of shopping trips, and average spending per trip. Malhotra (2007) and Hair et al. (2017) explain that demographic information, also known as the classification of information, uncovers the socio-economic features of survey respondents (Maziriri, 2018). In the following subsections, the respondent demographics are reported using visual aids to accompany the arguments that are offered. The justification for this is based on the argument put forth by Hair et al. (2017), who believe that descriptive data is frequently displayed on graphs, tables, and charts (such pie, line, and bar charts) for easier assessment.

4.2.2 Gender

4.2.2 Gender

The respondents' gender breakdown is seen in Figure 4.1. The findings indicate that 57% of the respondents were female and 43% were male. The sample had somewhat more females than males.

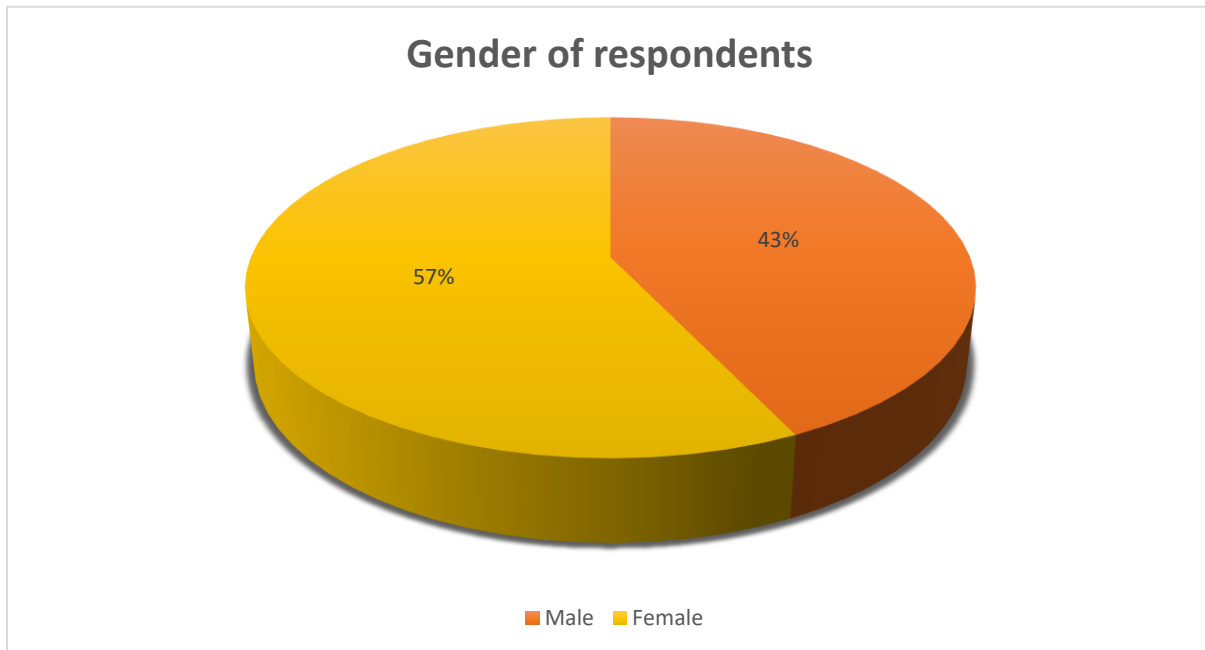


Figure 4.1: Respondents' gender distribution

Source: Developed by the researcher (2023)

4.2.3 Age

Figure 4.2 shows the age distribution of the respondents. The research focuses on elderly consumers aged 65 years and older. The pie chart shows that 57,1% of respondents are aged 65 to 70, 23,1% are aged 71 to 75, and 19,8% are aged 76 or older. This age distribution reflects a good variance of the respondents' ages.

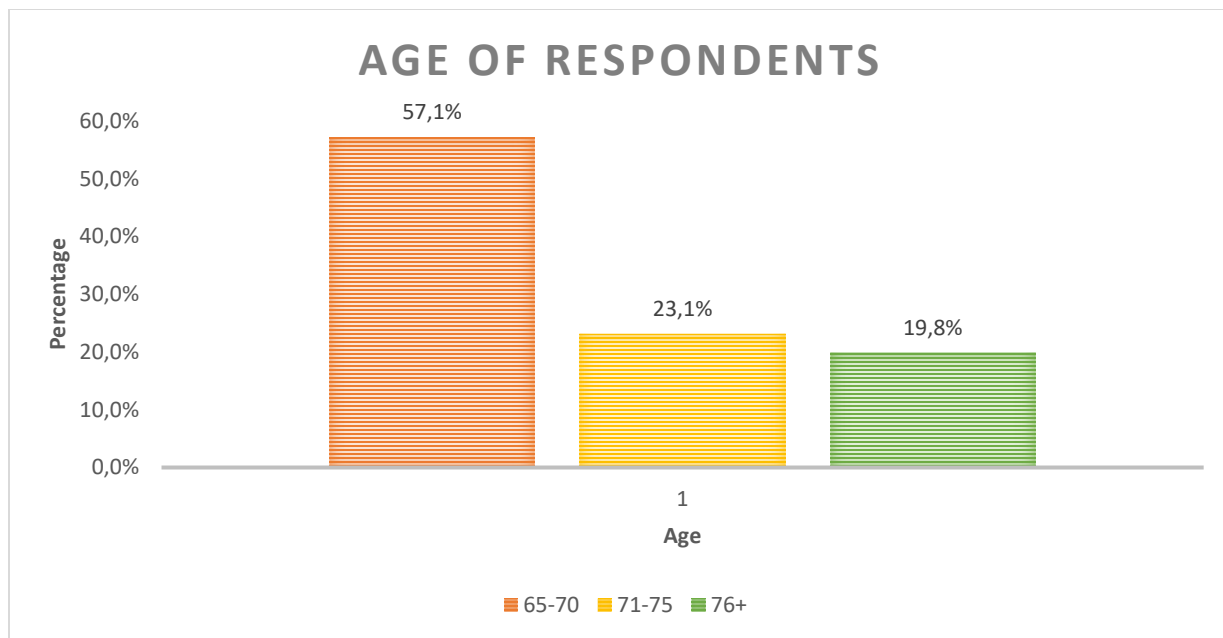


Figure 4.2: Age characteristics

Source: Developed by the researcher (2023)

4.2.4 Ethnicity

The respondents' ethnicity breakdown is reported in Table 4.1. The results indicate that 63% of respondents were White, 28% were Coloured, 7% were Black, and 2% were Indian. 0.4% of users preferred not to indicate their ethnicity. The ethnicity distribution shows that there is a variance in the different ethnic groups of the elderly respondents.

Table 4.1: Ethnicity

Ethnicity	n	%
White	156	63.2%
Coloured	69	27.9%
Black	16	6.5%
Indian	5	2.0%
Prefer not to say	1	0.4%

Total	247	100%
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Source: Developed by the researcher (2023)

4.2.5 Disposable income

Table 4.2 indicates the disposable income of respondents. According to the sample's results, 22.7% of the respondents had disposable income of less than R10 000 per month. Furthermore, 32.4% said their disposable income ranged from R10 001 to R15 000, while 22.3% said their spendable income ranged from R15 001 to R20 000 monthly. Among the sample of 247, 5.6% of respondents said that their monthly disposable income ranged from R20 001 to R25 000. Respondents with spendable incomes of R25 001 and more were next, making up 6.1% of the respondents. The remaining respondents (10.9%) preferred not to state their monthly disposable income. The income distribution shows a variance in the disposable income of the respondents.

Table 4.2: Disposable income

Respondents' disposable income	n	%
R10 000 or less	56	22.7%
R10 001 – R15 000	80	32.4%
R15 001 – R20 000	55	22.3%
R20 001 – R25 000	14	5.6%
R25 001 or more	15	6.1%
Prefer not to say	27	10.9%
Total	247	100%

Source: Developed by the researcher (2023)

4.2.6 Number of shopping trips

Figure 4.3 summarises the number of monthly shopping trips the respondents undertook. The findings show that 19.8% of respondents buy groceries once a month, while most respondents (40.5%) indicated that they do shopping twice per month. About 8% of respondents make shopping trips three times a month and 29.6% do shopping four times per month. Only about 2% of respondents indicated that they undertake more than 4 shopping trips per month. The shopping trips distribution reflects a variance in the number of shopping trips by elderly shoppers.



Figure 4.3: Number of shopping trips per month

Source: Developed by the researcher (2023)

4.2.7 Average spend per trip

Table 4.3 below indicates that 10.9% of respondents spend less than R500 during a typical shopping trip. Most respondents (37.7%) spend R501 to R1 000 per trip. Respondents that spent R1 001 to R1 500 per trip made up 32.8%, while 18.6% said that they spent R1 501 or more per trip. This distribution shows a variance in the average spend per trip by elderly consumers.

Table 4.3: Average spend per trip

Average spend per trip	n	%
R500 or less	27	10.9%
R501 – R1 000	93	37.7%
R1 001 – R1 500	81	32.8%
R1 501 or more	46	18.6%
Total	247	100%

Source: Developed by the researcher (2023)

4.3 SECTION B: ASSESSMENT OF THE MEASUREMENT MODEL

The measurement model's results were examined to determine if the measurements met the requirements of construct validity. Table 4.4 displays the results of the internal consistency reliability and convergent validity. Cronbach's Alpha and CR values for each construct exceeded 0.7. Moreover, only one outer loading was less than 0.7, and all outer loadings were statistically significant. The AVE for each construct was more than the threshold of 0.5. The one item with an outer loading of less than 0.7 was kept in the measurement model because the outer loading of less than 0.7 did not jeopardise the constructs' reliability and convergent validity. According to Table 4.4's results, the

measurement model's reliability and convergent validity were sufficient to move forward with the evaluation of the measurement model for discriminant validity.

Table 4.4: Results of the measurement model

Item	Outer loading	p-value (two-tailed)	Cronbach's alpha	CR	AVE
EE1	0.936	0.000	0.953	0.966	0.877
EE2	0.892	0.000			
EE3	0.958	0.000			
EE4	0.959	0.000			
HM1	0.983	0.000	0.983	0.989	0.967
HM2	0.990	0.000			
HM3	0.977	0.000			
HAB1	0.928	0.000	0.878	0.916	0.734
HAB2	0.691	0.000			
HAB3	0.844	0.000			
HAB4	0.941	0.000			
I1	0.972	0.000	0.969	0.980	0.942
I2	0.980	0.000			
I3	0.960	0.000			
PV1	0.919	0.000	0.946	0.965	0.902
PV2	0.964	0.000			
PV3	0.965	0.000			
PE1	0.902	0.000	0.931	0.948	0.785
PE2	0.904	0.000			
PE3	0.916	0.000			
PE4	0.894	0.000			
PE5	0.811	0.000			
PR1	0.894	0.000	0.923	0.943	0.769
PR2	0.924	0.000			
PR3	0.910	0.000			
PR4	0.715	0.000			
PR5	0.924	0.000			
SN1	0.931	0.000	0.947	0.962	0.863
SN2	0.937	0.000			
SN3	0.957	0.000			
SN4	0.889	0.000			

Where: *EE* = Effort expectancy, *HM* = Hedonic motivation, *HAB* = Habit, *I* = Intention to use, *PV* = Price value, *PE* = Performance expectancy, *PR* = Perceived risk, and *SN* = Social norm.

Source: Developed by the researcher (2023)

Table 4.5 summarises the HTMT ratios of correlations for the measurement model. All ratios were lower than 0.85, which signifies that the measurement model fulfilled the discriminant validity requirement, allowing further testing of the hypotheses.

Table 4.5: Discriminant validity

	EE	HM	HAB	I	PE	PR
HM	0.757					
HAB	0.650	0.633				
I	0.792	0.780	0.682			
PE	0.526	0.659	0.515	0.597		
PR	0.813	0.684	0.705	0.815	0.484	
PV	0.586	0.591	0.590	0.710	0.483	0.655
SN	0.587	0.630	0.593	0.690	0.522	0.563

Where: *EE* = Effort expectancy, *HM* = Hedonic motivation, *HAB* = Habit, *I* = Intention to use, *PV* = Price value, *PE* = Performance expectancy, *PR* = Perceived risk, and *SN* = Social norm.

Source: Developed by the researcher (2023)

4.3.1 Results of the assessment of the inner model

After determining that the measurement model was adequate, the PLS-SEM findings were used to evaluate the structural model. The inner model was first examined by looking at the variance inflation factors (VIFs). The VIF should be ideally close to 3.0 and lower. Table 4.6 lists the VIFs for the model's independent variables. The influence of effort expectancy when making purchases using a mobile shopping app had the highest VIF (3.166), which was close to 3.0. Therefore, it was determined that collinearity did not jeopardise the study's results.

Table 4.6: Variance Inflation Factor values (VIFs)

Factor	VIF
EE	3.166
HM	3.023
HAB	2.075
I	
PE	1.755
PR	3.032
PV	1.914
SN	1.858

Where: EE = Effort expectancy, HM = Hedonic motivation, HAB = Habit, I = Intention to use, PV = Price value, PE = Performance expectancy, PR = Perceived risk, and SN = Social norm.

Source: Developed by the researcher (2023)

The independent variables explained 77.5% of the variance in intention to use mobile shopping services to purchase groceries ($R^2 = 0.775$). As a result, the conceptual model demonstrated substantial predictive accuracy of the dependent variable.

Table 4.7: Path coefficient

Relationship	Path coefficient	p-value (two-tailed)	2.5%	97.5%	Hypothesis decision
EE -> I	0.159	0.015	0.029	0.287	Accepted
HM -> I	0.208	0.001	0.087	0.325	Accepted
HAB -> I	0.041	0.257	-0.031	0.110	Rejected
PE -> I	0.055	0.197	-0.026	0.142	Rejected
PR -> I	-0.283	0.000	-0.406	-0.169	Accepted
PV -> I	0.164	0.000	0.076	0.247	Accepted
SN -> I	0.159	0.001	0.065	0.251	Accepted

Where: EE = Effort expectancy, HM = Hedonic motivation, HAB = Habit, I = Intention to use, PV = Price value, PE = Performance expectancy, PR = Perceived risk, and SN = Social norm.

Source: Developed by the researcher (2023)

Perceived risk negatively influenced elderly shoppers' intention to use mobile grocery shopping services ($\beta = -0.283$; $p = 0.000$ (two-tailed)). The negative influence of perceived risk was also the most substantial influence by an independent variable.

Hedonic motivation had the strongest positive influence on elderly shoppers' intention to use mobile grocery shopping services ($\beta = 0.208$; $p = 0.001$ (two-tailed)). This was followed by price value positively influencing intention ($\beta = 0.164$; $p = 0.000$ (two-tailed)). In third place was the positive influence of subjective norm ($\beta = 0.159$; $p = 0.001$ (two-tailed)). Last was the positive influence of effort expectancy ($\beta = 0.159$; $p = 0.015$ (two-tailed)). The habit of doing mobile shopping did not influence elderly shoppers' intention to use mobile shopping services ($p = 0.257$ (two-tailed)). Performance expectancy also did not influence behavioural intention ($p = 0.197$ (two-tailed)).

4.4 SECTION C: HYPOTHESES RESULTS

In Table 4.8 the results discussed above are used to accept or reject the hypotheses developed in Chapter 2. As shown in Table 4.8, only H1 and H6 were not supported by the data (rejected).

Table 4.8: Summary of direct effects hypotheses testing for intention to use mobile grocery shopping services

Hypothesis	Path coefficient	p-value (two-tailed)	2.5%	97.5%	Hypothesis decision
H2: Effort expectancy positively influences elderly consumers' intention toward using mobile grocery shopping services	0.159	0.015	0.029	0.287	Accepted
H5: Hedonic motivation positively influences elderly consumers' intention toward using mobile grocery shopping services	0.208	0.001	0.087	0.325	Accepted

H6: Habit positively influences elderly consumers' intention toward using mobile grocery shopping services	0.041	0.257	-0.031	0.110	Rejected
H1: Performance expectancy positively influences elderly consumers' intention toward using mobile grocery shopping services	0.055	0.197	-0.026	0.142	Rejected
H7: Perceived risk negatively influences elderly consumers' intention to adopt mobile grocery shopping services	-0.283	0.000	-0.406	-0.169	Accepted
H4: Price value positively influences elderly consumers' intention towards using mobile grocery shopping services	0.164	0.000	0.076	0.247	Accepted
H3: Social influence positively affects elderly shoppers' intention to operate mobile grocery shopping services	0.159	0.001	0.065	0.251	Accepted

Where: *EE* = Effort expectancy, *HM* = Hedonic motivation, *HAB* = Habit, *I* = Intention to use, *PV* = Price value, *PE* = Performance expectancy, *PR* = Perceived risk, and *SN* = Social norm.

Source: Developed by the researcher (2023)

4.5 CONCLUSION

In this chapter, the collected data were analysed to test the conceptual model developed in Chapter 2. The results of the hypothesis testing showed that hedonic motivation, price value, subjective norm, and effort expectancy perceptions enhance elderly customers'

behavioural intention to adopt mobile grocery shopping services. Conversely, risk perceptions reduce elderly shoppers' intention to use mobile shopping services for grocery purchases.

The next chapter will conclude the study by presenting the main findings, conclusions and recommendations emanating from the hypothesis testing. Additionally, theoretical, and managerial implications will be identified.

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

Through a review of the literature, this study sought to identify the factors that influence elderly shoppers' intentions to use mobile shopping services to buy groceries. It then used an empirical study to investigate the relationship between the identified constructs and the behavioural intentions to use. The results of the empirical study provide insight into the factors that influence elderly consumers' intention to use mobile grocery shopping services, as identified in the literature.

The purpose of this chapter is threefold: (1) to report the findings from the empirical study, (2) to draw conclusions about these facts, and (3), to offer recommendations to managers and marketers regarding the factors that influence the behavioural intention of elderly consumers to use mobile grocery shopping services. Finally, this chapter will end by outlining prospective directions for further investigation into the study's main subject.

5.2 FINDINGS AND CONCLUSIONS

In this section, the study's key findings will be reviewed, and relevant conclusions will be presented.

5.2.1 Performance expectancy influences elderly consumers' intention toward using mobile grocery shopping services (H1)

Finding: The p-value (two-tailed) of the path coefficient between performance expectancy and behavioural intention was 0.197, which is greater than 0.05, showing no statistically significant relationship between performance expectancy and behavioural intention of older customers to purchase groceries using mobile shopping services. Consequently, performance expectancy did not affect older shoppers' intentions to use mobile shopping services to buy groceries. These results provide evidence to reject H1.

Conclusion: Performance expectancy does not enhance elderly consumers' intention to use mobile shopping services.

5.2.2 Effort expectancy influences elderly consumers' intention toward using mobile grocery shopping services (H2)

Finding: The p-value (two-tailed) of the path coefficient between effort expectancy and behavioural intention was 0.015, which is less than 0.05, showing that there is a statistically significant relationship between effort expectancy and behavioural intention of older shoppers to purchase groceries using mobile shopping services. The results show that effort expectancy positively influenced behavioural intention ($\beta = 0.159$). These results provide evidence to accept H2.

Conclusion: The empirical finding confirms that effort expectancy has a positive influence on elderly shoppers' behavioural intention to use mobile shopping services to buy groceries.

5.2.3 Social influence affects elderly shoppers' intention to operate mobile grocery shopping services (H3)

Finding: The p-value (two-tailed) of the path coefficient loading between social influence and behavioural intention was 0.001, which is less than 0.05, showing that there is a statistically significant relationship between social influence and the behavioural intention of elderly customers to purchase groceries using mobile shopping services. The results further show that social influence positively influenced behavioural intention ($\beta = 0.159$). These results provide evidence to accept H3.

Conclusion: The empirical finding confirms that social influence has a positive influence on elderly shoppers' behavioural intention to use mobile shopping services to buy groceries.

5.2.4 Price value positively influences elderly consumers' attitude towards using mobile grocery shopping services (H4)

Finding: The p-value (two-tailed) of the path coefficient between price value and behavioural intention was 0.000, which is less than 0.05, showing that there is a statistically significant relationship between price value and the intention of elderly shoppers to purchase groceries

using mobile shopping services. The results show that price value positively influenced behavioural intention ($\beta = 0.164$). These results provide evidence to accept H4.

Conclusion: The empirical finding confirms that price value has a positive influence on elderly shoppers' behavioural intention to use mobile shopping services to buy groceries.

5.2.5 Hedonic motivation positively influences elderly consumers' attitudes towards using mobile grocery shopping services (H5)

Finding: The p-value (two-tailed) of the path coefficient between hedonic motivation and behavioural intention was 0.001, which is less than 0.05, showing that there is a statistically significant relationship between hedonic motivation and elderly shoppers' behavioural intention to purchase groceries using mobile shopping services. The results show that hedonic motivation positively influenced behavioural intention ($\beta = 0.208$) These results provide evidence to accept H5.

Conclusion: The empirical finding confirms that hedonic motivation has a positive influence on elderly shoppers' behavioural intention to use mobile shopping services to purchase groceries.

5.2.6 Mobile shopping habit positively influences elderly consumers' attitude toward using mobile grocery shopping services (H6)

Finding: The p-value (two-tailed) of the path coefficient between habit and behavioural intention was 0.257, which is greater than 0.05, showing no statistically significant relationship between habit and the behavioural intention of older customers to purchase groceries using mobile shopping services. Consequently, the habit of conducting mobile shopping did not affect elderly shoppers' intentions to use mobile shopping services to buy groceries. These results provide evidence to reject H6.

Conclusion: The habit of conducting mobile shopping did not enhance elderly consumers' intention to use mobile shopping services.

5.2.7 Perceived risk negatively influences elderly consumers' behavioural intention to adopt mobile grocery shopping services (H7)

Finding: The p-value (two-tailed) of the path coefficient between perceived risk and behavioural intention was 0.000, which is less than 0.05, showing that there is a statistically significant relationship between perceived risk and elderly shoppers' behavioural intention to purchase groceries using mobile shopping services. The results show that perceived risk negatively influenced behavioural intention to use mobile shopping services to buy groceries ($\beta = -0.283$). These results provide evidence to accept H7.

Conclusion: The empirical finding confirms that perceived risk has a negative influence on elderly shoppers' behavioural intention to use mobile shopping services to purchase groceries.

5.3 THEORETICAL CONTRIBUTION

As previously stated, most studies investigating mobile shopping adoption focused on the young adult market and did not investigate mobile buying patterns among elderly customers. Research is required to identify what factors are influencing the behavioural intention of older consumers to use mobile shopping services for purchasing groceries. This research provides insight into the factors that influence elderly shoppers' intention to adopt mobile grocery shopping services.

The UTAUT2 model formed the foundation for this study and directed the researcher. In prior research it was noted that the UTAUT model is superior to other technology adoption models, making it appropriate for researchers to study the factors influencing technological acceptance (Venkatesh et al., 2003). This is the first study that investigated mobile grocery shopping app adoption by elderly consumers using the UTAUT2 and extending it with risk perceptions. The modified UTAUT2 model provided substantial in-sample predictive accuracy, justifying the use of the UTAUT2 in the study.

Contrary to expected results, risk perceptions influenced adoption intention more strongly than the fundamental UTAUT2 factors, such as effort and performance expectancy. The finding regarding risk perceptions is important for other researchers investigating mobile

grocery shopping app adoption by elderly consumers or their adoption of other mobile services.

Interestingly, performance expectancy did not influence the respondents' behavioural intention to use mobile grocery shopping services. Based on previous research, it was expected that elderly consumers would prioritise the usefulness of technology in deciding to use it or not. This finding could indicate the changing needs of elderly consumers as they are potentially more experienced in using mobile services than previous generations

5.4 MANAGERIAL IMPLICATIONS

The overall managerial contribution is that the study provides insights to managers and marketers regarding the factors that motivate elderly shoppers to adopt mobile grocery shopping. These insights could enhance the success of mobile grocery shopping services. Five recommendations are made in this section to encourage elderly shoppers to use mobile grocery shopping services.

Recommendation 1: According to the study's findings, hedonic motivation (enjoyment and playfulness) had the strongest positive influence on elderly shoppers' intention to use mobile shopping services to buy groceries. The pleasure derived from employing various features and capabilities in mobile purchasing technology leads to hedonic performance expectancy (Yang, 2010). Managers should focus on adding features that will increase pleasure to influence more elderly consumers to adopt and continue to use mobile grocery shopping services, such as visual appeal. To achieve this, shopping app developers attempt to include components of delight and pleasure, such as social sharing, personalisation, and voice search (Arnold and Reynolds, 2003).

Recommendation 2: According to the study's findings, price value had the second strongest positive influence on elderly shoppers' intention to use mobile shopping services to buy groceries. According to Huang and Kao (2015), the concept of price value is particularly significant in acquiring customers. Chopdar et al. (2018) confirmed the findings of this study, stating that shoppers are more inclined to utilise mobile shopping services if the price value of utilising the services is more helpful to them than the monetary costs. The order delivery cost is an important factor influencing elderly shoppers' intention to use mobile grocery

shopping services. Grocery shopping app providers must offer different delivery options so that elderly customers can choose the affordable option. App providers can also offer elderly consumers discounts to lower the cost of purchasing groceries online. Lastly, mobile grocery shopping services must use personalisation to increase the shopping cart value of elderly consumers so that they perceive higher price value.

Recommendation 3:

The results from the study show that social influence is significant in elderly consumers' behavioural intention to use mobile grocery shopping services. The perceptions of important others about mobile grocery shopping services are expected to impact elderly consumers' behavioural intention to use these services (Yang, 2010). In other words, social influence relates to how strongly older consumers believe their significant others think they should use mobile grocery shopping services.

Managers should stimulate the online social sharing of information regarding the mobile grocery shopping app. Furthermore, the mobile grocery shopping app should also stimulate the in-app sharing of grocery information.

Recommendation 4:

Venkatesh et al. (2012) found effort expectancy to be a major determinant of intention to use technology. Moreover, effort expectancy is more significant in the childhood phases of technology adoption (Venkatesh et al., 2003). For this study, effort expectancy pertains to the ease of access to mobile grocery shopping sites and the ease with which the functionalities and capabilities of a mobile grocery shopping site can be navigated.

To enhance the elderly's adoption of mobile grocery shopping services, it is crucial to focus on enhancing the ease of use and minimising the perceived effort required to use the technology. This can be accomplished by creating user-friendly interfaces, providing easy-to-follow instructions and guidance, and implementing features that streamline the purchasing experience.

Recommendation 5:

Due to customers' perceptions of uncertainty and vulnerability surrounding mobile transactions, risk is a crucial factor preventing users from accepting mobile shopping (Luo et al., 2010). Shopping decisions are influenced by perceived risks rather than actual risks (Pavlou, 2003). The risk barrier, according to Laukkanen (2016), is the degree of threat and danger attached to innovation.

Managers must understand the perceived risks of mobile grocery shopping and create plans to reduce such risks. This could involve providing guarantees or warranties, clear and accurate information on the quality and safety of the products, and safe payment methods. Managers may boost consumer confidence in these services and boost adoption rates by reducing the perceived risks related to mobile grocery shopping.

5.5 LIMITATIONS OF THE STUDY AND DIRECTION OF FUTURE RESEARCH

The limitations of this study should be noted because they might provide new research possibilities.

The study used non-probability convenience sampling from elderly consumers living in retirement homes in South Africa. Non-probability sampling reduces the generalisability of the research findings. Future studies can address this limitation by replicating this study in other regions in South Africa and other countries.

The study's time horizon was a cross-sectional design. The way people use technology may change over time (Kim, 2010). Given that app technology users' perceptions and usage behavior change over time due to technological advancement and other factors, future studies could use a longitudinal study design. This method will help evaluate elderly consumers' behaviour toward mobile grocery shopping services over time as opposed to in a single instant. Such research can assist in developing time-sensitive solutions to motivate the use of mobile grocery shopping services.

The study examined elderly consumers residing in retirement villages in South Africa. Future research could investigate the effects of the suggested conceptual model on elderly consumers who do not live in retirement villages. Understanding the intention to use mobile

shopping services among elderly consumers who do not live in retirement homes would be important for understanding their behaviour, enhancing customer experience, and tapping into future growth in this market sector.

Irrespective of the observed limitations, the study's results provide a starting point for further research in the same field. Recognising the constraints enables future research to address or critique the concerns to broaden knowledge and improve understanding of this exciting study area.

The study's concluding remarks are provided in the following section.

5.6 CONCLUSION

The current study used the UTAUT2 as a base model to investigate the factors influencing elderly consumers' behavioural intention to purchase groceries using mobile shopping services. It was hypothesised that seven factors influence older consumers' behavioural intention to use mobile shopping services for grocery shopping. Quantitative analysis was used to evaluate the seven hypotheses and give the data required to answer the study's research question.

The hypothesis testing results showed that hedonic motivation, price value, subjective norm, and effort expectancy perceptions enhance the behavioural intention of elderly shoppers to use mobile shopping services to purchase groceries. On the other hand, risk perceptions, reduce elderly consumers' intention to use mobile grocery shopping services. The perception of performance expectancy and the habit of doing mobile shopping did not influence the intention of elderly shoppers to use mobile grocery shopping services. This study's findings will be useful to managers, organisations, and manufacturers in the mobile shopping app environment. Furthermore, the study identified five recommendations that could be used to encourage older shoppers to use mobile grocery shopping services. Lastly, this study discussed several limitations that should be considered in future research.

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APPENDIXES

Appendix 1: Self-completion questionnaire

QUESTIONNAIRE: MOBILE GROCERY SHOPPING SERVICE

06 October 2022

Dear respondent

I want to invite you to participate in a research study which is a requirement for completing a Master's degree in the Business School at the University of the Free State. The study's full title is *Factors influencing elderly consumers' intention to use mobile grocery shopping services*. The study is conducted by Ivan Stanley and the supervisor is Prof J Nel from the University of the Free State. Stanley can be contacted at 1989284870@ufs4life.ac.za. This study aims to identify factors that influence the adoption of mobile grocery shopping services by elderly consumers.

You are regarded as the key informant based on your retirement, smartphone ownership and the retailer from which you purchase groceries. Therefore, you will be able to inform an understanding of the study's research problem purposefully. To participate in the study, you must meet the following criteria:

1. Be retired.
2. Own a smartphone.
3. Purchase groceries from Checkers, Pick and Pay or Woolworths.
4. Not have used the mobile app of Checkers, Pick and Pay and Woolworths to purchase groceries.

The main aspects relating to the study are the following:

- The study aims to identify the factors that could contribute to the use of mobile grocery shopping services by elderly individuals.
- This study has received approval from the General Human Research Ethics Committee of the University of the Free State Protocol Number:

- Your participation only requires you to complete the online questionnaire that follows if you consent to participate in the study. Please note that completing the questionnaire could take approximately 20 to 25 minutes.
- The completion of the questionnaire poses no inconvenience or any risk to a participant.
- Participants can complete the online questionnaire at a time that does not lead to loss of work time.
- Participation in the study is voluntary and you are under no obligation to consent to participation. You are free to withdraw at any time and without giving a reason during the completion of the questionnaire.
- The questionnaire does not include any question that provides information that can be used to identify a respondent.
- The electronically captured data from the completed questionnaires will be stored on a password-protected computer.
- The study's findings will only be used for disclosed purposes, that is, the dissemination of the findings only for academic purposes.
- Participants are automatically entered into a lucky draw when completing the questionnaire and providing contact details. If you do not want to participate in the lucky draw, then please do not complete the lucky draw section at the end of the questionnaire. The contact information will only be used to contact you if you are a winner in the lucky draw.

Thank you in advance for your willingness to participate in the research study.

Sincerely,



.....
Prof J. Nel (Supervisor)



.....
Ivan Stanley (MBA student)

INFORMED CONSENT

I confirm that the person asking my consent to participate in this research has told me about the nature, procedure, potential benefits, and anticipated inconvenience of participation.

I have read (or had explained to me) and understood the study as explained in the information sheet. I have had enough opportunity to ask questions and am prepared to participate in the study. I understand that my participation is voluntary and that I am free to withdraw at any time without penalty (if applicable). I am aware that the findings of this study will be anonymously processed in a dissertation, journal publications, and/or conference proceedings.

I have received a signed copy of the informed consent agreement.

Full Name of Participant: _____

Signature of Participant: _____ Date: _____

Section A: Screening questions

1. Do You own a smartphone (a mobile phone with access to the Internet)?

☐ Yes

☐ No

2. You did not use the mobile app of Checkers, Pick and Pay, or Woolworths to purchase groceries in the past?

☐ Yes

☐ No

Unfortunately, if you answered NO to one of the questions above, you do not qualify to be a respondent in this study. Please do not complete the questionnaire.

Section B: Demographics

Instructions: Please select the appropriate answer by checking the appropriate box or writing an answer in the space provided.

1. Please indicate your gender:

☐ Male

☐ Female

☐ Prefer not to say

2. Please indicate your age in years: _____

3. Please indicate your ethnicity:

☐ White

☐ Black

☐ Coloured

☐ Indian

☐ Asian

☐ Other (Please Specify): _____

☐ Prefer not to say

4. Monthly disposable income

☐ R 10 000 or less

☐ R10 001 – R15 000

☐ R15 001 – R20 000

☐ R20 001 – R25 000

☐ More than R25 000

☐ Prefer not to say

5. How many times in a month do you purchase groceries: _____

6. How much do you spend on average on groceries during each grocery shopping trip?

☐ R 500 or less

☐ R501 – R1 000

☐ R1 001 – R1 500

☐ More than R 1 500

Section C: Perceptions of using mobile grocery shopping services to purchase groceries online

Instructions: Please select the option that best reflects your opinion regarding each statement.

Performance expectancy	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
Mobile grocery shopping services would enable me to buy groceries faster							
Mobile grocery shopping services would enhance my effectiveness in buying groceries							
Mobile grocery shopping services would make it easier to buy groceries							
Mobile grocery shopping services would increase my productivity in buying groceries							
Mobile grocery shopping services would be useful for purchasing groceries							

Effort expectancy	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
Learning how to use mobile grocery shopping services would be easy for me							
My interaction with mobile grocery shopping services is clear and understandable							
I would find mobile grocery shopping services easy to use							
It would be easy for me to become skilful at using mobile grocery shopping services							

Social influence

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
People who are important to me think that I should use mobile grocery shopping services							
People who influence my behaviour think that I should use mobile grocery shopping services							
People whose opinions I value prefer that I use mobile grocery shopping services							
People around me consider it appropriate to use mobile grocery shopping services							

Facilitating conditions

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
I have an Internet-enabled phone to download the grocery shopping app and use the app to purchase groceries							
Given the resources, opportunities, and knowledge it takes to use mobile grocery shopping services, it would be easy for me to use the grocery retailer's app							
I have the knowledge necessary to use mobile grocery shopping services							

Price value	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
Using a mobile grocery shopping service is worth the order delivery costs							
The order delivery cost of mobile grocery shopping services is reasonable							
At the current delivery cost, mobile grocery shopping services provide good value.							

Hedonic motivation	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
Using a mobile grocery shopping service would be fun							
Using a mobile grocery shopping service would be enjoyable							
Using a mobile grocery shopping service would be very entertaining							

Habit	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
Using mobile shopping services has become a habit for me							

I am addicted to using mobile shopping services							
I must use mobile shopping services							
Using mobile shopping services has become natural to me							

Perceived risk	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
Mobile grocery shopping services may not perform well and process payments incorrectly							
Using mobile grocery shopping services would add great uncertainty to payments							
The security systems built into the mobile grocery shopping services are not strong enough to protect my account with the retailer.							
Internet hackers (criminals) might take control of my account if I used a mobile grocery shopping service							
My decision to use mobile grocery shopping services for shopping involves a higher risk							

Behavioural intention	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
I will use mobile grocery shopping services							
If I had the chance, I intend to use mobile grocery shopping services							
I intend to use mobile grocery shopping services frequently							

Section D: Lucky draw contact information
--

Entry into the lucky draw is automatic if you have:

- (1) completed the questionnaire, and
- (2) the contact information is correctly provided.

If you do not want to participate in the lucky draw, then please do not complete this section. The contact information will only be used to contact you if you are a winner in the lucky draw. Each winner will be contacted only three times by telephone on the day of the draw. After three telephone calls, the winner will forfeit the prize if a winner cannot be reached. In such an instance a new winner will be drawn. This process will repeat until 10 winners have been notified. At your prize collection, you must show your identity document as identification.

Name: _____

Surname: _____

Identity number: _____

Contact number: _____

The principal investigator thanks you for your participation.

End of the questionnaire

