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The use of digital technology by savings and investment stokvels

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Supervisor: Ayanda Magida

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

Johannesburg, 2022

ABSTRACT

Savings and investment stokvels in South Africa have adopted digital technology in their processes; however, there is limited understanding of how these technologies have impacted certain aspects in these stokvels. There is also limited research on understanding the factors that influence technology adoption by them. This study aimed to investigate the impact of digital technology on aspects such as social interaction and savings culture. Furthermore, the study also aimed to examine the factors that influence technology adoption by savings and investment stokvels.

The literature reviewed focused on traditional and digital stokvels, and the Unified Theory of Acceptance and Use of Technology (UTAUT2) underpinned the study. The quantitative approach using survey method was employed. An online survey was distributed to individuals who are a part of stokvels that make use of digital technology such as WhatsApp, Email, Facebook, and Digital Technology in their stokvels.

Based on the results, the conclusions of the study were that digital technology positively impacts the aspects mentioned; and three of the five factors selected for this study determined technology adoption amongst savings and investment stokvels. On this basis, it is recommended that FinTechs and Banks develop technology for these stokvels that considers their need to socialise, communicate and grow, while considering the factors that influence technology adoption among them. Moreover, further research is required to investigate the impact of digital technology on other aspects of these stokvel such as trust.

KEYWORDS: Savings and investment stokvels, digital stokvels, traditional stokvels

DECLARATION

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

Name: Nontokozo Maphumulo Signature: 

Signed at: Johannesburg

On the: 26th day of February 2022

DEDICATION

I dedicate this research to my mother, Deborah Maphumulo; my aunt, Nonhlanhla Maphumulo; my sister, Gugulethu Maphumulo; and my nephew, Imanna Maphumulo. As the first person in our family to study as furthest as I have, I hope this work becomes an inspiration to us and all generations to come to challenge our limitations continuously and always strive to push boundaries.

I also dedicate this research to all South African stokvels. May this research encourage the financial and technology industries to better serve the evolving needs of stokvels. May it also inspire an appreciation of the evolving persona emerging within the stokvel community in the digital age.

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This research would not have been possible without the assistance of several individuals to whom I am very grateful.

I want to extend my gratitude to my employer, Standard Bank, for funding my academic pursuits and allowing me to devote the necessary time to complete my studies.

I would also like to thank to the following stokvels and organisations for assisting with data collection for this study: #JanRiches Stokvel, Sakhisizwe Property Stokvel, THUD Franchise Stokvel, the BrownSense Group, and all individuals who assisted in forwarding the online survey to their networks. I appreciate this a lot!

Thank you to my friends and family for all the support and encouragement provided for me to stay the course and finish this degree, which, at some point, felt like a mountain I would not be able to conquer.

A very special thank you to my stokvel #JanRiches. This work was inspired by the challenges we face as a digital stokvel.

Thank you to my family, especially my mother, for all the support and care throughout my studies.

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LIST OF ACRONYMS

ASCA: Accumulating Savings and Credit Association

EFT: Electronic Fund Transfer

FinTech: Financial Technology

ICT: Information and Communication Technology

NASASA: National Stokvels Association of South Africa

ROSCA: Rotating Savings and Credit Association

SASI: South African Savings Institute

CHAPTER 1. INTRODUCTION

1.1 Purpose of the study

The study aimed to investigate the factors that influence the adoption of digital technology by savings and investment stokvels. The study also investigated digital technology's effect on member social interaction, stokvel member growth, and member savings culture.

1.2 Context of the study

Informal financial institutions are a global phenomenon found primarily in developing countries, and different terms are used when referring to them (Anderson & Baland, 2002; Bouman, 1995). "Stokvels" are a South African version of informal financial institutions where a group of individuals come together for a social and a common financial purpose (Bouman, 1995; Dallimore, 2013; Verhoef, 2001). The group typically comprises 5 – 20 members (Mulaudzi, 2017) who contribute an agreed amount at an agreed frequency - daily, weekly, bimonthly, monthly, to a shared pool (NASASA, 2020). They are commonly found in countries where access to funding through formal financial institutions is difficult (Anderson & Baland, 2002; Bouman, 1995). They are generally known as Rotating Savings and Credit Association (ROSCAs), Accumulated Savings and Credit Associations (ASCAs), informal savings groups, credit unions, or by the local term given in that country or region (Bouman, 1995). This overview enlightens what informal financial institutions are, where they exist, and why.

South Africans, predominantly black South Africans (Mashigo & Schoeman, 2012; Matuku & Kaseke, 2014), have been participating in stokvels since the 19th century (Lukhele, 1990). The term "stokvel" originates from "stock affairs", which was a rotating auction that British settlers took part in the Eastern Cape in the 19th century (Lengolo, 2019; Lukhele, 1990; Townsend & Mosala, 2009). Depending on the area, purposes and languages spoken in the region, there is a variation in what stokvels are called (Mfeti, 2017). Ultimately, it can be argued that 'stokvels' have been a fundamental part of the informal financial services for black people for the past 200 years.

Owing to a lack of access to formal financial services by the poor in South Africa, the culture of 'stokvels' has gained prominence. There are currently an estimated 800 000 registered stokvels on the National Stokvels Association of South Africa (NASASA) (NASASA, 2020). The association has around 11. 5 million members; and the stokvels registered on it are collectively valued at an estimated R50 billion (Business Insider, 2020; NASASA, 2020). The benefits of stokvels to members include financial independence, access to credit, accountability, structure, social security and entertainment (Naong, 2009; Verhoef, 2001). They have also been instrumental in building a savings culture amongst members (Naong, 2009). According to the Old Mutual Savings and Investment Monitor, there has been an increase in informal savings (stokvels, burial societies, grocery schemes and unbanked cash) year-on-year from 2015 to 2020 (*Old Mutual Savings & Investment Monitor*, 2020).

Stokvels are well-structured organisations involving recruitment based on social currency; an emphasis on regular physical meetings; a manual and physical

administration process, and the exchange of physical cash (Bouman, 1995; Van Wyk et al., 2012; Verhoef, 2001). Typically, and most importantly, one would gain access to a stokvel as a member through being affiliated with an existing member (Van Wyk et al., 2012). Meetings usually occur at a member's home (Verhoef, 2001). Physical cash is given to the member due to receive the pool of funds, or the cash is handed to the treasurer to deposit at a bank (Verhoef, 2001). Stokvel records are typically captured in writing, i.e. physical form (Verhoef, 2001). Meetings are also an event where members socialise as they "catch up" and enjoy each other's company over food, drinks and music (Kgomo, 2018; Mashigo & Schoeman, 2012; Mulaudzi, 2017; Verhoef, 2001). In this study, the stokvels that use primarily written (physical), manual and cash-intensive processes were referred to as "traditional stokvels" by the author.

As stated above, the traditional stokvel process is primarily physical, manual and cash intensive. However, there is evidence that some stokvels are beginning to experience digital transformation as they begin to use digital technology in their processes (Biyela et al., 2018; Buthelezi et al., 2021; Kariuki & Ofusori, 2017; Menze & Tsibolane, 2019; Wambua & Wamuyu, 2020). It has been noted in recent research that stokvels have had a technology spill-over into their processes due to members adopting technology in their personal lives (Buthelezi et al., 2021; Kariuki & Ofusori, 2017; Menze & Tsibolane, 2019). Digital technology refers, but is not limited to, communication applications, storage applications, social media applications, smartphones; etc (Gharbi et al., 2022; *Teach with Digital Technologies*, 2019). As opposed to meeting and socialising physically, and exchanging physical cash, stokvels are now using ICT applications such as WhatsApp and Email (Buthelezi et al., 2021; Kariuki & Ofusori, 2017; Menze & Tsibolane, 2019), and they use social media applications such as

Facebook to communicate (Menze & Tsibolane, 2019). Exchanging hard cash has been replaced with internet and mobile banking transactions through internet banking and banking application (Menze & Tsibolane, 2019; Varlamova et al., 2020). Moreover, the use of social media platforms such as Facebook to recruit new members into stokvels has replaced recruitment through affiliation with existing members (Kariuki & Ofusori, 2017). The market now also offers stokvel specific applications such as Stokfella, which seeks to digitise the entire stokvel process (*StokFella*, 2021); Franc, which aims to give stokvels access to stock markets (*Franc*, 2021); and many more. Further to this, the global COVID-19 pandemic changed how human beings socialise (Spotong, 2021). The lockdown and social distancing rules enforced worldwide meant stokvels had to adapt to a new way of handling meetings and communicating (Spotong, 2021). Not only did stokvels adapt to these changes, but they also grew during this challenging time (Arde, 2020). The Old Mutual Savings and Investment Monitor recorded the highest percentage of respondents (67%) in July 2020 stating that they are part of a stokvel (Arde, 2020; *Old Mutual Savings & Investment Monitor*, 2020). Physical meetings, handling hard cash, and socialising are aspects that digital technology has disrupted, and the case has been no different for stokvels. From this point on in this study, stokvels that use digital technology in their processes were referred to as “digital stokvels” by the author.

Added to their provision of informal financial services, the other benefits of stokvels include structure, accountability, and they have been proven to improve savings culture amongst members (Matuku & Kaseke, 2014; Naong, 2009; *Old Mutual Savings & Investment Monitor*, 2020; Verhoef, 2001). Prior research also noted that the convenience provided by digital banking stimulates a positive savings behaviour

(Varlamova et al., 2020). Savings culture in South Africa has been of national concern (Gordhan, 2009; SASI, 2021). South Africa has been seeing a downward trend in savings since 1990, from around 20% to approximately 15% currently (*CEIC*, 2021). Savings are essential for a nation because they contribute to investments, leading to economic growth (Aghevli, 1990). At a micro level, individuals need to save, as this assists in lowering future financial stress by allowing room to accommodate unforeseen expenditures (Darley, 2011; Grobler, 2015; SASI, 2021), as an example.

Based on the context provided above, the research problem and this study's objectives were articulated in the sections below.

1.3 Research problem

Traditional stokvel processes involve a recruitment process centred around social currency, physical meetings, a manual admin process that includes keeping records in physical form, and physical money in the form of notes and coins (Bouman, 1995; Van Wyk et al., 2012; Verhoef, 2001). However, as stated above, stokvels are experiencing digital transformation evident through the adoption of digital technology in their processes (Biyela et al., 2018; Buthelezi et al., 2021; Kariuki & Ofusori, 2017; Menze & Tsibolane, 2019), and now have a decreased need for the physicality of the traditional stokvel practices. Despite the research being conducted around the digital transformation of stokvels, there seems to be limited research to understand the factors influencing the adoption of digital technology by stokvels.

Social interaction is an essential element of stokvels, and stokvels grow based on member social currency (Kgomo, 2018; Mashigo & Schoeman, 2012; Mulaudzi, 2017; Van Wyk et al., 2012; Verhoef, 2002). With the recent adoption of digital communication technology and social media by stokvels, there needs to be an inquiry of how this has impacted the social element of stokvels.

Lastly, stokvels provide structure and accountability, and have been proven to improve savings culture (Matuku & Kaseke, 2014; Naong, 2009; Verhoef, 2001). Furthermore, research has revealed that digital banking also improves savings behaviour (Varlamova et al., 2020). With the declining saving savings rate and lack of saving culture in South Africa (*CEIC*, 2021), the study seeks to examine if the use of digital technology in stokvels improves the culture of saving.

Thus, this study sought to investigate the effect digital technology has on stokvel member social interaction, and stokvel member growth. The study also probed whether digital technology positively impacts member savings culture in South Africa. Furthermore, the study investigated the factors influencing the adoption of digital technology by savings and investment stokvels.

1.4 Research objectives

The objective of the study is to:

1. Investigate factors that influence the adoption of digital technology by savings and investment stokvels
2. Investigate the effect of digital technology on member social interaction and stokvel member growth

3. Investigate the effect of digital technology on stokvel member savings culture in South Africa

1.5 Significance of the study

With newer studies having begun to look into the adoption of digital technology or ICTs by stokvels (Biyela et al., 2018; Mehmood et al., 2018; Menze & Tsibolane, 2019; Varlamova et al., 2020; Wambua & Wamuyu, 2020), but not the factors influencing adoption, the significance of this study lies in addressing this gap. Thus, this study aimed to contribute to the literature and research relating to understanding factors influencing the adoption of digital technology by savings and investment stokvels.

Moreover, as stated above, prior research has shown the importance of stokvel member social interaction and its link to stokvel growth in members (Biyela et al., 2018; Bouman, 1995; Verhoef, 2001); as well as the link to stokvels and their positive impact on savings rate amongst members (Naong, 2009; *Old Mutual Savings & Investment Monitor*, 2020; Varlamova et al., 2020). The other significance of this study is in adding to the body of knowledge of understanding whether digital technology positively or negatively impacts these two aspects.

Outside academic contributions, this study held the potential to:

1. Enlighten FinTechs, financial institutions, and the SASI on the factors that influence savings and investment stokvels to adopt digital technology in their processes.

2. Encourage FinTechs to develop financial technology for savings and investment stokvels based on understanding the factors that influence the adoption of digital technology by savings and investment stokvels

3. Encourage South African financial institutions to improve their digital value proposition for savings and investment stokvels based on understanding the factors that influence the adoption of digital technology by savings and investment stokvels

4. Encourage the use of digital technology in stokvels that have not explored this avenue

5. Possibly show that the use of digital technology in stokvels improves savings culture

1.6 Delimitations of the study

- The study focused on savings and investment stokvels (savings, investment, rotational, loan, and travel stokvels) and not burial societies/stokvels.
- The study did not focus on or compare digital technologies used by the stokvels from a brand or company perspective.
- The focus of the study was on the function of the digital technology used by the savings and investment stokvels.
- The study focused on savings and investment stokvels that use digital technology in their processes and not stokvels that use methods other than digital technology, such as manual or physical methods.

- Although “digital technologies” are defined as electronic tools, systems, devices, and resources that generate, store or process data, the study only focused on investigating WhatsApp, Email, Facebook, and Digital Banking

1.7 Definition of terms

1. **Digital technology**: refers to electronic tools, systems, devices, and resources that generate, store or process data. Well-known examples include social media, online games, multimedia and mobile phones. (*Teach with Digital Technologies*, 2019). In this study, however, the specific digital technology that was focused on was WhatsApp, Email, Facebook, and Digital Banking. (as delimited by author)
2. **Investment stokvel**: stokvels that are formed to gain access to opportunities that will allow them to grow their pooled capital. This could be in the form of bank account interest, stock purchases, or taking part in a business venture (NASASA, 2020).
3. **Digital stokvel:** Stokvels that make use of digital technology in their processes (as defined by the author)
4. **Savings stokvel**: a stokvel in which members deposit a set amount of money to a communal pool regularly. At the end of the cycle, normally once a year, each member receives a lump sum payment equivalent to their monthly contribution. (NASASA, 2020)
5. **Stokvel:** A financial self-help group or an informal financial institution comprising 5- 20 individuals with a common financial goal. There are two types of financial self-help groups: Rotating Savings and Credit Association and Accumulated Savings and Credit Associations. In South Africa, they are

collectively known as "stokvels" (Bouman, 1995; Mulaudzi, 2017; SASI, 2021; Van Wyk et al., 2012)

6. **Stokvel processes:** the way a stokvel conducts its administration, shares information with members, handles its cash and gains or recruits new members (as defined by the author).
7. **Traditional stokvel**: Stokvels that use any digital technology in their stokvel processes (as defined by the author).

1.8 Assumptions

The study made the following assumptions:

The respondents' responses were honest regarding their experiences or practices in their stokvel processes and their use of digital technologies.

1.9 Chapter outline

The rest of the study was structured as follows:

CHAPTER 1: This chapter outlined the purpose of the study, the context of the study, the research problem, the research objectives, the significance of the study, delimitations of the study, the definition of the key terms used in the study, and the assumptions made in this study.

CHAPTER 2: This chapter discusses existing literature on traditional stokvels, digital stokvels, savings culture in South Africa, and the theoretical framework underpinning this study. Importantly, this chapter will also highlight the hypotheses made by the study.

CHAPTER 3: In this chapter, the research methodology was described and rationalised.

CHAPTER 4: This chapter presented the results of the online survey. It first described the demographic characteristics of the respondents. The chapter then provided the analysis of the hypotheses outlined in Chapter 2.

CHAPTER 5: This chapter discussed the results presented in chapter 4. The chapter discussed the demographic characteristics of the respondents. The chapter later discussed the online survey results considering the literature reviewed in chapter 2.

CHAPTER 6: This chapter outlined the conclusions and recommendations of the study.

CHAPTER 2. LITERATURE REVIEW

2.1 Introduction

This chapter unpacks the literature on the UTAUT2 theory, which is the theory that underpinned this study. The chapter then reviews literature on stokvel processes both in traditional and digital stokvels, followed by a review of literature regarding savings culture in South Africa. Finally, the chapter outlines the conceptual framework and the study's hypotheses. As summary of the literature review is presented.

2.2 Theoretical framework

Castanha et al. (2021) posit that the success of any technology application depends on its acceptance, adoption, and regular use by intended consumers. They continue to add that research needs to be conducted to understand what factors influence technology adoption by their intended users before resources are misused in developing technology that will have little to no acceptance by users (Castanha et al., 2021).

Researchers in technology adoption have developed numerous theories and models over the years conceptualising factors that influence technology adoption (Benda, 2013; Venkatesh et al., 2003, 2012). Examples of some of these are the Theory of Reasoned Action (TRA) (Castanha et al., 2021; Fishbein & Ajzen, 1975; Venkatesh et al., 2012), Technology Adoption Model (TAM) (Castanha et al., 2021; Davis, 1989; Silva, 2015; Venkatesh et al., 2003, 2012) and the Theory of Planned Behaviour (TPB) (Ajzen, 2011; Castanha et al., 2021; Venkatesh et al., 2003, 2012). To avoid

the tedious and confusing task of selecting a suitable theory or model for a researcher's study, Venkatesh et al. (2003) developed the Unified Theory of Acceptance and Use of Technology in 2003. This theory synthesised various constructs utilised in earlier models (Venkatesh et al., 2003). They later modified the theory to accommodate new constructs that addressed some limitations of the UTAUT in 2012 (Venkatesh et al., 2012). This new theory is the Extended unified theory of Acceptance and Use of Technology - UTAUT2. It will be discussed at length in the following subsection.

2.2.1 *The unified theory of acceptance and use of technology*

The unified theory of acceptance and use of technology (UTAUT) is a theory that was developed by Venkatash et al. (2003) to explain technology acceptance and use in the organisational context. Since its initial publication, UTAUT has been used as a reference model and applied to the research of various technologies in organisational and non-organisational environments (Venkatesh et al., 2012). The UTAUT model consists of four constructs: performance expectancy, effort expectancy, social influence, and facilitating conditions (Venkatesh et al., 2003). The model also comprises of four moderator variables: gender, age, experience, and voluntariness of use (Venkatesh et al., 2003).

Performance expectancy is defined as the extent to which using the technology will benefit users in performing specific tasks, and is considered the strongest predictor of intention (Venkatesh et al., 2003). It is moderated by gender and age as it is believed that its effect will be more substantial for men and particularly for younger men (Morris

& Venkatesh, 2000). *Effort expectancy* is the extent to which a technology is easy to use (Venkatesh et al., 2003). It is moderated by gender, age, and experience. Its effect is said to be more prominent for women (Bem & Allen, 1974; Bozionelos, 1996; Morris & Venkatesh, 2000) who are older (Plude, 1985) and who have comparatively less experience with the technology (Venkatesh et al., 2003). *Social influence* is the degree to which users perceive that important individuals in their lives believe they should use the technology (Venkatesh et al., 2003). During the early stages of individuals' experience with technology, the social influence seems to be necessary. It erodes over time and eventually becomes non-existent as the individual uses the technology. (Morris & Venkatesh, 2000). Social influence is moderated by gender, age, experience, and voluntariness of use. Experience is the length of time a user has used a particular technology (Venkatesh et al., 2003), and voluntariness in use is whether usage of innovation is viewed as voluntary, or freely chosen by the user (Moore & Benbasat, 1991). Finally, *facilitating conditions* refers to "the degree to which an individual believes that an organisational and technical infrastructure exists to support the use of the system" (Venkatesh et al., 2003, p. 453). Facilitating conditions are moderated by age and experience (Venkatesh et al., 2003). A point to note, however, is that with both performance expectancy and effort expectancy constructs present, facilitating conditions become insignificant in predicting behavioural intention (Venkatesh et al., 2003). Facilitating conditions, therefore, directly predicts use behaviour (as depicted in **Error! Reference source not found.**) as opposed to performance expectancy, effort expectancy and social influence, which predict behavioural intention, and behavioural intention then predicts use behaviour

(Venkatesh et al., 2003). **Error! Reference source not found.** depicts the UTAUT model.

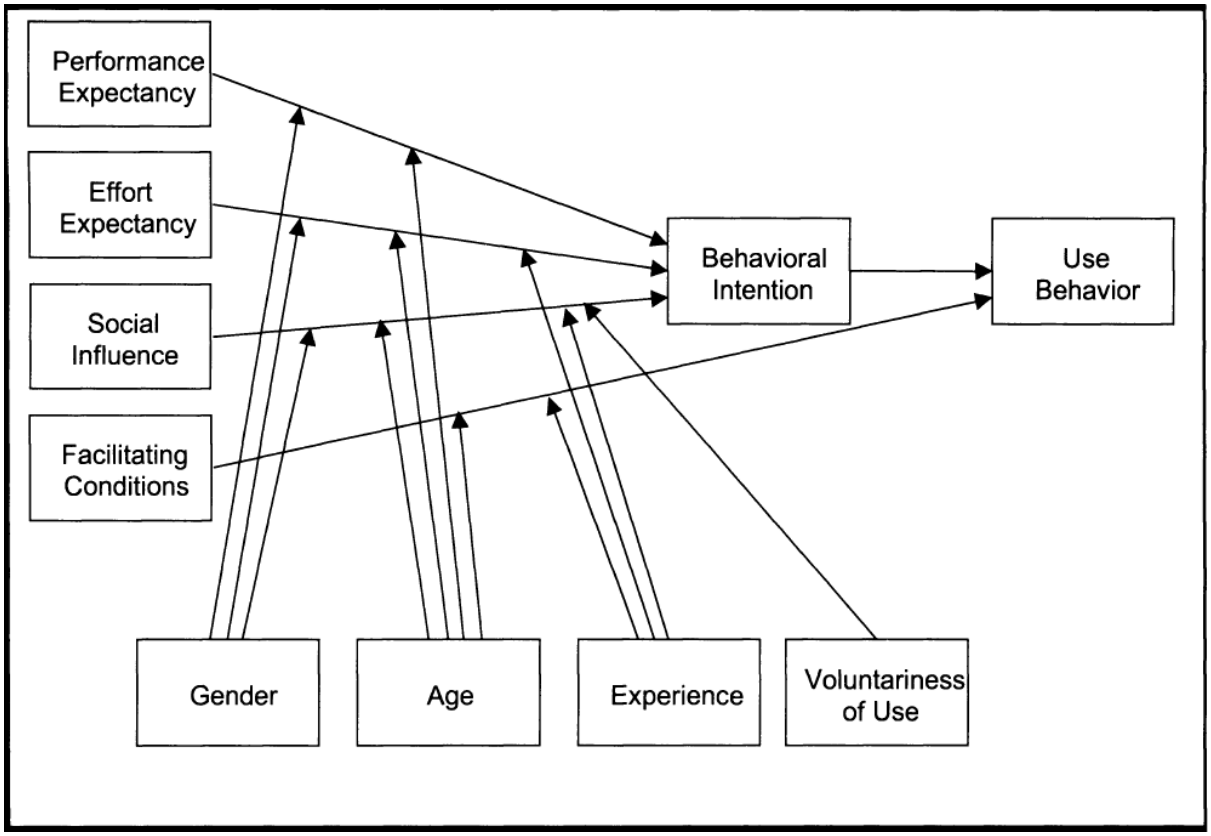

Figure 2-1: UTAUT Model (Venkatesh et al., 2003, p. 447)

With the first publication of the UTAUT aimed primarily at the organisational context, Venkatesh et al. (2012) state that there was still a need to systematically research and theorise important factors applicable to the consumer technology use context. The UTAUT2 model added constructs that Venkatesh et al. (2012) decided were key when tailoring the model to the consumer use context and altered some relationships in the model. These are *hedonic motivation*s, defined as enjoyment while using the technology, and are considered important under product or technology use (Venkatesh et al., 2012). The effect of hedonic motivation on behavioural intention is

moderated by age, gender, and experience, where the effect will be more prominent in younger males in the early stages of experimenting with a technology. *Price Value* is defined as the cognitive trade-off between the perceived benefits of applications and their costs (Dodds et al., 1991). Unlike in the organisational context, the consumer is responsible for the cost of the technology (Venkatesh et al., 2012); therefore, costs are important as they can dominate a consumer's decision to adopt the technology (Brown & Venkatesh, 2005; Chan et al., 2008; Coulter & Coulter, 2007; Dodds et al., 1991). The effect of price value on behavioural intention is moderated by age and gender, which will be stronger among older women. Lastly, *habit*, is "defined as the extent to which people tend to perform behaviours automatically because of learning" (Venkatesh et al., 2012, p. 161).

This new theoretical construct has emerged as a critical predictor of technology use, challenging behavioural intention as the key predictor (Davis & Venkatesh, 2004; Kim et al., 2005; Kim & Malhotra, 2005; Limayem et al., 2007). Age, gender, and experience, habit modifies behavioural intention, so that for older men with a high level of experience with the technology, the effect is stronger (Venkatesh et al., 2012). In addition, among older men with high levels of experience with the technology, the effects of habit will be stronger than for younger boys and men (Venkatesh et al., 2012).

Apart from adding the three new constructs, the UTAUT2 model drops voluntariness of use as a moderating variable and adds facilitating conditions as a predictor for behavioural intention; and age, gender, and experience do not moderate performance

expectancy, effort expectancy, and social influence (Venkatesh et al., 2012). **Error! Reference source not found.** below depicts the UTAUT2 model.

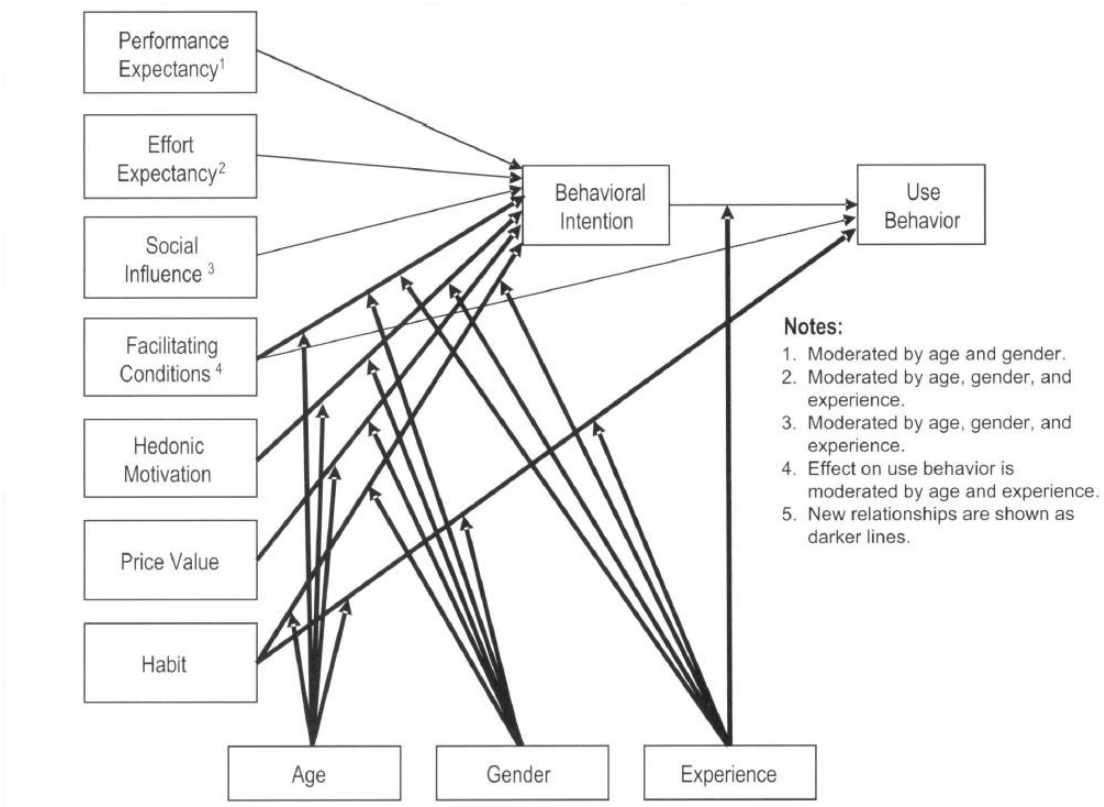

Figure 2-2: UTAUT2 Model (Venkatesh et al., 2012, p. 160)

2.2.1 *Hypotheses*

Following the review of the UTAUT2 theory underpinning the study, the following hypotheses have been outlined:

H1: Performance expectancy has a positive effect on savings and investments' stokvel members' intention to use digital technology

H2: Effort expectancy has a positive effect on savings and investment' stokvel members' intention to use digital technology

H3: Social influence has a positive effect on savings and investments stokvel members' intention to use digital technology

H4: Facilitating conditions have a positive effect on savings and investment stokvel members' intention to use digital technology

H5: Price value has a negative effect on savings and investments' stokvel members' intention to use digital technology

2.3 Stokvels

2.3.1 *Traditional stokvels*

In traditional stokvels, stokvel members meet physically, and the meetings are organised and run through an agenda (Van Wyk et al., 2012; Zungu, 2012). Stokvel meetings occur monthly or weekly (Mulaudzi, 2017), and the regular meetings serve to remind members of the benefits of the stokvel and inspire members to commit to regular contributions (Kgomo, 2018). In rotational stokvels, the pool of money is allocated to one group member during the meeting (Moloi, 2011; Mulaudzi, 2017). Menze and Tsibolane (2019) state that "during these meetings,… members socialise and communicate freely over food, drink, and dance in close physical proximity" (Menze & Tsibolane, 2019, p. 9). Biyela et al. (2018) posit that one of the challenges of stokvel meetings is non-attendance and lateness. Physical meetings have been

vital in stokvel organisations for member inspiration, social interaction, and contribution (cash) exchange or deposit.

Stokvels are social and informal institutions that bring together individuals with similar social and economic needs (Kgomo, 2018; Mulaudzi, 2017; Van Wyk et al., 2012; Verhoef, 2008). Van Wyk et al. (2012) states that “some of the stokvels achieve their recruitment through socialisation” (Van Wyk et al., 2012, p.88). Stokvels are said to be based heavily on social capital, and this aspect is considered fundamental to the nature of what a stokvel is (Menze & Tsibolane, 2019). Members know each other, and entry or recruitment into stokvels is based on socialisation. Therefore, the success and growth of stokvels hinges on member relationships and trust (Ambec & Treich, 2007; Anderson & Baland, 2002; Benda, 2013; Callier, 1990; Stoffle et al., 2014). Stokvels socialise during meetings through food and drink (Menze & Tsibolane, 2019), and some stokvels are based solely on the social activities where members meet to party and are entertained together (Van Wyk et al., 2012). This depicts that the social aspect of traditional stokvel organisations is the backbone of stokvel existence, sustenance, and growth.

Typically, during a stokvel meeting, members contribute physical cash to the pool, or in the case of a rotational stokvel, hand the cash to the member allocated to receive it (Biyela et al., 2018; Moloi, 2011; Mulaudzi, 2017). Cash is also used to pay the host who prepares food and drink for the stokvel members (Menze & Tsibolane, 2019; Van Wyk et al., 2012; Verhoef, 2001). Swart (2016) posits that the risk stokvels face is that some members can defraud the group and walk away with the cash. Biyela et al. (2018) also found that some stokvels have experienced theft of their money since they would meet in one place to distribute the funds. The stokvel process involves physical

cash handling or exchange. Physical cash comes with theft and fraud risks, which is unsuitable for any person or organisation.

The reviewed literature depicted that the traditional stokvel process involved regular physical meetings, a social aspect based heavily on social capital, and a cash-intensive money handling process. Physical meetings, socialising, and handling hard cash are aspects of life that digital technology has disrupted, and the case has been no different for stokvels. The subsection below presents the literature on the adoption of digital technology by stokvels.

2.3.2 *Digital stokvels*

A few researchers have performed studies focusing on the digital transformation and adoption of digital technology by stokvels in recent years. The following section outlays this literature, focusing on digital applications' benefits and challenges from a stokvel process perspective.

Research shows that stokvels use WhatsApp as it is easily accessible and used by most people (Sanlam, 2019; Varrella, 2021). It allows for quick and simultaneous communication with members (Bouhnik & Deshen, 2014), promoting fairness in information disseminated and avoiding broken telephone. WhatsApp also makes the administration, management and tracking of payments easier for stokvels (Menze & Tsibolane, 2019). The ease of access to the platform reduces travel costs and saves time; therefore, adoption by stokvels becomes rapid (Matuku & Kaseke, 2014).

WhatsApp poses technical challenges such as having a limit of 256 people per WhatsApp group (WhatsApp, 2022). This limitation hinders any stokvel with the desire to scale beyond 256 members (Kariuki & Ofusori, 2017). In addition, safety and security, such as the inability to vet scammers joining the group and WhatsApp privacy policies being porous, were raised (Kariuki & Ofusori, 2017). Therefore, although WhatsApp is beneficial in many ways to stokvels, it is not without risk.

WhatsApp has several aspects that are beneficial to stokvels from a social perspective. Prospective stokvels members trust digital or WhatsApp stokvels because their friends are already a part of those stokvels (Biyela et al., 2018; Kariuki & Ofusori, 2017). The instant messaging functionality offered by the WhatsApp platform (TechRadar, 2022; WhatsApp, 2022) differs from a traditional stokvel set-up where one would have to wait until a stokvel meeting is held to ask a question or raise concerns (Bouman, 1995; Verhoef, 2001). Traditionally, the social aspect of stokvels is crucial as members get to connect at a human level (Ambec & Treich, 2007; Anderson & Baland, 2002; Benda, 2013; Callier, 1990; Stoffle et al., 2014). Therefore, if stokvels turn to running their affairs primarily digitally, it is assumed that the social element could be at risk. However, Kariuki and Ofusori (2017) posit that WhatsApp enhances relationships as stokvel members have access to one another anytime from different geographies; they also picked up that members benefitted as anyone can ask a question, receive an answer on the platform, and everyone benefits from the answer.

WhatsApp poses some social challenges. One of them is that the stokvel can collapse at any moment if members decide not to participate (Kariuki & Ofusori, 2017). Another

social issue is that WhatsApp can be exclusionary to individuals who do not use WhatsApp or do not use smartphones (Business Insider, 2021). The platform could also be exclusionary from a cost perspective; compared to other countries, South Africa has had high data costs (Bottomley, 2020). Therefore, other stokvel members could have a challenge accessing the platform due to costs and consequently miss important information meant for all members or communication that requires swift action. The other difficulty mentioned before is that content is governed in a sense that there are rules around what type of content can be shared in the group; which is not what would happen in a physical and social setting, where communication would be fluid and ungoverned (Menze & Tsibolane, 2019).

Managing finances is one of the most critical activities in any stokvel (Biyela et al., 2018; Mehmood et al., 2018; Wambua & Wamuyu, 2020). Stokvels use digital banking services such as internet banking, mobile app banking, and money transfer services offered at grocery stores (Biyela et al., 2018). Some stokvels do not keep records of payments anywhere else other than on their WhatsApp group chat history, so, once someone has made a payment to the another member, they post the proof of payment in the group, which becomes a payment record (Kariuki & Ofusori, 2017; Menze & Tsibolane, 2019). This process is different from what a traditional stokvel would do. In traditional stokvels, payment records are written down in physical notebooks (Bouman, 1995; Menze & Tsibolane, 2019; Van Wyk et al., 2012; Verhoef, 2002). In the instance of accumulated savings, stokvel members were delighted with digital banking because the money is sent to all members almost immediately, and there is no instance of unfairness in receiving cash at different times or the risk of carrying physical cash (Kariuki & Ofusori, 2017).

There are mobile technology applications have been conceptualised and developed specifically for informal savings groups in South Africa and other parts of the world. In South Africa, there are applications such as Stokfella (*StokFella*, 2021) and Franc (*Franc*, 2021). Stokfella allows stokvels to manage their administration, remind members how much they owe, view stokvel performance, and view meeting information such as the date and host (*StokFella*, 2021). The Franc application allows stokvels to invest in leading cash and equity funds, promising no minimums, no restrictions, no paperwork, and low administration fees (*Franc*, 2021). There is also an app called SPOT Money App, which is an open banking app that allows users to access personalised loans, insurance, and rewards offers (*SPOT Money*, 2021). The app has a shared wallet feature that seeks to create transparency to shared financial investments such as stokvels (Daniels, 2021). Wambua and Wamuyu (2020) and Mehmood et al. (2018) conducted research on the use of mobile applications in overcoming problems faced by informal savings groups by developing a prototype mobile application. Informal savings groups face challenges such as delayed payments, mismanagement, poor governance, bookkeeping, and lack of financial knowledge, threatening informal savings groups (Mehmood et al., 2018; Mwangi & Kimani, 2015; Wambua & Wamuyu, 2020). The mobile application also had benefits such as members accessing information about their savings group anywhere and anytime and receiving notifications as reminders to make payments. The results of the research, confirmed that the application's features addressed informal savings groups' challenges (Mehmood et al., 2018; Wambua & Wamuyu, 2020).

2.3.3 *Hypotheses*

With the background provided on traditional and digital stokvels, two hypotheses have been formulated below.

H6: Digital technology has a negative effect on savings and investments' stokvel member social interaction

H7: Digital technology has a positive effect on savings and investments' stokvel member growth

2.4 Savings culture in South Africa

The importance of saving to a nation and its citizens should be understood before discussing South Africa's current savings rate. National savings are essential for a country because they contribute to investments, which lead to economic growth (Aghevli, 1990). However, South Africa has seen a downward trend in savings culture since 1990 (*CEIC*, 2021). National savings are broken down into government, corporate, and household savings (Kagan, 2021). This study focuses on household savings. Household savings in South Africa are low due to ease of access to credit (Lawlor, 2019) and a high unemployment rate (Smulders, n.d.), amongst other reasons.

Savings are defined as the portion of disposable income left over after consumption spending (Kenton, 2022). It is the surplus of funds for an individual or household after all expenses have been met (Kagan, 2021). Darley defines savings as "making allowance within one's current budget to set aside money for future endeavours"

(Darley, 2011, p. 7).

At a micro level, individuals need to save, as this assists in lowering future financial stress by allowing room to accommodate unforeseen expenditures (Darley, 2011; Grobler, 2015; SASI, 2021). Having savings reserves helps one avoid borrowing, and saving also provides a comfortable retirement (Grobler, 2015; SASI, 2021). Also, savings are needed to contribute to gross domestic savings (Darley, 2011), which is required for economic stability and growth (Elbadawi & Mwega, 2000; Grobler, 2015).

Looking at why South Africa has a poor savings culture Masilela (2010) posits that it is due to consumer behaviour. Grobler (2015) expands on this view by adding that South Africans have spending as opposed to savings culture driven by the need for instant gratification.

Ease of access to credit is also a big issue states Grobler (2015), Darley (2011) and Mboweni (2006); and this fuels a spending culture or a consumption-driven society and disincentivises the need to save. Darley (2011) and Grobler (2015) state that lack of financial education also negatively impacts savings culture in South Africa.

Naong (2009) found that stokvels positively impact savings culture for members. Matuku and Kasese (2014) support this view by stating that stokvels “create an opportunity to save” (Matuku & Kaseke, 2014, p. 7). The research conducted also points out that the convenience brought about by digital banking technology has been proven to improve savings behaviour (Barry, 2018; Varlamova et al., 2020). Therefore, it could be argued that the combination of digital stokvels and digital banking could be utilised as an effective vehicle to drive the culture of saving in South Africa.

2.4.1 *Hypothesis*

Given the literature review on savings culture in South Africa, the following is hypothesised:

H8: Digital technology has a positive effect on stokvel member savings culture

2.5 Conceptual framework and hypothesis of the study

2.5.1 *Conceptual framework*

The UTAUT2 model was used as the primary technology acceptance model in this study.

However, for this study, the model was narrowed from the seven constructs, namely performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price value and habit (Venkatesh et al., 2012) to five constructs. The five constructs selected for this study are performance expectancy, effort expectancy, social influence, facilitating conditions, and price value. These were the independent variables of this study. All the moderator variables (age, gender, and experience), together with the dependent variable influenced by behavioural intention, i.e., use behaviour, were not utilised. The author was of the opinion that the five constructs were better suited for this study's focus. The dependent variables for this study were thus behavioural intention; and two added variables i.e., stokvel member social interaction and stokvel member growth, and member savings culture.

The five constructs chosen as independent variables of this study will represent “digital technology”.



Figure 2-3: Conceptual Framework Model (Adapted from UTAUT2)

2.5.2 *A list of the study’s hypotheses*

Table 2-1: Summarising research hypothesis

Hypotheses	Description
H1	Performance expectancy has a positive effect on savings and investments’ stokvel members’ intention to use digital technology
H2	Effort expectancy has a positive effect on savings and investment stokvel members’ intention to use digital technology
H3	Social influence has a positive effect on savings and investment stokvel members’ intention to use digital technology

H4	Facilitating conditions have a positive effect on savings and investments' stokvel members' intention to use digital technology
H5	Price value has a negative effect on savings and investments stokvel members' intention to use digital technology
H6	Digital technology has a negative effect on savings and investments' stokvel member social interaction
H7	Digital technology has a positive effect on savings and investment stokvel member growth
H8	Digital technology has a positive effect on stokvel member savings culture

2.6 Conclusion of Literature Review

This chapter unpacked the UTAUT2 theory and model, which is the theory underpinning this study. The literature review went on to examine literature under what the author defines as "traditional stokvels" where prior research noted that for decades now, stokvels have been operating under a model that involves regular physical meetings where matters of the organisation are discussed and recorded manually, where there is movement of money in the form of cash, and where members get to socialise with each other over food, dance, and song. It was noted that earlier research also revealed that that the social aspect is so crucial that entry or recruitment into stokvels takes place through referral. The literature review also examined the more recent studies that reveal that there have been recent changes in stokvels owing to

digital transformation. Stokvels are seen adopting digital technologies such as communication, social media, and banking applications in their processes. A review of the literature stated that savings culture is of national concern, and the financial sector ought to focus more on and leverage stokvels and digital technology as these have proven to improve savings culture amongst members. Finally, the conceptual model and hypotheses of the study were outlined.

CHAPTER 3. RESEARCH METHODOLOGY

3.1 Introduction

The following chapter outlines the research methodology and the procedure that was followed to collect the data required to fulfil the study's research objectives. Secondly, the chapter identified the population for this study, justified the sample size, and detailed the approach to the research instrument. Lastly, the study's validity, reliability, limitations, and ethics considerations are outlined.

3.2 Research approach

The study used the quantitative approach as it is interested in the quantity, frequency or magnitude of a phenomenon, and it is the basis of a statistical study (Schindler, 2019; Schindler & Cooper, 2014). The quantitative research approach was selected for this study due to the nature of the research problem being addressed, requiring testing the relationship between variables (Creswell & Creswell, 2013; Schindler, 2019). Therefore, the approach employs randomised samples and protects against bias (Creswell & Creswell, 2013; Miller, 2020; Schindler, 2019). Another benefit of using the quantitative approach is that it reaches a larger sample size, making it easier to generalise and replicate results, giving the study greater credibility (Creswell & Creswell, 2013; Miller, 2020). Quantitative data does not require direct observation, providing a better response rate as respondents have more time and less pressure to complete the survey (Miller, 2020).

The approach, however, has its shortfalls. It does not consider the motives the respondents have when providing their opinion. This means the method cannot measure societal changes or how respondents interpret their actions or that of others (Miller, 2020). Secondly this approach does not allow the researcher to probe or seek clarity on responses provided due to the anonymous and remote nature of the data (Miller, 2020; Savela, 2018). Furthermore, the results may be skewed by falsified responses (Miller, 2020). Lastly, the responses or characteristics displayed by respondents when using the quantitative approach do not always represent the entire population (Miller, 2020). The randomised sampling that removes bias does not always work 100% (Field, 2009; Miller, 2020). The only certainty that exists from this data is that if enough of it is gathered, the averages arising from the data analysis often render the data usable and reliable (Miller, 2020).

3.3 Research design

The quantitative approach offers experimental, non-experimental and longitudinal designs (Creswell & Creswell, 2013). This study adopted the survey design, which is a method that is non-experimental in design.

The survey method “provides quantitative or numeric descriptions of trends, attitudes, or opinions of a population by studying a sample of the population” (Creswell & Creswell, 2013, p. 49). Furthermore, survey method assists researchers in answering three questions, i.e. descriptive questions, questions regarding the relationship between variables, and questions about predictive relationships between variables

and their prediction over time (Creswell & Creswell, 2013; Field, 2009; Miller, 2020; Schindler & Cooper, 2014). The survey method was chosen because the study sought to test the relationship between variables. The survey methods is cost-effective and offers a rapid turnaround in data collection (Creswell & Creswell, 2013). Since there is no interviewer in the process and the survey is anonymous, the respondents may be more comfortable sharing information (Miller, 2020).

However, one of the disadvantages of the survey method is that it is not suitable for low literacy individuals as they might not be able to fully engage with the survey and thus adequately answer the questions (Adams, 2015). Secondly, surveys only allow for a limited number of open-ended questions and cannot be overly lengthy compared to interviews which denotes that some responses may be awfully short and not as elaborate as is necessary (Adams, 2015).

In addition to selecting the survey method, the study used primary data, and the cross-sectional, as opposed to the longitudinal approach. Longitudinal studies are best suited for surveys repeated over extended periods (Creswell & Creswell, 2013). This study only gathered responses through the online survey once.

3.4 Data collection method

The study used an online survey to collect data. The method was chosen for its advantages, such as cost-effectiveness, its ability to reach a broad group of individuals, and quick results (Creswell & Creswell, 2013). Some of the disadvantages of this method included the possible misinterpretation of questions in the survey, which

may cause respondents not to answer the questions as expected (Creswell & Creswell, 2013; Miller, 2020; Schindler, 2019). In addition, respondents may choose to abandon the survey without completing it, leading to uninterpretable data (Creswell & Creswell, 2013; Miller, 2020; Schindler, 2019).

3.5 Population and sample

3.5.1 *Population*

The population chosen for the study was South African savings and investment stokvels that use digital technology in their processes. There are 800 000 registered stokvels (NASASA, 2020), 43% (344 000) of this were savings and investment stokvels (Klug et al., 2014). However, the exact population size of savings and investment stokvels that use digital technology in their processes is unknown.

3.5.2 *Sample*

The study used non-probability sampling, specifically the convenience sampling technique. The convenience sampling technique is a technique that allows researching subjects of the population that are easily accessible to the researcher. This sampling approach was selected as the study respondents needed to be stokvel members that use digital technology in their processes, which is a particular characteristic (Etikan, 2016) that is quite uncommon as digital transformation in stokvels only began in recent years;. The researcher had access to respondents who met these criteria. The convenience sampling technique also emphasises the generalisability of the results (Etikan, 2016). The limitation with this sampling

technique is that the selection of the respondents is non-random and, therefore, subject to bias (Etikan, 2016).

As stated above, the exact population size of digital savings and investment stokvels is unknown, there is only an estimate; therefore, calculating the sample size become a challenge. However, for one to be able to generalise this study's results to the population, the sample statistic mean would have to be as close as possible to the true mean of the population (Hill, 1998). Hill (1998) suggests that in behavioural research, sample sizes of between 30 and 500 is justified Based on Hill's (1998) recommendation, this study targeted a sample of 180 – 200 respondents.

3.6 Research instrument

An electronic survey was used as the research instrument because it is easily sharable and accessible to many individuals (Miller, 2020), provided they have internet access. The survey was created using the Qualtrics tool. The instrument was predominantly made up of 5-point Likert Scale statements designed such that (1) = Strongly Disagree, (2) = Disagree, (3) = Neither Agree/Disagree, (4) Agree and (5) = Strongly Agree. There were also demographics, and yes or no questions.

The survey had four sections:

- Section One: Demographics
    - Collecting demographics allowed the study to understand the profile or characteristics of the respondents.

- Section Two: The use of digital technology, i.e., WhatsApp, Email, Facebook, and Digital Banking, by savings and investment stokvels.
    - The statements in this section were aimed at addressing objective 1 of the study. They were adapted from the UTAUT2 model (Venkatesh et al., 2012)
    - They were 5-point Likert scale statements designed to understand which digital technology is used by savings and investment stokvels. from the four technologies the study focused on (WhatsApp, Email, Facebook, and Digital Banking) as well as the rationale for their choice. The responses in this section were designed to assist in understanding the factors that influence the adoption of WhatsApp, Email, Facebook, and Digital Banking by savings and investment stokvels.

- Section Three: Social interaction and stokvel member growth
    - The statements in this section were aimed at addressing objective 2 of the study and were designed by the author.
    - They were 5-point Likert Scale statements that sought to gather information on how important social interaction and stokvel member growth is to stokvels. It also analysed the effect of digital technology i.e., WhatsApp, Email, Facebook, and Digital Banking, on member social interaction and stokvel member growth.

- Section four: Statements on savings culture were respondents needed to be stokvels that use digital technology in their processes,

- The statements in this section were aimed at addressing objective 3 of the study and were designed by the author.
- The statements in this section were designed to capture the reasons that led members to choose to be a part of a digital savings and investment stokvel to investigate the effect of digital technology i.e., WhatsApp, Email, Facebook, and Digital Banking, on member savings culture.

- Section five: Free-text question.
  - The online survey asked respondents if there was anything else they would like to share about their stokvels. This was to ascertain any topical matters worthy of highlighting from the respondents' point of view.

Please refer to APPENDIX C for the research instrument.

3.7 Procedure for collecting data

The Qualtrics survey was sent to members of savings and investment stokvels using WhatsApp, Facebook, Twitter, LinkedIn, and Email. In addition, a request was made to those individuals to forward the survey to others they knew were a part of savings and investment stokvels.

3.8 Data analysis and interpretation

The SPSS software application was used to analyse the data collected in the study. The research instrument collected demographic data and used descriptive statistics to analyse this data (Byrne, 2007). The descriptive statistics were presented using tables, bar graphs and doughnut pie charts to allow for visualised demonstration of the results.

The independent variables in this study were performance expectancy, effort expectancy, social influence, and price value; and were nominal. As stated under the research instrument section above, each of these constructs were tested for each of the four technologies in focus in this study. i.e., WhatsApp, Email, Facebook, and Digital Banking. The mean value measured the average response to each statement. An average score of less than 3 indicated a below-average score for each statement, and an average value above 3 indicates an above-average response rate. A mean value above the average score shows high acceptance/agreement to the online survey statements, and vice-versa. The one-sample t-test was used to determine whether each statement (item) differs significantly from the average score of 3; while the p-value was used to determine if the hypothesis should be supported or rejected.

Behavioural intention; member social interaction and stokvel member growth; and member savings culture were dependent variables of the study. All the independent and dependent variables were nominal. The question representing behavioural intention was binary in nature, and the logistic regression or logit regression test was used for this item. Added to this, the multiple regression test was used to test the

impact of the independent variables against member social interaction and stokvel member growth. Finally, a composite index was used to test the impact of the independent variables on stokvel member savings culture.

In the free text section of the instrument the responses were read, grouped by the theme, and then summarised according to the key message under each theme.

3.9 Limitations of the study

- The context of savings and investment stokvels might not have been replicable to stokvels with dissimilar characteristics, or ROSCAs, ASCAs, informal savings institutions in other countries
- The survey could only be responded to by individuals with access to the internet due to the survey being in electronic form on an internet-based platform

3.10 Validity and reliability

Rigour of the research must be ascertained; therefore, consideration must be given to the validity and reliability of the research measures (Bryman, 2016). Research rigour is the strictness applied to research measured to ensure the quality of the research (Bryman, 2016; Heale & Twycross, 2015). Validity is defined as the extent to which a concept is accurately and truthfully measured in a quantitative study (Heale & Twycross, 2015; Neuman, 2014). Reliability is defined as the consistency and

dependability of a measure upon repeated application (Heale & Twycross, 2015; Neuman, 2014).

3.10.1 *External validity*

External validity relates to how generalisable the research results are to the rest of the population (Bryman, 2016). The external validity in this was ensured by selecting the convenience sampling technique, which is a sampling technique that allows one to generalise the results of the study (Etikan, 2016). The limitation with this sampling technique, as mentioned above, is that the selection of the respondents is non-random and, therefore, subject to bias (Etikan, 2016). The researcher sent the online survey to potential respondents in their network. A request was made to the potential respondents to forward the online survey to individuals they knew are members of savings or investment stokvel. This may have introduced bias and therefore threatened the generalisability of the study. The study focused on savings and investment stokvels; therefore, caution must be applied when generalising the finding in stokvels other than savings or investment stokvels. It must also be noted that the study was performed in South Africa, and the results of the study may not apply to contexts outside of South Africa.

3.10.2 *Internal validity*

To ensure internal validity in the independent variables (performance expectancy, effort expectancy, social influence, facilitating conditions, and price value) used in the research instrument were constructs from prior research conducted by Venkatesh (2012) when formulating the UTAUT2 model. Furthermore, a pilot test of the research

instrument was conducted where the online survey was sent to a few individuals to check for clarity and flow. The questions and statements on the online survey were revised and clarified where necessary. Lastly, because the study focused on digital stokvels, early in the survey, the respondents were asked if they were part of a digital stokvel (where it was clarified what was meant by “digital stokvel”). If a respondent indicated they were not a part of a digital stokvel, the survey was ended, and a thank you message was displayed.

3.10.3 *Reliability*

Reliability refers to how repeatable or consistent an instrument is (Creswell & Creswell, 2013). Multi-item instruments are most reliable when they have internal consistency, which is the degree to which the items on the instrument behave similarly (Creswell & Creswell, 2013). Internal consistency is measured by Cronbach's alpha, whose values range from 0 to 1, with ideal values ranging between 0.7 and 0.9 (Creswell & Creswell, 2013). The items in this study were tested using Cronbach’s alpha to test for internal consistency.

3.11 Demographic profile of respondents

Post survey closure, the responses were analysed. If any, the difference between the expected and actual responses were described. Verhoef (2001) found that stokvels participants were primarily female, and African (black). The results of this study were

in line with Verhoef's (2001) findings. 98.7% of the respondents were African (black), and 70% of the total respondents were female.

3.12 Ethical considerations

The purpose of the research and the survey process was explained in the cover letter before the potential respondents took the online survey. The respondents were requested to provide consent for their responses to be used in this study by ticking the consent box before taking the survey. The anonymity of the respondents was ensured by not requesting the respondent to provide data or information that may lead back to them personally, such as their name or the name of their employer or stokvel. To ensure ethical principles are upheld when researching while using humans in the study, ethical clearance was obtained from the Wits Business School's ethics committee.

CHAPTER 4. PRESENTATION OF THE RESULTS

4.1 Introduction

This chapter presented the results of the online survey which was analysed using the SPSS software application. It first outlined the response rate; described the demographic characteristics of the respondents; and then presented the results against the hypotheses presented in the literature review. Finally, the chapter closed off with a summary of the survey results.

4.2 Response rate

The study targeted 180 – 200 respondents. 297 potential respondents accessed questionnaires. 193 responses were considered i.e., 193 respondents replayed to some or all of the questions on the survey. The balance, 104, opened the survey link but did not provide any responses to the survey and will not be considered in the response rate. Only the 193 responses will. Of the 193, 151 respondents fully responded to all the questions, representing a 78.2% response rate. Mugenda and Mugenda (1999) explained that a response rate of 50% is adequate while a response rate of 60% is reasonable. They further stated that a response rate of 70% and above is excellent for analysis and reporting (Mugenda & Mugenda, 1999). Hence, the response rate of 78.2% from the data administered was sufficient for analysis.

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4.3 Demographic profile of the respondents

The respondents' demographic profile was presented in this sub-section.

4.3.1 *Gender*

Figure 4-1 provides a summary of the gender distribution of the respondents. The result shows that 26% were male respondents while 70% were female respondents, suggesting that more females were represented in the survey than males. In addition, 3% of the respondents indicated that they are non-binary/third gender, and 1% preferred not to disclose their gender.

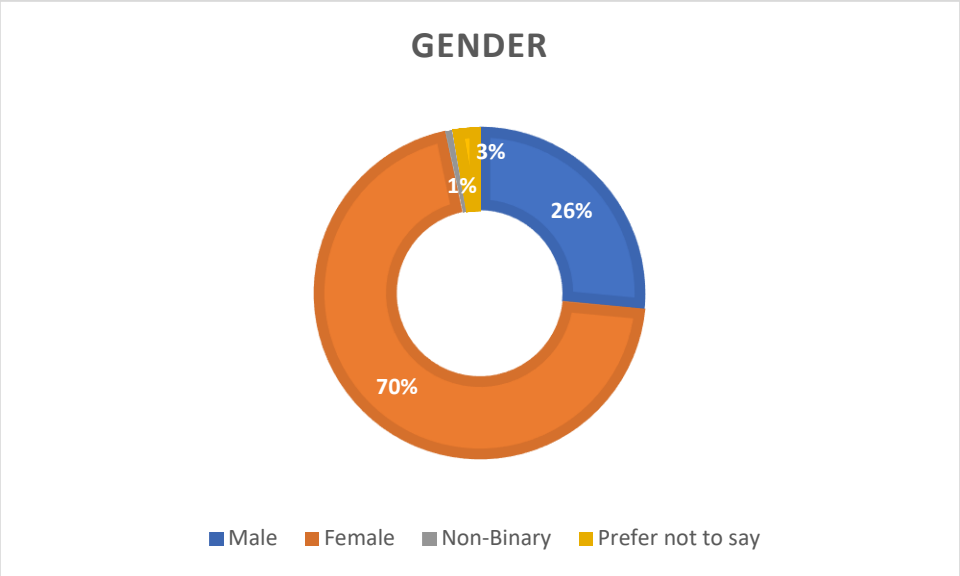

Figure 4-1: Gender distribution

4.3.2 *Age*

Figure 4-2 provided a report on the age distribution of respondents ranging between 18 to 65+. According to Figure 4-2, most respondents were between 35-44 years, representing 44.40% of the total sample. This was followed by the age range of 25-34 years, represented by 41.7%. About 2% were within the age bracket of 18-24

years, while about 9.3% of the respondents were between 44-54 years. Lastly, 2.6% of the respondents stated that their age falls within the 55-64 age category.

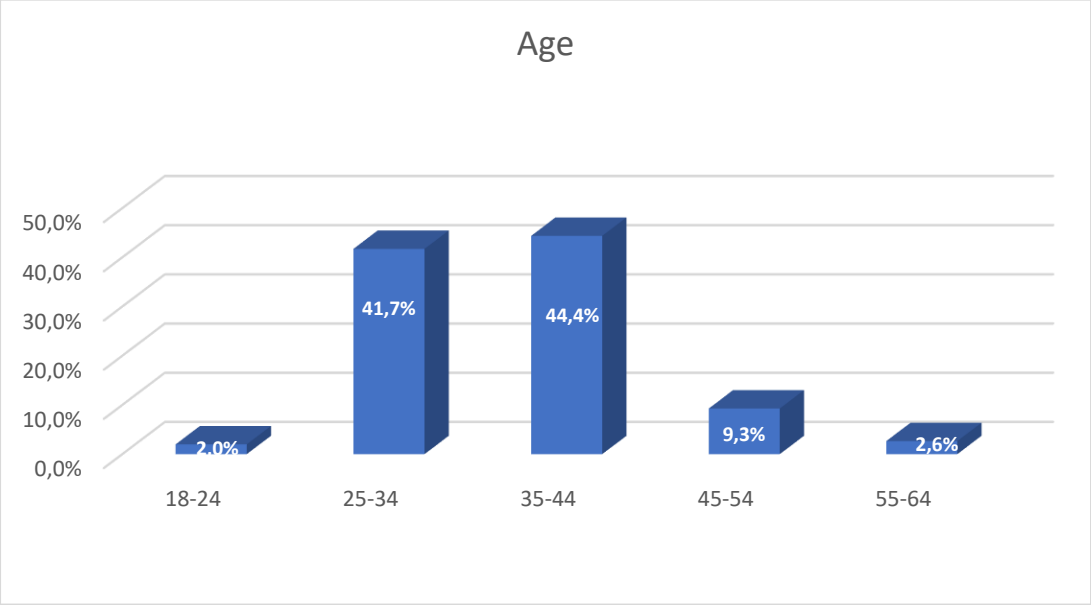

Figure 4-2: Age distribution

4.3.3 *Race*

This section exhibited the race of the respondents. The survey results indicate that majority (98.7%) of the respondents were Africans, as depicted in *Figure 4-3* below, with 0.7% of the sample showing that they are White. The Indian race also had a representation of 0.7%. None of the respondents were Coloured or Asian.

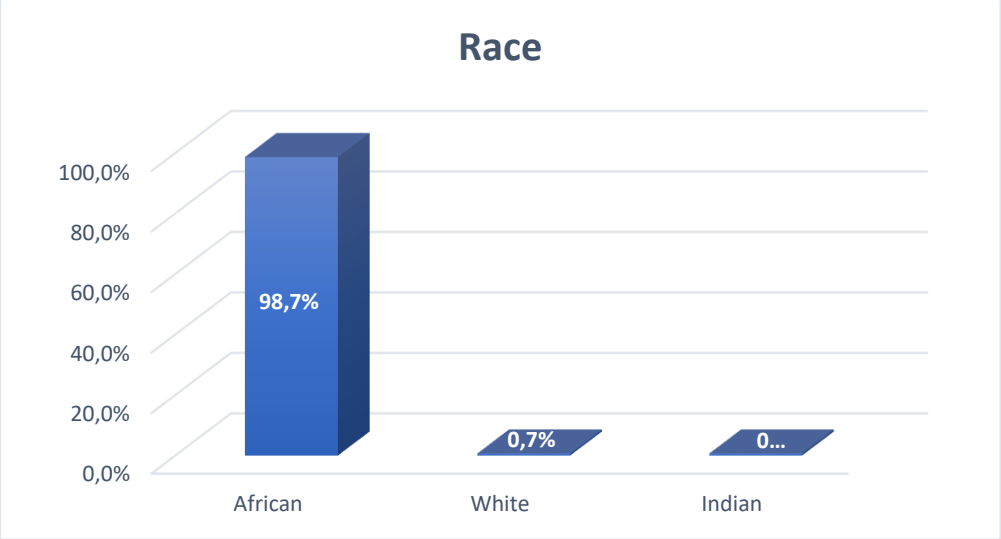

Figure 4-3: Race distribution

4.3.4 *Location*

Figure 4-4 reported the location of the respondents. The majority of the respondents reside in suburban areas, represented by 69% of the total sample. About 26% of them reside in townships, while only 5% indicated that they live in rural areas. No respondent lived in an informal settlement.

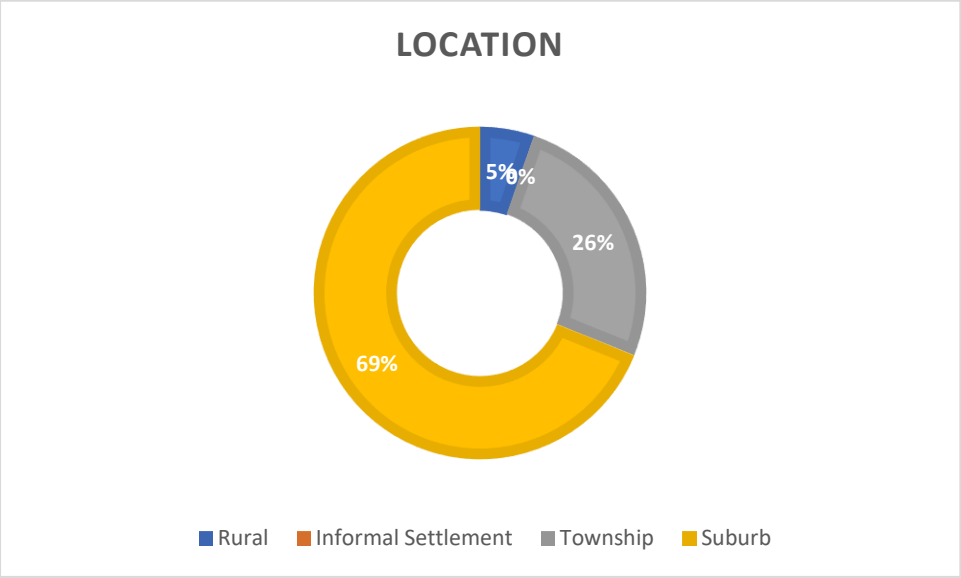

Figure 4-4: Location distribution

4.3.5 *Level of education*

The respondent's level of education was also considered in the study, and the results are illustrated in *Figure 4-5*. The results illustrate that about 7.3% of the respondents have no education. The level of education with the highest representation was postgraduate, representing 23.2% of the total responses. This was followed by undergraduates, which represented about 21.9% of the respondents. The combination of the undergraduate and postgraduate respondents was more than 50% of the sample size. About 8.6% of the respondents reached high school, while 4.6% had primary education as their highest education level. About 34.4% of the respondents preferred not to disclose their level of education.

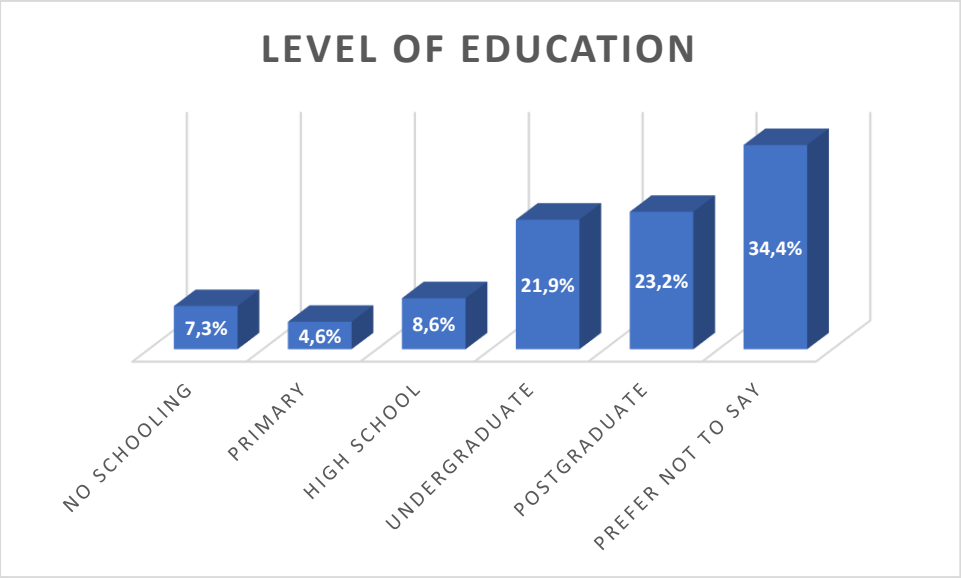

Figure 4-5: Level of education

4.3.6 *Primary source of income*

Figure 4-6 reveals that more than half (77.0%) of the respondents work full time, and a few (3.0%) work part-time, while 10.0% are self-employed. Respondents who are unemployed and generate their income through business had a response rate of 5%, respectively.

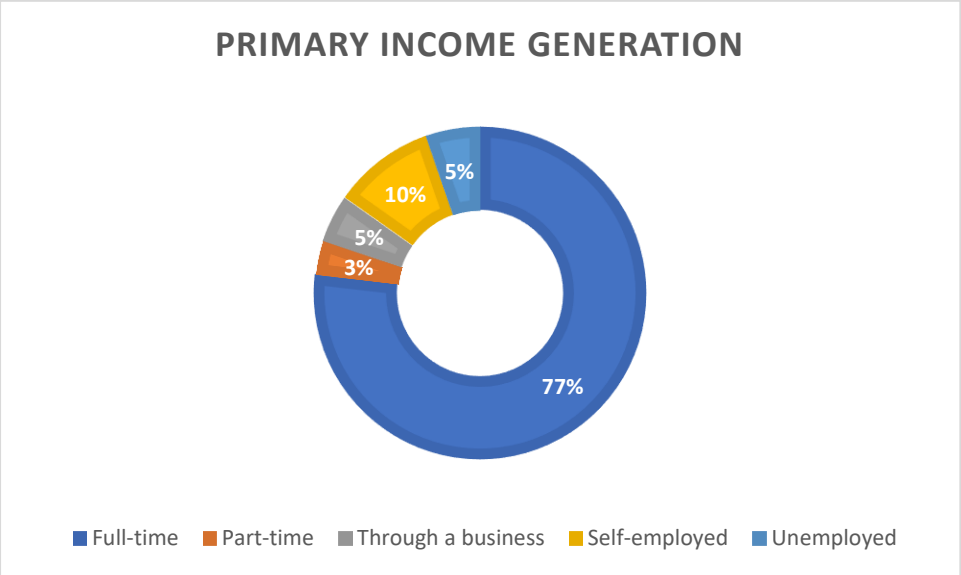

Figure 4-6: Primary source of income

4.3.7 *Income level*

Figure 4-7 provides a report on the income level of respondents, ranging between R0.00 to R40,000+. According to the report at 34.4%, most respondents stated that their income falls above R40,000. This was followed by the income range of R25,000 - R39,999, representing 23.2%. About 21.9% of the respondents' income ranges between R15,000 - R24,999. About 8.6% were within the income bracket of R7,500 - R14,999 years, while about 7.3% of the respondents earned between R0.00 and R3,499. The income range with the least representation was between R3,500 to R7,499, represented by 4.6% of the total sample.

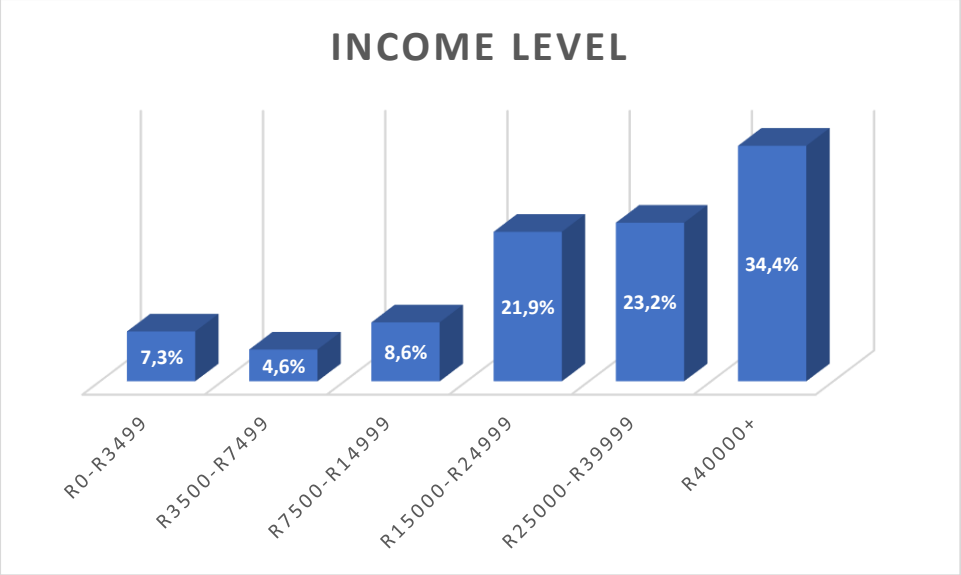

Figure 4-7: Income level

4.4 Reliability Statistics

Table 4-1 reports on the reliability statistics of the eight factors assessed in the survey. The internal consistency of the survey items was assessed using Cronbach alpha to ascertain reliability. The Cronbach alpha also helps determine the similarity of responses if the questions were asked severally to the group under similar conditions (Creswell & Creswell, 2013). Stokvel member growth had the highest Cronbach alpha value of 0.811. This is followed by effort expectancy with a value of 0.786. The alpha value for the facilitating conditions was 0.701, while social interaction was at 0.699. The stokvels member savings culture recorded the lowest alpha value of 0.618. The scale reliability of these factors is in the accepted range as most of the alpha values were above the threshold of 0.70 (Hair et al., 2010). The Cronbach alpha results indicate that the items and responses from the survey are statistically reliable as the various factors revolve around the 0.70 threshold value.

Table 4-1: Cronbach Alpha result

Factors	No. of Items	Valid Cases(N)	Cronbach Alpha
Facilitating Conditions	8	151	0.701
Performance expectancy	8	151	0.681
Social Interaction	4	151	0.699
Effort Expectancy	4	151	0.786
Price Value	4	151	0.689
Stokvel Member Social Interaction	3	151	0.676
Stokvel Member Growth	5	151	0.811
Stokvel Member Savings Culture	6	151	0.618

4.5 Results pertaining to objective 1: Investigate factors that influence the adoption of digital technology by savings and investment stokvels

The following sub-section presents the responses to the statements related to H1 to H5, which will assist in answering objective 1.

The one-sample t-test was used to determine whether the level of agreement to these statements differs significantly from the average score of 3.0.

4.5.1 *Results pertaining to Hypothesis 1: Performance expectancy has a positive effect on savings and investments stokvel members' intention to use digital technology*

Table 4-2 shows posed statements on the usefulness of digital technology and how it supported the respondents to communicate efficiently in their stokvels. Most of the

respondents found WhatsApp, Emails, Facebook, and Digital Banking useful for their stokvels. This was supported by the fact that most of the respondents agreed (WhatsApp – 24.3%, Email – 50.3%, Facebook – 64.9%, Digital Banking – 37.7%) and strongly agreed (WhatsApp – 72.8%, Email – 35.8%%, Facebook – 14.6%, Digital Banking – 51.7%) with these statements. Similarly, most of the respondents agreed (WhatsApp – 23.8%, Email – 73.5%, Facebook – 53.0%, Digital Banking – 47.7%) and strongly agreed (WhatsApp – 73.5%, Email – 13.2%, Facebook – 34.4%, Digital Banking – 49.7%) that using WhatsApp, Emails, Facebook, and Digital Banking helps their stokvel communicate more efficiently.

Table 4-2: Performance Expectancy

Item	Responses as Frequency (%)					N	Mean	p-values
	Strongly Disagree	Disagree	Neither Agree/ Disagree	Agree	Strongly Agree			
	1	2	3	4	5			
I find WhatsApp useful for our stokvel	1(0.7%)	1(0.7%)	2(1.3%)	37(24.5%)	110 (72.8%)	151	4.68	<.000*
I find Email useful for our stokvel	0(0.0%)	3(2.0%)	18(11.9%)	76(50.3%)	54(35.8%)	151	4.20	<.000*
I find Facebook useful for our stokvel	0(0.0%)	2(1.3%)	29(19.2%)	98(64.9%)	22(14.6%)	151	3.93	<.000*
I find digital banking useful for our stokvel	0(0.0%)	2(1.3%)	14(9.3%)	57(37.7%)	78(51.7%)	151	4.4	<.000*
Using WhatsApp helps our stokvel communicate more efficiently	2(1.3%)	0(0.0%)	2(1.3%)	36(23.8%)	111(73.5%)	151	4.68	<.000*
Using Email helps our stokvel communicate more efficiently	0(0.0%)	5(3.3%)	15(9.9%)	111(73.5%)	20(13.2%)	151	3.97	<.000*
Using Facebook helps our stokvel communicate more efficiently	1(0.7%)	3(2.0%)	15(9.9%)	80(53.0%)	52(34.4%)	151	4.19	<.000*
Using Digital Banking helps our stokvel communicate more efficiently	0(0.0%)	2(1.3%)	2(1.3%)	72(47.7%)	75(49.7%)	151	4.46	<.000*

The statement with the highest mean value was the usefulness and efficient communication through WhatsApp, which had an average value of 4.68. Again, all the items had a mean value greater than the expected value of 3.0 showing high acceptance of these factors. The high significant p-values further support the results. The results of the study, therefore, supported H1.

4.5.2 *Results pertaining to Hypothesis 2: Effort expectancy has a positive effect on savings and investments stokvel members' intention to use digital technology*

Looking at effort expectancy respondents were asked to state whether they found WhatsApp, Emails, Facebook, and Digital Banking easy to use. About 78.1% of the respondents felt that they found WhatsApp easy to use. Also, 41.1% strongly agreed that they found Emails easy to use, while 55% agreed to this notion. The majority (79.5%) of the respondents further agreed that they found Facebook easy to use. More than 50% (30.5% agree; 52.3% strongly agree) stated that they found Digital Banking easy to use. The results for the 8 statements are displayed in *Table 4-3*below. *Table 4-3* reveals a consistency in the results as most of the respondents agreed that digital technology (WhatsApp, Email, Facebook, and Digital Banking) is easy to use.

Table 4-3: Effort Expectancy

Item	Responses as Frequency (%)					N	Mean	p-values
	Strongly Disagree	Disagree	Neither Agree/ Disagree	Agree	Strongly Agree			
	1	2	3	4	5			
I find WhatsApp easy to use	0(0.0%)	0(0.0%)	4(2.6%)	29(19.2%)	118(78.1%)	151	4.75	<.000*
I find Email easy to use	1(0.0%)	3(2.0%)	2(1.3%)	83(55.0%)	62(41.1%)	151	4.34	<.000*
I find Facebook easy to use	2(1.3%)	11(7.3%)	4(2.6%)	120(79.5%)	14(9.3%)	151	3.88	<.000*
I find digital banking easy to use	1(0.7%)	1(0.7%)	24(15.9%)	46(30.5%)	79(52.3%)	151	4.33	<.000*

The mean across all statements was above 3.0. The p-values were statistically significant at 95%. The results, therefore, supported H2.

4.5.3 *Results pertaining to Hypothesis 3: Social influence has a positive effect on savings and investments stokvel members' intention to use digital technology*

The respondents' opinions regarding social influence on the use of WhatsApp, Emails, Facebook, and Digital Banking were assessed. Four statements were considered, as shown in Table 4-4. More than 50% of the respondents agreed and strongly agreed to each statement expressing their preference of using WhatsApp, Emails, Facebook, and Digital Banking because most people use these digital technologies.

Table 4-4: Social Influence

Item	Responses as Frequency (%)					N	Mean	p-values
	Strongly Disagree	Disagree	Neither Agree/ Disagree	Agree	Strongly Agree			
	1	2	3	4	5			
It makes sense for us to use WhatsApp for our stokvel because most people use it	0(0.0%)	1(0.7%)	1(0.7%)	43(28.5%)	106(70.2%)	151	4.68	<.000*
It makes sense for us to use Email for our stokvel because most people use it	2(1.3%)	2(1.3%)	2(1.3%)	131(86.8%)	14(9.3%)	151	4.01	<.000*
It makes sense for us to use Facebook for our stokvel because most people use it	0(0.0%)	1(0.7%)	14(9.3%)	85(56.3%)	51(33.8%)	151	4.23	<.000*
It makes sense for us to use digital banking for our stokvel because most people use it	0(0.0%)	1(0.7%)	27(17.9%)	50(33.1%)	73(48.3%)	151	4.29	<.000*

The mean score for the statements recorded above-average values (all above 4.0) and the results indicate a solid agreement to the various statements, indicating that social influence had a high impact on the use of digital technology. This was confirmed by the p-values, which was also statistically significant. The study, therefore, supported H3.

4.5.4 *Results pertaining to Hypothesis 4: Facilitating conditions have a positive effect on savings and investments stokvel members' intention to use digital technology*

Table 4-5 presents respondents' opinion on the ability to use digital technology and the availability of resources to access it. Of the respondents, 80.8% strongly agreed that they know how to use WhatsApp. This is supported by 16.6% who agreed to this assertion. Also, about 98% of the respondents agreed (both agree and strongly agree) with the notion that they knew how to use Emails. On the contrary, only 2%

disagreed with this notion. Table 4-5 further showed that more than 50% of the respondents agreed that they had resources to use WhatsApp, Emails, Facebook, and Digital Banking.

Table 4-5: Facilitating Conditions

Item	Responses as Frequency (%)					N	Mean	P-values
	Strongly Disagree	Disagree	Neither Agree/ Disagree	Agree	Strongly Agree			
	1	2	3	4	5			
I know how to use WhatsApp	0(0.0%)	1(0.7%)	3(2.0%)	25(16.6%)	122(80.8%)	151	4.57	<.000*
I know how to use Email	0(0.0%)	0(0.0%)	3(2.0%)	76(50.3%)	75(47.7%)	151	4.46	<.000*
I know how to use Facebook	0(0.0%)	0(0.0%)	4(2.6%)	25(16.6%)	122(80.8%)	151	4.78	<.000*
I know how to use digital banking	1(0.7%)	3(2.0%)	42(27.8%)	20(13.2%)	85(56.3%)	151	4.23	<.000*
I have resources to use WhatsApp	1(0.7%)	1(0.7%)	18(11.9%)	17(11.3%)	114(75.5%)	151	4.60	<.000*
I have resources to use Email	0(0.0%)	11(7.3%)	8(5.3%)	78(51.7%)	54(35.8%)	151	4.16	<.000*
I have resources to use Facebook	1(0.7%)	2(1.3%)	2(1.3%)	40(26.5%)	106(70.2%)	151	4.64	<.000*
I have resources to use Digital Banking	0(0.0%)	0(0.0%)	4(2.6%)	66(43.7%)	81(53.6%)	151	4.51	<.000*

Generally, all the questions under this category recorded a mean value above the expected value of 3.0, indicating high acceptance of the ability to use digital technology and the availability of resources to access digital technology in their stokvels. The p-

values were statistically significant, affirming the relevance of digital technology in the respondents' stokvels. H4 was therefore supported.

4.5.5 *Results pertaining to Hypothesis 5: Price Value has a negative effect on savings and investments stokvel members' intention to use digital technology*

The influence of the price value of using the digital technologies in question was also investigated. It could be seen from responses in Table 4-6 that access to WhatsApp, Email, Facebook and Digital Banking through mobile data, Wi-Fi, and other types of internet connectivity was reasonably priced. The respondents agreed (WhatsApp – 31.1%, Email – 16.6%, Facebook – 9.9%, Digital Banking – 13.2%) and strongly agreed (WhatsApp – 52.3%, Email – 37.0%, Facebook – 39.7%, Digital Banking – 76.2%) with these statements.

Table 4-6: Price Value

Item	Responses as Frequency (%)					N	Mean	p-values
	Strongly Disagree	Disagree	Neither Agree/ Disagree	Agree	Strongly Agree			
	1	2	3	4	5			
Access to WhatsApp(via mobile data/Wi-Fi/other types of internet connectivity) is reasonably priced	4(2.6%)	6(4.0%)	15(9.9%)	47(31.1%)	79(52.3%)	151	4.26	<.000*
Access to Email(via mobile data/Wi-Fi/other types of internet connectivity) is reasonably priced	18(12.0%)	20(13.0%)	31(20.5%)	25(16.6%)	57(37.0%)	151	3.16	<.000*
Access to Facebook (via mobile data/Wi-Fi/other types of internet connectivity) is reasonably priced	0(0.0%)	43(28.5%)	33(21.9%)	15(9.9%)	60(39.7%)	151	3.24	<.000*
Access to digital banking(via mobile data/Wi-Fi/other types of internet connectivity) is reasonably priced	2(1.3%)	9(6.0%)	5(3.3%)	20(13.2%)	115(76.2%)	151	4.57	<.000*

This was further motivated by the mean value higher than the expected mean of 3.0. The p-values were statistically significant, showing that the low cost of using these technologies positively impacted the adoption of these digital technologies. Therefore, H5 was rejected.

4.5.6 *Factors influencing the adoption of digital technology by savings and investment stokvels.*

Table 4-7 presented the results of the logit regression model on factors influencing the adoption of digital technology by savings and investment stokvels. A logistic regression technique was used due to the binary nature of the dependent variable, which is the adoption of digital technology, where a value of 1 is given if the individual respondent uses digital technology in their stokvel and zero otherwise. A composite

index was created for the independent variables based on items that define each factor (i.e., facilitating condition, performance expectancy, expectancy effort, social influence, and price value). Results of the logit model showed a pseudo R^2 of 0.545, which indicates that the independent variables explain about 55% of the variation in the dependent variable. The Prob. > Chi2 is statistically significant at 1% (0.000), showing that all the variables are fit to be used in the regression model.

Table 4-7 showed that facilitating conditions positively impacted digital technology in stokvels. This relationship was statistically significant at a 1% significance level (p-value=0.007). Similarly, effort expectancy showed a positive coefficient at a 10% significance level (p-value=0.067). On the contrary social influence revealed a negative and significant relationship (p-value=0.034) with the dependent variable.

Performance expectancy and price value showed a negative relationship. These relationships were statistically insignificant. This showed that these factors did not significantly determine the adoption of digital technology by savings and investment stokvels.

Table 4-7: Logit Regression

Variables	**Coefficients**	**Standard errors**	**Marginal effects**	**P – Value**
Facilitating Conditions	0.8792	0.3277	0.0034***	0.007
Performance Expectancy	-0.0173	0.2541	-0.0001	0.945
Social Influence	-2.5342	0.7223	-0.0060**	0.034
Effort Expectancy	0.1794	0.3573	0.0007*	0.067
Price Value	-0.3971	0.3042	0.0015	0.191
Age	-0.6258	0.8151	-0.0021	0.448

Constant	-2.9221	10.965	0.790
Model Diagnostics			
Number of observations	= 151		
Wald Chi2(5)	= 15.45		
Prob. > Chi2	= 0.000		
Pseudo R^2	= 0.5455		
Variables with *, ** and *** are statistically significant at 10%, 5% and 1% respectively			

4.6 Results pertaining to objective 2: Investigating the effect of digital technology on member social interaction and stokvel member growth

The following sub-section focused on the research results that assisted in the acceptance or rejection of H6 and H7 and consequently assisting in answering objective 2.

The one-sample t-test was used to determine whether the level of agreement to these statements differs significantly from the mean score of 3.0. The mean value measures the average response to each statement. An average score of less than 3 indicates a below-average score for each statement, and an average value above 3 indicates an above-average response rate. A mean value above the average score shows high acceptance/agreement to the online survey statement and vice-versa.

4.6.1 *Results pertaining to Hypothesis 6: Digital technology has a negative effect on savings and investment stokvel member social interaction*

For this hypothesis, three statements were posed to the respondents. Table 4-8below shows the consolidated view of the statements and results related to H6.

- *Statement 1: Digital platforms improve social interaction between my fellow stokvel members and me.*

  90.7% of the respondents strongly agree (55.6%) and agree (35.1%) that digital technology improves social interaction between their stokvel members and themselves. 6.6% of the respondents were indifferent. While 2.0% and 0.7% disagreed and strongly disagreed, respectively.

- *Statement 2: Social interactions are better in person compared to digital.* Although 55% of the respondents strongly agree (30.5%) and agree (24.5%) that social interactions are better in person compared to digital platforms, 27.2% neither agreed nor disagreed, 14.6% disagreed with this statement, whiles 3.3% strongly disagreed.

- *Statement 3: It is important to me to know each stokvel member personally.* Finally, only a total of 46.3% strongly agreed (27.8%) and agreed (18.5%) that knowing their stokvels members personally is important. 30.5% of the respondents indicated that they neither agree nor disagree. In contrast, 23.2% disagree (17.9%) and strongly disagree (5.3%) with the statement.

Table 4-8: Stokvel member social interaction

Item	Responses as Frequency (%)					N	Mean	p-values
	Strongly Disagree	Disagree	Neither Agree/ Disagree	Agree	Strongly Agree			
	1	2	3	4	5			
Digital platforms improve social interaction between my fellow stokvel members and me.	1(0.7%)	3(2.0%)	10(6.6%)	53(35.1%)	84(55.6%)	151	4.43	<.000*
Social interactions are better in person compared to digital.	5(3.3%)	22(14.6%)	41(27.2%)	37(24.5%)	46(30.5%)	151	3.64	<.000*
It is important to me to know each stokvel member personally.	8(5.3%)	27(17.9%)	46(30.5%)	28(18.5%)	42(27.8%)	151	3.27	<.000*

The mean was above 3.0 across all statements. The responses indicate that although respondents feel social interactions are better in person than digital, supported by a mean of 3.64, they still feel, strongly so, that digital technology improves social interaction. This is indicated by a well-above-average mean of 4.43. Furthermore, the respondents mainly expressed indifference, disagreement, and strong disagreement about the need to know their fellow members personally (3.27 mean). Table 4-8 shows that the p-values were statistically significant. Therefore, the responses provided reject H6.

4.6.2 *Results pertaining to Hypothesis 7: Digital technology has a positive effect on savings and investment stokvel member growth*

Five statements were posed to the respondents. Table 4-9 below shows the consolidated view of the statements and results related to H7.

- *Statement 1: Our stokvel needs to grow its member base.*

  Of the respondents, 46.3% strongly agreed (27.8%) and agreed (18.5%) to the statement, 30.5% were neutral, and 23.2% disagreed (17.9%) and strongly disagreed (5.3%).
- *Statement 2: Social media (WhatsApp, Facebook) is important in our stokvel.*

  A resounding 92.7% of the respondents strongly agreed (53.0%) and agreed (39.7%) that social media is important in their stokvel, while 3.3% were indifferent, and 4% disagreed (3.3%) and strongly disagreed (0.7%).
- *Statements 3: Social media (WhatsApp, Facebook) helps more people find out about our stokvel.*

69.5% of the respondents strongly agreed (43.7%) and agreed (25.8%) that social media helps more people find out about their stokvels. 17.9% were neither agreed nor agreed, and a total of only 12.6% disagreed (9.3%) and strongly disagreed (3.3%).

- *Statements 4: Social media (WhatsApp, Facebook) allows our stokvel to grow*.

  A total of 70.9% of respondents strongly agreed (39.1%) and agreed (31.8%) that it allows their stokvel to grow, while 20.5% neither agreed nor disagreed. Only 8.6% of respondents disagreed (7.9%) and strongly disagreed (0.7%) that social media allows their stokvel to grow.

- *Statements 5: Our stokvel grows faster because it is digital-based.*

  60.9% of the respondents reacted positively to this statement. 40.4% was a strong agreement, and an agreement of 21.9%. 7.2% of the respondents neither agreed nor disagreed with the statement, and 7.3% disagreed. The balance of 3.3% strongly disagreed with the statement.

Based on the responses to the statements related to H2, it is evident that stokvels wanted their stokvels to grow. The collective mean of the responses is 3.46. Responses also revealed that stokvels consider social media necessary in their stokvel, indicated by the highest mean of 4.46. They help more prospective stokvel members find out about them. The mean for this statement was 3.97. The respondents felt that social media allowed their stokvels to grow, with a mean for the statement sitting at 4.01. Lastly, the responses showed that respondents think their stokvels grow faster because they are digital, indicating a 3.89 mean.

Table 4-9: Stokvel member growth

Item	Responses as Frequency (%)					N	Mean	p-values
	Strongly Disagree	Disagree	Neither Agree/ Disagree	Agree	Strongly Agree			
	1	2	3	4	5			
Our stokvel needs to grow its member base.	8(5.3%)	27(17.9%)	46(30.5%)	28(18.5%)	42(27.8%)	151	3.46	<.000*
Social media (WhatsApp, Facebook) is important in our stokvel.	1(0.7%)	5(3.3%)	5(3.3%)	60(39.7%)	80(53.0%)	151	4.41	<.000*
Social media (WhatsApp, Facebook) helps more people find out about our stokvel.	5(3.3%)	14(9.3%)	27(17.9%)	39(25.8%)	66(43.7%)	151	3.97	<.000*
Social media (WhatsApp, Facebook) allows our stokvel to grow.	1(0.7%)	12(7.9%)	31(20.5%)	48(31.8%)	59(39.1%)	151	4.01	<.000*
Our stokvel grows faster because it is digital based	5(3.3%)	11(7.3%)	41(7.2%)	33(21.9%)	61(40.4%)	151	3.89	<.000*

All the results were statistically significant, affirming the usefulness of social media in growing digital stokvels. The mean values for each statement were greater than the threshold point of 3.0, supporting the argument that stokvels want to grow their member base and that social media can achieve this. Therefore, the responses supported H7.

4.6.3 *Factors impacting digital stokvel member social interaction and stokvel member growth*

Multiple regression techniques were used to examine the effect of stokvels being digital on member social interaction and stokvel member growth. The “digital stokvels” were collectively represented by the constructs (defined in chapter two) performance expectancy, facilitating conditions, social influence, effort expectancy and price value as the independent variables. Stokvel member social interaction and stokvel member

growth were the dependent variables observed. A separate regression was used for the two dependent variables. Model (1) revealed the effect of digital technology on member social interaction, whilst Model (2) showed its effect on stokvel member growth.

The regression results in Table 4-10 showed that price value had a positive and significant impact on member social interaction and stokvel member growth. These relationships were significant at 5% and 10% significant levels for member social interaction and stokvel member growth.

Social influence also had a significant positive impact on stokvel member social interaction. However, this relationship was negative and insignificant in relation to stokvel member growth. Facilitating condition also showed a positive coefficient for Models (1) and (2). The other factors considered for this objective showed diverse relationships without statistical significance.

Table 4-10: Effects of the digital technology on member social interaction and stokvel member growth

VARIABLES	Stokvel member social interaction	Stokvel member growth
	Model (1)	Model (2)
Facilitating Conditions	0.0517	0.0899
	(0.0877)	(0.153)
Performance Expectancy	-0.00594	0.0829
	(0.0838)	(0.169)
Social Influence	0.214*	-0.0500
	(0.132)	(0.268)
Effort Expectancy	0.0870	-0.268
	(0.139)	(0.335)
Price Value	0.0585**	0.254*

	(0.0919)	(0.136)
Constant	7.462**	15.80***
	(3.068)	(5.076)
P-value	0.001	0.000
Observations	151	151
R-squared	0.022	0.027

Variables with *, ** and *** are statistically significant at 10%, 5% and 1%, respectively; variables in parenthesis represent standard errors

4.7 Results pertaining to objective 3: Investigate the impact of digital stokvels on the savings culture

Sub-section 4.7 presents the results related to H8, which will assist in answering objective 3.

The one-sample t-test was used to determine whether the level of agreement to these statements differs significantly from the average score of 3.0.

4.7.1 *Results pertaining to Hypothesis 8: Digital technology has a positive effect on stokvel member savings culture*

For H8, six statements were posed to the respondents. Table 4-11 below shows the consolidated view of the statements and results related to H8.

- *Statement 1: I would not have joined my stokvel if there were regular physical meetings to attend*

  More than 50% of the respondents strongly agreed (25.8%) and agreed (27.2%) that they would not have joined their stokvel if it required them to attend physical meetings. 19.2% were indifferent, while only 27.8% disagreed (20.5%) and strongly disagreed (7.3%).

- *Statement 2: I joined my stokvel because it is digital.*

  This statement was similar to the statement above but posed differently. It sought to understand if stokvels being purely virtual attracted the stokvel members. A similar response to the above statement was received. 57% of the respondents strongly agreed (27.2%) and agreed (29.8%). 19.2% were indifferent, while only 23.9% disagreed (17.09%) and strongly disagreed (6%).

- *Statement 3: I believe digital banking makes saving easier.*

  92.1% of the respondent strongly agree (59.6%) and agree (32.5%), 6% of the respondents were indifferent, while 0.7% disagreed and 1.3% strongly disagreed.

- *Statement 4: I had a good savings culture before joining my stokvel.*

  60,3% of the respondents strongly agree (32.5%) and agree (27.8%) that they had a savings culture prior to joining their stokvel. 13.2% neither agreed nor disagreed with the statement. While 21.2% disagreed, and 5.3% strongly disagreed.

- *Statement 5: I had a savings culture, but my savings culture has improved since joining our digital stokvel.*

  33.1% and 35.1% strongly agreed and agreed that their savings culture has improved since joining the stokvel. 15.2% of the respondents neither agreed nor disagreed with the statement. While 13,2% disagreed and 3.3% strongly disagreed.

- *Statement 6: I had no savings culture, but I have built a savings culture since joining our digital stokvel.*

47.7% of the respondents disagreed (31.1%) and strongly disagreed (16.6%) that they had no savings culture prior to joining their stokvel. 15.2% neither agreed nor disagreed with the statement. 15.9% and 21.2% agreed and strongly agreed that they had no savings culture prior to joining their stokvel.

Table 4-11: Stokvel member savings culture

Item	Responses as Frequency (%)					N	Mean	p-values
	Strongly Disagree	Disagree	Neither Agree/ Disagree	Agree	Strongly Agree			
	1	2	3	4	5			
I would not have joined my stokvel if there were regular physical meetings to attend	11(7.3%)	31(20.5%)	29(19.2%)	41(27.2%)	39(25.8%)	151	3.44	<.000*
I joined my stokvel because it is digital.	9(6.0%)	27(17.9%)	29(19.2%)	45(29.8%)	41(27.2%)	151	3.54	<.000*
I believe digital banking makes saving easier.	2(1.3%)	1(0.7%)	9(6.0%)	49(32.5%)	90(59.6%)	151	4.48	<.000*
I had a good savings culture before joining my stokvel.	8(5.3%)	32(21.2%)	20(13.2%)	42(27.8%)	49(32.5%)	151	3.61	<.000*
I had a savings culture, but my savings culture has improved since joining our digital stokvel.	5(3.3%)	20(13.2%)	23(15.2%)	53(35.1%)	50(33.1%)	151	3.81	<.000*
I had no savings culture, but I have built a savings culture since joining our digital stokvel.	25(16.6%)	47(31.1%)	23(15.2%)	24(15.9%)	32(21.2%)	151	2.94	0.604

The mean score for the statements in Table 4-12 recorded above-average values (above 3.0) except 1 statement averaging 2.94. The majority of the respondents indicated that they had somewhat of a savings culture prior to joining their stokvel. Overall, the results showed a solid agreement to the various statements, indicating that respondents have improved their savings culture since joining their digital stokvels. This was confirmed by the p-values, which were statistically significant for most items. Therefore, H8 is supported.

4.7.2 *Factors influencing digital stokvel member savings culture*

The third objective of this study was to examine how digital technology, represented by performance expectancy facilitating conditions, social influence, effort expectancy, and price value, impacts savings culture. A composite index was created for each of

these variables. The dependent variable (savings culture) was measured by considering whether the respondent has adopted technology (represented factors listed earlier i.e., performance expectancy, facilitating conditions etc.) and whether the respondent used to save/invest prior to joining the digital stokvel. The probability value was statistically significant (Prob>F=0.000), showing the joint significance of the variables included in the model.

The results in Table 4-12 show that facilitating conditions, performance expectancy, and social influence positively influence the savings culture of stokvel members. These relationships were statistically significant. On the contrary, effort expectancy and price value revealed an inverse relationship. However, this was not significant, indicating that they did not impact the savings culture of individuals.

Table 4-12: The impact of digital stokvels on stokvel member savings culture

Variables	**Coefficients**	**Standard errors**
Facilitating Conditions	0.0315**	0.0201
Performance expectancy	0.0086*	0.0192
Social Influence	0.0674**	0.0360
Effort Expectancy	-0.009	0.0335
Price Value	-0018	0.0190
Constant	1.6043**	0.7349
Model Diagnostics		
Number of observations	= 151	
Prob. > F	= 0.000	
R Squared	= 0.4579	
Variables with *, ** and *** are statistically significant at 10%, 5% and 1% respectively		

4.8 Free-text question

The last question on the online survey asked the respondents to if they would like to share anything else about their stokvel. Several themes emerged in from the responses such as stokvel growth; meetings; the social aspect; stokvels being key in member financial goal, and more. Key themes will be discussed below.

4.8.1 *Stokvels want to grow*

Many respondents expressed that stokvels are a good way to create wealth as a group and that they had long term goals. Respondents indicated that they are a part of franchise, property, and other types of investment or business stokvels. Respondent 44 said “It’s a legacy Stokvel with long term goals” while respondent 41 shared that “I love our STOKVEL as it has taken away the narrative that we only save and then share the money in Dec/January. I like that it’s a long-term investment and we have gone away from what a stokvel is perceived at in townships/African ppl”. Other respondents indicated that their stokvels had not started participating in any investments and that they are considering doing this in the future. They also indicated that experience leadership and management challenges, and struggle with lack of financial education – they require assistance in these areas.

4.8.2 *Stokvels assists with financial discipline*

Many of the respondents showed appreciation of their stokvels as they assisted them with committing to their financials goals or building a savings culture. The respondents expressed that stokvels were key in them fulfilling major goals, respondent 104 stating

“I have managed to extend my parents’ house with the stokvel savings”. Respondent 111 also said “Our stokvel helps a lot, I am able to payout my huge responsibilities easier (e.g., School fees, renovations)”. There was a general theme of stokvels being a great way to save and stokvels being key in building a savings culture amongst the respondents.

4.8.3 *Stokvel meetings and communication*

There were mixed views from the respondents on the topic of stokvel meetings. Most respondents were appreciative of their stokvels having no physical meetings or only having digital meetings. Respondent 16 expressed that their stokvel is “Very efficient, we do meetings digitally”. They mentioned that having digital meetings freed up their time to attend to other matters, and with the COVID-19 pandemic, having digital meetings curbs gathering unnecessarily. The opposing view was from respondent 67 who shared that “I would wish that covid pass so we can have physical engagements once in a while”. Regarding communication, some of the respondents appreciated their stokvels being digital as engagements are more frequent and digital it helps keep them informed.

4.8.4 *The social aspect of stokvels and trust*

There were numerous responses related to the social aspect of stokvels as well as trust. Some of respondents indicated that they are a part of a social stokvel that is based on friendship and traveling together, respondent 3 said “It improves sisterhood. In between discussing money, ours acts as a tool to build friendship. Members have gone through hectic divorces - we support them with advice, referrals of lawyers. Others with kids’ issues, we are there. Through accidents we are there. Through

purchases of cars & houses and international trips, we are there to congratulate. It's more than just money.". Two views stood out relating to trust. Respondent 35's view was "My stokvel is made out mostly of people I know very well. It's hard to trust people I don't know with money ". While respondent 19 expressed "There is still trust and security issues around digital stokvels". Some expressed that the stokvels they are a part of are made up of the people they know because it is difficult to trust people you do not know with money. Others said that their stokvels are more of a sisterhood of a family because their stokvels were more than just informal savings; they are a support structure. Some respondents raised the issue of trust, or lack thereof, of digital stokvels; stating that fear being defrauded of their money; and that it would be easier to trust and join digital stokvels if someone they knew was a part of that stokvels already.

4.9 Hypotheses outcomes

Table 4-13: Hypothesis outcomes

Hypotheses	**Description**	**Outcome (accept or reject)**
H1	Performance expectancy has a positive effect on savings and investments stokvel members' intention to use digital technology	Accept
H2	Effort expectancy has a positive effect on savings and investments stokvel members' intention to use digital technology	Accept

H3	Social influence has a positive effect on savings and investments stokvel members' intention to use digital technology	Accept
H4	Facilitating conditions have a positive effect on savings and investments stokvel members' intention to use digital technology	Accept
H5	Price Value has a negative effect on savings and investments stokvel members' intention to use digital technology	Reject
H6	Digital technology has a negative effect on savings and investments' stokvel member social interaction	Reject
H7	Digital technology has a positive effect on savings and investments' stokvel member growth	Accept
H8	Digital technology has a positive effect on stokvel member savings culture	Accept

4.10 Chapter Summary

The survey results indicate that the majority of the respondents were African (98.7%) females (70%) ranging between the ages of 25 - 44 (86.1%). The respondents reside primarily in suburban areas (69%) and hold predominantly undergraduate and postgraduate degrees (45,177% of the respondents are employed full time, while 10% are self-employed, and lastly, most of the respondents (79.5%) earn between R15 000 - R40 000+.

Performance expectancy, Effort expectancy, social interaction, facilitating conditions, and price value had a positive effect on savings and investment stokvels. However, the factors that influenced adoption of digital technology by savings and investment stokvels were effort expectancy, social influence, and facilitating conditions.

Represented by the five independent constructs, digital technology had a positive effect of stokvel member social interaction and stokvel member growth. Where price value and facilitating conditions had a positive and significant impact both. Yet social influence had a positive effect on stokvel member growth, and a negative and insignificant impact on stokvel member social interaction. The rest were insignificant.

Also represented by the five independent constructs, digital technology had a positive effect on stokvel member savings culture. Facilitating conditions, performance expectancy, and social influence specifically were found to positively influence the savings culture of stokvel members, while effort expectancy and price value had an inverse but insignificant impact.

All but 2 hypotheses, that being H5 and H6, were accepted. Finally, several themes emerged from the free-text question. These key themes include desire to grow their investments; the appreciation of stokvels being an accountability and support structure. Opposing views were picked up under the meeting and trust themes.

The following chapter discusses the research results against the literature review.

CHAPTER 5. DISCUSSION OF THE RESULTS

5.1 Introduction

This chapter discusses the results taking into consideration the literature reviewed in chapter 2. The chapter begins by discussing the demographics of the respondents and then discusses the hypotheses under each of the three objectives of the study against the reviewed literature.

5.2 Discussion pertaining to demographic characteristics

5.2.1 *Race and Gender*

Matuku and Kaseke (2014) found that stokvels in South Africa are dominated by the African (black) community. This view supports the research conducted by Mashigo and Schoeman (2012). Verhoef (2001) further added that stokvels are dominated by women. The results of this study revealed the same. 98.7% of the respondents in this study were African; the balance of the respondents were of White and Indian descent. Also, in line with Verhoef's (2001) findings, 70% of the respondents were females. Therefore, as confirmed by this study, the majority of stokvel participants are still African and female.

5.2.2 *Age*

The respondents of the online survey were mostly between the ages of 25 – 44 (86.1%). These are millennials who were born around 1977 – 1995 and are known to be “digital natives” (Dorsey, 2022). The study sought respondents who are a part of digital stokvels and no other type. The online survey asked respondents if they were a part of a digital stokvel, where a brief description of what a digital stokvel is was provided. If the respondents indicated “no” to that question, the survey was ended. Therefore, it is not surprising that the respondents were between the ages of 25 – 44 as they are digital natives and would be more inclined to participate in digital stokvels. Prior research does not indicate the exact age of stokvels participant, but the likes of Anderson and Baland (2002) and Verhoef (2001) make mention that participants are typically married and of working age. With the average responded being 25 - 44 years old, the study supports prior research.

5.2.3 *Location, Income Generation, and Level of Education*

In this study’s results 69% of the respondents lived in suburban areas, 26% in townships, 5% in rural areas, and no respondents were from informal settlements. Suggesting that a majority of digital stokvel participants reside in suburban arise. Sansom (1974) found that stokvels became a phenomenon in South African suburban areas as a result of the rapid urbanisation that took place in the early 1930s. Therefore, this research supports Sansom’s (1974) study.

The results in Verhoef's (2001) study found that stokvel participants were woman who were employed in the suburbs to do domestic work and other casual labour. It can be assumed that they were living in servants' quarters in these areas and had little to no schooling. Contrary to this, the results of this study revealed that the respondents were well educated and employed; where 45,1% had undergraduate and postgraduate education, and 13,2% had primary and high school education; and 87% indicated that they were full-time or self-employed.

Anderson and Baland's (2002) study revealed that a majority of stokvels were found in slums, which the equivalent of informal settlements, and in rural areas. On the other hand, the survey conducted by Old Mutual in 2011 revealed that stokvels were located predominantly in townships. Although there were 26% respondent from townships and 5% from rural areas, these did not constitute the majority of the responses. Therefore, the results from this study did not support prior findings that stokvels are predominantly located in informal settlements, townships and rural areas.

5.2.4 *Internet Access and Smartphones*

The research survey was an online survey, meaning the respondents would have to have internet access to participate. Further to that, if the respondents did not use digital technology in their stokvel, they were not selected to be analysed in this study, all of whom indicated they had internet access. Only 1 of the respondents indicated they had internet access, used digital technology in their stokvel, and did not use a smart phone. This supports Biyela et al. (2018), Menze and Tsibolane (2019), and Kariuki

and Ofusori's (2017) findings that stokvels have adopted ICTs/ digital technology in their stokvel.

5.3 Discussion pertaining to objective 1: Investigate factors that influence the adoption of digital technology by savings and investment stokvels

5.3.1 *Discussion pertaining to Hypothesis 1: Performance expectancy has a positive effect on savings and investments stokvel members' intention to use digital technology*

Performance expectancy speaks to the how the technology will benefit users in performing specific tasks; and it is considered to be the strongest predictor of intention (Venkatesh et al., 2003). Castanha et al., (2021) conducted a study investigating the factors that influence the acceptance of ICT; and they also found that performance expectancy is one of the best constructs in predict user acceptance in ICTs.

The results in chapter 4 displayed agreement by the majority of the respondents that all the digital technologies (WhatsApp, Email, Facebook, and Digital banking) are beneficial to the respondents in performing certain tasks in their stokvel processes. However, when the logit regression test was conducted, performance expectancy showed a negative and insignificant, indicating that this factor was not significant in determining the adoption of all the digital technologies. Therefore, the results from this study does not support Venkatesh et al. (2003) and Castanha et al. (2021).

5.3.2 *Discussion pertaining to Hypothesis 2: Effort expectancy has a positive effect on savings and investments stokvel members' intention to use digital technology*

Effort Expectancy speaks to the extent to which technology is easy to use (Venkatesh et al., 2003), ,The data illustrated that the majority of respondents found digital technology (WhatsApp, Email, Facebook, and Digital Banking) easy to use. Added to this, at significance level of 10%, the logit regression test revealed that effort expectancy had a positive coefficient. Therefore, in line with Venkatesh et al.'s (2003), the study supports that effort expectancy is a factor that influences stokvel members to use digital technology.

5.3.3 *Discussion pertaining to Hypothesis 3: Social influence has a positive effect on savings and investments stokvel members' intention to use digital technology*

Social Influence is the degree to which users perceive that the important people in their lives believe they should use the technology (Venkatesh et al., 2003). The data from this study depicted that respondents prefer to use the digital technologies in question because important people in their lives use these technologies and would not use them otherwise. The logit regression also showed that social influence had a negative but significant coefficient, emphasizing that digital technology will not be adopted by individuals if important members in their lives did not perceive that that technology should be used. Therefore, it can be confirmed that the results from this

study support the UTAUT2 model that social influence is a factor that influences savings and investment stokvel members to use digital technology.

5.3.4 *Discussion pertaining to Hypothesis 4: Facilitating conditions have a positive effect on savings and investments stokvel members' intention to use digital technology*

Facilitating Conditions speaks to the availability of resources required to use the technology (Venkatesh et al., 2003); and in the UTAUT 2 model the facilitating conditions construct was moderated by age, gender, and experience (Venkatesh et al., 2012). Statistically significant at 1%, facilitating conditions was the best predictor of technology acceptance in this study. There was resounding agreement from the respondents that the digital technologies used in their stokvel processes are due to the availability of the resources required to use these digital technologies. In line with Venkatesh et al. (2003) and Venkatesh et. al (2012) studies, facilitating conditions is a factor that influences the adoption of digital technology. The key difference in this study is that facilitating conditions were found to be the strongest predictor of technology acceptance, whereas the UTAUT2 model found performance expectancy to be the strongest predictor of technology acceptance.

5.3.5 *Discussion pertaining to Hypothesis 5: Price Value has a negative effect on savings and investments stokvel members' intention to use digital*

Lastly, price value is defined as the consumer's cognitive trade-off between the perceived benefit of the technology versus its cost (Dodds et al., 2018). In the UTAUT2 model price value was moderated by age and gender (Venkatesh et al., 2012), and is stronger among older women. The model used in this study did not use any moderating factors on price value, therefore it is not possible to draw a like-for-like comparison against the UTAUT2 study. Price value showed a negative and insignificant relationship with behavioural intention. Thus, price value is a factor that does not influence the use of digital technology by savings and investment stokvels.

An assumption can be made that respondents felt that these technologies (WhatsApp, Email, Facebook, and Digital Banking) are reasonably priced because these technologies are "free" to use, i.e., there are no subscription costs to use these technologies. The only requirement is for one to have access to the internet and a smartphone. The expectation was for users to respond negatively because data costs in South Africa are higher compared to other countries in the African continent (REF). An assumption can also be made that respondents felt that the technologies (or internet) is reasonably priced because a majority of the respondents were either employed or self-employed and earned what could be said – a good income (an average of R27 500 per month).

5.4 Discussion pertaining to objective 2: Investigating the effect of digital technology on member social interaction and stokvel member growth

5.4.1 *Discussion pertaining to Hypothesis 6: Digital technology has a negative effect on savings and investments' stokvel member social interaction*

As stated in the literature review, in traditional stokvels, members meet regularly to discuss their stokvel affairs (Anderson & Baland, 2002; Verhoef, 2002), exchange funds to the rightful recipient(s) (Dallimore, 2013). During these meetings members also socialise over food, drink, and dance (Menze & Tsibolane, 2019); and this social aspect of stokvels is considered fundamental to the nature of what a stokvel is (Kgomo, 2018; Mashigo & Schoeman, 2012; Mulaudzi, 2017).

Studies conducted over the last few years reveal that stokvels have begun to adopt digital technology in their processes (Biyela et al., 2018; Menze & Tsibolane, 2019; Varrella, 2021). Examples of these digital technologies are WhatsApp, Emails, Facebook, and Digital Banking. Given how fundamental social interaction is to stokvels, the study sought to investigate whether digital technology has a negative effect on member social interaction.

The results for hypothesis 6 in chapter 4 illustrated that digital stokvel members did not think it was important to know each stokvel member personally, contrary to what previous research suggests (Van Wyk et al., 2012). However, the results in this study,

revealed that although interacting through digital technology cannot be compared to physical social interaction, it does improve member social interaction. The results support the study by Kariuki and Ofusori's (2017). where they found that information dissemination, the real-time nature, and the cost-effectiveness of digital technology such as WhatsApp improved social interaction amongst digital stokvel members.

Price value had a positive effect on member social interaction, so did social influence and facilitating conditions Suggesting that if the digital technology is favourable in terms of price (cheap), enough people the member knows use the technology, and the member has the means necessary to access the technology, then the technology will not have a negative impact on member social interaction. Assuming that they were referring only to social interaction in the physical sense , these findings do not support previous research conducted by the likes of Bouman (1995); Verhoef (2001); Mashigo and Schoeman (2012); Dallimore (2013); Kgomo (2018); etc that social interaction, is a critical part of a stokvel.

This view was also shared by a few of the respondents in the free-text section of the online survey, stating that digital kept them informed and that digital allows them to engage with each other more frequently. Respondents also expressed the appreciation of being able to meet virtually as it kept them safe considering the global COVID-19 pandemic. Some of the responses in the free-text section stated that stokvels served more than just an informal financial service function. They stated that them being a part of their stokvel came with the added advantage of having a support structure, or a "sisterhood"/"family" as two of the respondents. Unfortunately, it is

unknown if they were referring to physical gatherings or virtual, as support could still be offered virtually. Others felt that being unable to meet due to the pandemic is a disadvantage to their stokvel because there were certain matters they believed could only be clarified in person. Therefore, it can be argued that digital technology does not have a negative effect on member social interaction, it enhances it. However, it cannot be compared to physical social interaction.

5.4.2 *Discussion pertaining to Hypothesis 7: Digital technology has a positive effect on savings and investments' stokvel member growth*

As stated in the literature review and above, traditional stokvels are founded on social capital (Menze & Tsibolane, 2019), and entry or recruitment into the stokvel is based on being affiliated with an existing stokvel member (Kgomo, 2018; Mashigo & Schoeman, 2012). It was also noted that stokvel members use physical stokvel meetings to connect and socialise (Menze & Tsibolane, 2019). This suggests that the success and growth of stokvels hinges on member relationships.

Stokvels that utilise digital technology in their processes begin to benefit from the convenience that comes with the removal of barriers such as geography. The removal of the geography barrier makes it easier for prospective members who would otherwise be limited by geography, the opportunity to join the stokvel provided they have internet access (Biyela et al., 2018). Kariuki and Ofusori (2017) stated that the ease of access to digital technology such as WhatsApp and Facebook reduce travel costs and saves time, hence the rapid adoption of digital technology in WhatsApp

stokvels. Kariuki and Ofusori (2017) also posited that it is easy for prospective stokvel members to trust and join such stokvels if their friends or family are already a part of these stokvels.

This study focused on savings and investment stokvels. Which are assumed to want to grow. It can also be assumed that a large sum of funds can be acquired through more significant deposits from each member or growing the stokvel member base, sometimes outside of their family friends, and colleagues. Therefore, the study sought to investigate if these stokvels would like to grow their member base and how important social media is in doing so. Especially given that recruitment into traditional stokvels takes place through being affiliated with an existing member (Mehmood et al., 2018).

The results for hypothesis 2 in chapter 4 depict that digital stokvels need and use social media to grow their stokvel member base. In addition to this, several respondents in the free-text section expressed in various ways that their goal as a stokvel is to grow. One respondent expressed what can be assumed as appreciation that their stokvel is “open to anyone in South Africa”. Therefore, digital technology does positively impact stokvel member growth.

This study's first objective was to investigate the effect of digital technology on member social interaction and stokvel member growth. The results from the study show that stokvels members do not consider digital as a hindrance to social interaction. In fact,

it is a catalyst. Furthermore, digital technology i.e., social media is considered key in growing their member base.

Price value and facilitating conditions had a positive effect on stokvel member growth, while social interaction had a negative effect. This suggest that if a technology is reasonably priced and the potential members have the necessary tools to use the technology used by the stokvel, then it would be easy for potential members to join and grow the stokvel. However, if the influential people in their lives have not adopted the technology used by the stokvel, potential members will not be encouraged to adopt the technology and join the stokvel.

5.5 Discussion pertaining to objective 3: Investigate the impact of digital technology on member savings culture

5.5.1 *Discussion pertaining to Hypothesis 8: Digital technology has a positive effect on stokvel member savings culture*

Savings are essential in a nation because they contribute to investments, which lead to economic growth (Aghevli, 1990). South Africa, however, has seen a downward trend in savings since 1990 (South Africa Gross Savings Rate, 1960 – 2021 Data, 2021). At a micro level, savings assist individuals in being better prepared for unforeseen expenditures, relying less on credit, and providing a comfortable retirement (Darley, 2011; Grobler, 2015). While, at a macro level, savings contribute to gross domestic savings, which aid economic stability and growth (Elbadawi & Mwega, 2000; Grobler, 2015).

Research has established that stokvels positively impact savings culture amongst members (Matuku & Kaseke, 2014; Naong, 2009). The convenience and cost-effectiveness brought about by digital banking also impact savings culture positively (Barry, 2018; Varlamova et al., 2020). Therefore, the study sought to investigate whether the ease and convenience that comes with stokvels being digital positively impact savings culture amongst members. The results in chapter 4 depicted that digital stokvel members, although they may have had a savings culture prior to joining their digital stokvels, the convenience of stokvels being virtual, there being little to no physical meetings and the digital stokvels making use of digital banking in their processes assisted in improving the digital stokvel members' savings culture.

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Facilitating conditions, performance expectancy, social influence had a positive effect on member savings culture. Looking at facilitating conditions and performance expectancy, the results support the research conducted by Barry (2018) and Varlamova et al. (2020) where it was pointed out that the convenience brought about by digital banking technology has been proven to improve savings behaviour. To expand on this, convenience can only apply when one has the tools necessary to use the technology i.e., internet access and internet banking or app banking; and the technology will benefit the user when doing a specific task i.e., internet banking can help one make transactions into their savings account. When it comes to social influence, the results support Naong's (2009) findings that stokvel positively impact member savings culture. Further to this, numerous respondents in the free-text section said them being a part of a stokvel helps them to stay committed to their financial goals, or to be better prepared for big projects such as building or paying for expenses such as school fees.

5.6 Chapter summary

Prior research noted that African (black) females are predominantly the demographic that participates in stokvels. The responses received in this study were concurred with these findings. The age of the respondents ranged between 25 – 44, which was also expected as these are millennials. They are known to be digital natives therefore it was in line with expectation that they would be the ones participating in digital stokvels.

Due to the social aspect of stokvels being so pivotal in the stokvel community, it was expected digital disruption would put it at risk. Hence the first objective of this study was to investigate the effect of digital technology on savings and investments stokvels' member social interaction and member growth. However, it was discovered in this study that digital has enhanced the social aspect of stokvels as members can engage real-time using applications such as WhatsApp as opposed to only engaging during scheduled physical meeting. It was also noted that although digital allows for members to communicate at their leisure, it cannot be compared with the fluidity of socialising face-to-face. Another advantage of digital, particularly social media, is that it allows more people to find out about stokvel and join them, as opposed to relying on the growth of the stokvel only through member affiliation. Growing the stokvel member base is a desire of savings and investment stokvels.

Secondly, the study aimed to investigate the impact of digital technology on stokvel member savings culture. In the discussion pertaining to this objective, was highlighted that existing research found stokvels and digital banking to be catalysts

of a positive savings behaviour amongst member and user. The results in this study corroborated with this view.

Finally, the third objective for this study was to understand the factors influencing technology adoption by savings and investment stokvels. The discussion pertaining to this objective revealed that a study conducted on adoption of ICTs using the UTAUT2 model resulted in mostly differing outcomes to this study. The following chapter concludes the study and provides recommendations.

CHAPTER 6. CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This chapter brings the study to a conclusion by overall recapturing the essence of the research outcomes and their implications. Further to this, the chapter also provides recommendations for future research, and recommendations to various organisations informed by the process of having conducted this study in the areas to be improved upon.

6.2 Conclusions of the study

Of the five UTAUT2 model constructs/factors that were tested in this study (i.e., performance expectancy, effort expectancy, social influence, facilitating conditions, and price value), the results revealed that the factors influencing adoption of digital technology in savings and investment stokvels were effort expectancy; social influence, and facilitating conditions. Indicating that if a technology is easy to use; enough people who are of influence on the member believe the technology is useful; and the members have the resources necessary to make use of the technology, then the technology will be easily adopted by savings and investment stokvels.

With past research highlighting the criticality of social interaction in stokvels, and its direct link to stokvel member recruitment and growth, it became important to investigate the effect of digital technology in stokvels in this regard, particularly with savings and investment stokvels. This study revealed that although stokvel members feel that social interactions are better in person than digital, they still feel, strongly so, that digital technology improves social interaction. Members also felt it was not quite necessary to know other personally, as their stokvels grow through social media. It can be concluded that digital technology has a positive effect on member social interaction and stokvel growth.

Amongst other benefits, the structure and accountability brought about by stokvels help members build a savings culture. Digital banking has also proven to improve savings culture. The study illustrated that by virtue of stokvels using digital technology, especially digital banking, members who would otherwise not be able to join the stokvel due to geographical distance; and other members who are not too keen to join stokvels that have regular physical meetings have joined their stokvels because they are digital based. Added to this, members have built a savings culture by being a part of a stokvel, and they find saving easier, accessible, and convenient due to digital banking. It can therefore be concluded that digital technology has a positive impact on stokvel member savings culture.

6.3 Recommendations for future studies

The recommendation for future research is for a study to be conducted using the full UTUAT2 model constructs to test the rest of the constructs that were not the focus of this study. These are hedonic motivation, habit, use behaviour and all the moderating constructs. Further enquiry needs to be conducted on some of the key themes that emerged in the results such as trust. There needs to be an understanding of how digital stokvels impact trust compared to traditional stokvels. This study focused on savings and investment stokvel, and the results may not be replicable to other types of stokvels; therefore, it is recommended that a similar study is conducted on other stokvel types such as burial society.

6.4 Recommendations for various organisations

6.4.1 *Recommendations for traditional stokvels*

More recent studies has revealed that stokvels are beginning to undergo digital transformation, and this has benefited stokvels from a cost, time, and communication perspective. Therefore, it is recommended that traditional stokvels consider adopting digital technology to enjoy these listed benefits.

6.4.2 *Recommendations for FinTechs and financial institutions (Banks)*

Based on numerous studies on the science and psychology of technology adoption, and the results from this study, when FinTechs and Banks design technology for savings and investment stokvels they ought to consider factors that influence the adoption of digital technology. Understanding these factors will ensure that the technology designed is accepted and used as intended by the stokvels.

FinTechs and Banks need to ensure that the technology does not charge a subscription fee and is and easy to use. They also ought to apply great effort in advertising the technology and offer great service. If the initial users of the technology are satisfied with the functionality and service, they could be strong advocates of the technology in their stokvel. This is because price value, effort expectancy, and social influence are some of the key factors that influence the adoption of technology by savings and investment stokvels as evident from this study.

Also based on the factors that influence the adoption of digital technology by savings and investment stokvel and key themes discovered in this study, and literature reviewed, the features that need to be considered when building technology for savings and investment stokvels are: (1) chat functionality where stokvel members can communicate amongst themselves; (2) a bank card or bank account linking feature where members can make payments to other members or contribute to their savings or investments portfolios; (3) a document storage feature where stokvels can store and easily access their records; (4) a financial education feature.

6.4.3 *Recommendations for the South African Savings Institution*

The literature review and the results from this study proved that the SASI needs to realise and appreciate the effectiveness of stokvels in instilling structure, accountability, and a savings culture amongst its members. Thus, SASI as an organisation must be more visible in the South African community. They need to collaborate more with FinTechs and Banks to strengthen and be more consistent with their savings campaigns. They need to drive campaigns and encourage individuals of all races to either start or join a stokvel, highlighting key attributes and benefits of these organisations (stokvels) to address the poor savings rate in South Africa.

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APPENDIX A – PARTICIPANT INFORMATION SHEET

Good day,

My name is Nontokozo Maphumulo, and I am a Master of Management Student in the field of Digital Business at Wits Business School in Johannesburg. As part of my studies, I must undertake a research project, and my research investigates the use of digital technology by savings and investment stokvels. Therefore, you are invited to participate in this research study. The information required from this survey will be used solely for academic purposes. The entire survey should take about 10 minutes to complete

Your participation is voluntary, and there are no right or wrong answers. There will be no financial benefit for participating in this study. You may withdraw from this study at any stage or not answer any questions if you feel uncomfortable. This survey is both confidential and anonymous. Anonymity and confidentiality are guaranteed by not needing to provide any information linked to you in the survey. In addition, your participation involves no risk, no disadvantages, penalties, or loss of benefits if you do not choose to participate or withdraw from the study.

Please feel free to contact my supervisor, Ayanda Magida, or me should you have any questions regarding the research or would like to access a summary of the study. Your response will be of great value to this study. If you have any concerns or complaints regarding the ethical procedures of this study, you are welcome to contact the University Human Research Ethics Committee (Non-Medical), telephone +2711 717 1408, or email hrec-medical.researchoffice@wits.ac.za.

The survey can be accessed on the link below:

https://wits.eu.qualtrics.com/jfe/form/SV_cZRkQfBZRHhGknk

Thank you for considering taking part in the study.

Yours Sincerely,

Researcher: Nontokozo Maphumulo

Email: 319172@students.wits.ac.za Contact number +27 78 160 3565

Supervisor: Ayanda Magida

Email: ayanda.magida@wits.ac.za

APPENDIX B – PARTICIPANT AGREEMENT

The informed consent as a participant section will read as follows

“I agree to participate in this research project. I have read the information sheet, and I understand what my participation will involve. I agree to the following:

1. I am 18 years or older
2. I understand that my participation is voluntary, and I am free to withdraw at any time without giving any reason
3. I agree that my participation will remain anonymous

◉ Yes, I agree

○ No, I do not agree

APPENDIX C – INSTRUMENT

Section 1: Demographics

1. What is your age range?
    a. 18 – 24
    b. 25 – 34
    c. 35 – 44
    d. 45 – 54
    e. 55 – 64
    f. 66 – 74
    g. 75 or older
2. What is your gender:
    a. Male
    b. Female
    c. Non-binary/ third gender
    d. I prefer not to say
3. What population group do you belong to?
    a. African
    b. White
    c. Coloured
    d. Indian
    e. Asian
4. Which of these best-describe the general area where you live?
    a. Urban
    b. Sub-urban
    c. Rural

5. What is your highest level of education?
    a. No schooling completed
    b. Primary school
    c. High school
    d. Undergraduate degree
    e. Postgraduate degree
    f. I prefer not to say
6. How do you generate your primary income?
    a. Employed full time
    b. Employment part-time
    c. Through a business
    d. Self-employed
    e. Unemployed
7. Other - Please specify Which band does your income fall under?
        a. R0 – R3 499
        b. R3 500 – R7 499
        c. R7 500 – R14 999
        d. R15 000 – R24 999
        e. R25 000 – R39 999
        f. More than R40 000
8. Do you have access to the internet?
        a. Yes
        b. No

9. Do you access to a smartphone?
    a. Yes
    b. No

10. Are you a part of a stokvel?
    a. Yes
    b. No (If no is selected skip to the end of the survey)

11. What type of stokvel are you a part of
    a. Savings
    b. Investment
    c. Rotational
    d. Grocery
    e. Burial society. (If Burial society is selected skip to the end of the survey)
    f. Social/ Travel
    g. Borrowing (lending other members or other people)

12. Do you use digital technology in your stokvel (e.g. WhatsApp, Email, Facebook, Digital Banking)?
    a. Yes
    b. No. (If no is selected skip to the end of the survey)

13. What type of digital technology does your stokvel use? (allow multi-select)
    a. WhatsApp
    b. Email

c. Facebook
d. Digital Banking (Banking App, Internet Banking, Mobile money/ eWallets/ Vouchers)
e. Other – please specify

Section 2: The use of digital technology

The following contains statements on **the use of digital technology** in your savings and investment stokvel. To what extent do you agree or disagree with the following statements:

14. WhatsApp (Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree)
    a. I find WhatsApp useful for our stokvel
    b. Using WhatsApp helps our stokvel communicate more efficiently
    c. I find WhatsApp easy to use
    d. It makes sense for us to use WhatsApp for our stokvel because most people use it
    e. I have the resources necessary to use WhatsApp (e.g., network, internet connectivity, smartphone)
    f. I know how to use WhatsApp
    g. Access to WhatsApp (via mobile data/Wi-Fi/other types of internet connectivity) is reasonably priced

15. Email (Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree)
    a. I find Email useful for our stokvel

b. Using Email helps our stokvel communicate more efficiently
c. I find Email easy to use
d. It makes sense for us to use Email for our stokvel because most people use it
e. I have the resources necessary to use Email (e.g., network, internet connectivity, smartphone)
f. I know how to use Email
g. Access to Email (via mobile data/Wi-Fi/other types of internet connectivity) is reasonably priced

16. Facebook (Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree)
    a. I find Facebook useful for our stokvel
    b. Using Facebook helps our stokvel communicate more efficiently
    c. I find WhatsApp easy to use
    d. It makes sense for us to use WhatsApp for our stokvel because most people use it
    e. I have the resources necessary to use Facebook (e.g., network, internet connectivity, smartphone)
    f. I know how to use Facebook
    g. Access to Facebook (via mobile data/Wi-Fi/other types of internet connectivity) is reasonably priced

17. Digital Banking (Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree)
    a. I find digital banking useful for our stokvel
    b. digital banking helps our stokvel collect/ payout money more efficiently

c. I find digital banking easy to use
d. It makes sense for us to use digital banking for our stokvel because most people use it
e. I have the resources necessary to use digital banking (e.g., network, internet connectivity, smartphone)
f. I know how to use digital banking
g. Access to digital banking (via mobile data/Wi-Fi/other types of internet connectivity) is reasonably priced

Section 3: Social interaction and stokvel member growth

18. How did you find out about your stokvel?
    a. A friend
    b. A colleague
    c. A family member
    d. Social media
    e. Other - please specify)
19. How does your stokvel recruit new members?
    a. Our stokvel does not take in new members
    b. Word of mouth
    c. Social media
    d. Other – please specify
20. How does your stokvel keep in touch?
    a. Physical meetings
    b. WhatsApp/ Email
    c. Communication

d. Social media page updates

21. The following contains statements on **member social interaction and stokvel growth**. To what extent do you agree or disagree with the following statements: (Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree)
    a. It is important to me to have social interaction with fellow stokvel members
    b. Digital platforms improve social interaction between my fellow stokvel members and me
    c. Social interaction is better in person compared to digital
    d. It is important to me know each stokvel member personally
    e. It is important for our stokvel to grow its member base
    f. Social media is important in our stokvel
    g. Social media helps more people find out about our stokvel
    h. Social media allows our stokvel grow
    i. Our stokvel grows faster because it is digital-based

Section 4: Savings culture

22. The following contains statements on **savings culture**. To what extent do you agree or disagree with the following statements:
    (Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree)
    a. I use to save/ invest before joining my stokvel
    b. I had a good savings culture before joining my stokvel
    c. I would not have joined my stokvel if there were regular physical meetings to attend
    d. I joined my stokvel because it is digital
    e. I believe digital banking makes saving easier

f. My savings culture has improved since joining our digital stokvel

g. I have built a savings culture since joining our digital stokvel

Section 5: Free-text question

23. Is there anything else you would like to share about your stokvel?

APPENDIX D – ETCHICAL CLEARANCE

Graduate School of Business Administration
University of the Witwatersrand, Johannesburg

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

Ethics Clearance Certificate

Ethics protocol number: WBS/DB319172/691
This certificate is only valid with a legitimate ethics protocol number and signed by the Researcher (below).

Project title	The use of digital technology by savings and investment stokvels
Investigator / Researcher	Miss Beauty Maphumulo
Nature of Project	MM (Digital Business)
Decision of the Committee	Approved, provided stakeholders and participants are guaranteed anonymity and confidentiality.
Issue Date of Certificate	2021-09-03
Expiry date	Date of submission of the project report
Chairperson	Prof Anthony Stacey ☎ +27 11 717 3587 +27 82 880 4531 anthony.stacey@wits.ac.za

Declaration by Researcher

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

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

Signature

06 September 2021
Date: