Gordon Institute of Business Science
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Interactions between social ties and saving mechanisms as a determinant of savings behaviour

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ABSTRACT

The prevalence of a strong saving culture has a positive effect on economic welfare resulting in a reduction in inequalities. Within South Africa, Stokvels are an established informal savings mechanism which this study uses as a proxy for exemplary saving behaviour. The success of stokvels can be attributed to social capital and the spirit of ubuntu. Thus, this research aims to determine whether social capital and the cultural practice of ubuntu can influence saving decisions amongst the broader society.

This study adopted a between-subjects Experimental Vignette Methodology design to investigate the effects of social distance and culture on saving contributions. A three by two research design was employed. Social distance increased incrementally across the three levels and culture was tested using a frame. This study also applied strength of social ties as a moderator variable.

The study found that saving contributions significantly varies across a neutral framing and an ubuntu framing, which supplements existing claims that culture influences decision making. Thus, this study provides evidence to support the effectiveness of framing as a measure of culture. The study also found that social distance and strength of social ties do not impact saving contribution.

KEYWORDS

Social Distance, Framing, Ubuntu, Informal saving mechanisms, Saving groups

DECLARATION

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

Saberah Ebrahim

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CHAPTER 1: INTRODUCTION TO RESEARCH PROBLEM

1.1. Introduction to the research problem

Saving focused decision making is considered a key driver for household and economic welfare (Karlan, Ratan & Zinman, 2014). From an economic perspective, the National saving rate is considered a predictor of economic growth, with a low saving rate suggesting weak future economic growth (Karlan et al., 2014). Low national savings rates also increase a country's dependence on foreign direct investment to stimulate economic growth, which leaves the economy vulnerable during unexpected and negative events (Cronjé & Roux, 2010). In contrast, a high savings rate encourages economic growth and provides capital for the investment in fixed assets that are required to improve economic productivity (Saville & Macleod, 2019). At a household level, savings assist to reduce unnecessary consumption and create future financial well-being. Thus, high levels of savings increase economic welfare and create opportunities for social mobility (Karlan et al., 2014; Cronjé & Roux, 2010). Consequently, this research is motivated by the positive impact of savings on economic welfare from a macro and household level.

In comparison to other developing countries such as India and China, South Africa has a poor saving culture (Cronjé & Roux, 2010). South Africa has average gross savings as a percentage of Gross Domestic Product (GDP) reported at 14.6% in 2019, which represents a decline of 0.7% over the past five years (South African Reserve Bank, n.d.). South Africa's poor saving culture has been accentuated during the current Covid-19 pandemic with 37% of working-class South Africans that earn more than R5 000 per month being in arrears on household expenses (Old Mutual, 2020). The level of debt amongst working-class South Africans has also increased by 35% in the past year (Old Mutual, 2020). The current pandemic enforces the importance of being prepared for the unexpected and emphasises that financial resilience is paramount during times of volatility (Mudzamiri, 2020). With several businesses considering mechanisms (such as decreased working hours, retrenchments, and staff layoffs) to reduce salary costs in the short term (Statistics South Africa, 2020), anxiety regarding job insecurity and remuneration uncertainty is likely to remain in the near to medium term. Research has shown that savings assists to reduce long-term financial anxiety (Kast et al., 2018). Hence, this research is motivated by a need to create financial resilience amongst South Africans.

South Africa is characterised with severe inequality, with one of the lowest Gini coefficients globally (South African Gini coefficient = 0.63 in 2014) (World Bank, 2020). Saving is also recognised as an important ascendant of poverty alleviation in developing countries (Karlan et al., 2014). Hence, an improvement in South Africa's saving culture could potentially reduce inequality. This is evident in the 25.2% decline in the number of Indians living below the poverty line, as saving behaviour in India improved (Cronjé & Roux, 2010). Similarly, research into South African Stokvels has highlighted the ability of stokvels to drive economic transformation, assisting its members to meet basic needs, accumulate assets and leverage business opportunities (Bophela & Khumalo, 2019; Dube & Edwell, 2018; Matuku & Kaseke, 2014). Hence, this research is motivated by the need to alleviate high levels of inequality and poverty in South Africa.

Rotating savings and credit associations ("ROSCA") are defined as a "group of individuals who come together and make regular cyclical contributions to a fund (called the "pot"), which is then given as a lump sum to one member in each cycle" (Dupas & Robinson, 2013, p. 1142). Stokvels are the uniquely South African equivalent to ROSCA (Bophela & Khumalo, 2019; Dube & Edwell, 2018; Matuku & Kaseke, 2014) and are the inspiration for this research. Stokvels represent an established informal savings mechanism in South Africa, which consists of over 800 000 stokvels and a cumulative membership base equivalent to almost 20% of the South African population (National Stokvel Association of South Africa, n.d; Bophela & Khumalo, 2019). The estimated value of the South African informal stokvel industry is R50 billion (National Stokvel Association of South Africa, n.d.), which exceeds the market value of some of the country's largest enterprises, including Pick 'n Pay and Truworths (Mavundza, 2018). Hence, in a country renowned for a poor savings culture (Mudzamiri, 2020), stokvels represent exemplary savings behaviour in South Africa. This research uses stokvels as a proxy for exemplary saving behaviour and focuses on understanding how this behaviour can be replicated amongst the broader society.

South African stokvels were established due to the financial exclusion of black South Africans during the apartheid era. Today stokvels are considered an effective vehicle to motivate savings amongst communities and social networks (Bophela & Khumalo, 2019; Dube & Edwell, 2018; Matuku & Kaseke, 2014). The South African Stokvel

industry exhibits the importance of cultural connections and ubuntu, with stokvel members focusing on shared value and collective social benefits (Storchi, 2018). Although individuals are motivated to join stokvels for economic reasons such as unemployment; social motivators also play a key role (Matuku & Kaseke, 2014). Matuku and Kaseke (2014) attribute stokvel success to the strong prevalence of social capital and the spirit of ubuntu. Many individuals join stokvels due to social network influences, and several new friendships and networks are established through stokvel participation (Matuku & Kaseke, 2014). Stokvels demonstrate Breza and Chandrasekar's (2019) argument that social networks are a form of social mobility which can improve wellbeing and welfare. Stokvels also demonstrate Newman, Tarp and Van Den Broeck's (2014) proposition that social networks can substitute formal institution, where there are weak institutions.

Thus, this research aims to determine whether social capital and the cultural practice of ubuntu can influence saving decisions.

1.2. Research problem

This focal research problem that this study is concerned with is the low savings rates amongst South Africans. Peer driven mechanisms such as ROSCAs, self-help groups (SHGs), and village savings and loan associations (VSLAs) are widely acknowledged mechanisms that improve financial behaviour such as saving habits in developing countries (Kast, Meier, Pomeranzc, 2018). Hence, this research aims to determine whether social capital and the cultural practice of ubuntu can influence saving decisions. As discussed above, this research is driven by three main motivators, namely (1) economic welfare, (2) financial resilience, and (3) poverty alleviation.

1.3. Research Objectives

The overarching objective of this research is to address the following research question: how can social capital and the cultural practice of ubuntu be leveraged to improve savings decisions?. This research is guided by the following specific objectives:

Research objective one: The first objective is to determine whether social distance impacts saving contribution. Does a reduced social distance change saving

contribution?

Research objective two: The second objective is to understand the role of social ties on saving contribution. Does the strength of social ties influence saving contribution?

Research objective three: The third objective is to understand how ubuntu framing changes the association between social distance and saving contribution. Does the ubuntu frame impact saving contribution relative to a neutral frame?

Research objective four: To understand how the interaction between social distance and framing impacts saving contribution – Does the interaction between social distance and framing impact saving contribution?

1.4. Research scope

The foremost aim of this research is to determine whether social capital and the cultural practice of ubuntu can influence saving decisions. This research is grounded in the social capital theory and follows an experimental approach. Data for this research was collected from South Africans with internet access through an online survey shared via the researcher's networks.

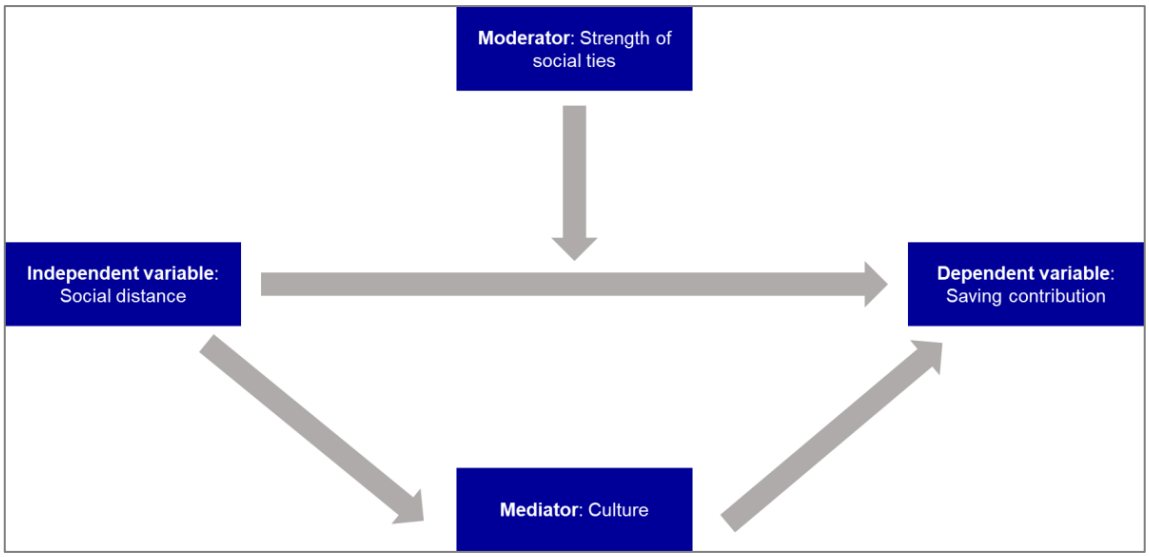

Figure 1: Conceptual Model

Figure 1 outlines the conceptual model for this research. The research is limited to the following variables:

Independent variable – Social distance: This research adopts Hoffman, McCabe, and Smith (1996) definition of social distance as an individual's perception of the level of mutual benefit that is derived from social interaction with another. Social distance is defined as low with immediate family and high with strangers (Schreiner, Pick & Kenning, 2018; Feigenberg, Field & Pande, 2013; Binzel & Fehr, 2013; and Etang, Fielding & Knowles, 2011)

Dependent variable – Saving contribution: Similar to research performed by Feigenberg et. al (2013), Binzel and Fehr (2013) and Etang et. al (2011) this research uses the monetary saving contribution as an indicator of the impact of social distance and social networks.

Moderator – Strength of social ties: This research adopts Goette, Huffman and Meier's (2012) definition of social ties as the extent to which an individual associates personal well-being to the well-being of another. Social ties develop through social interactions (Bapna, Qui & Rice, 2017; Feigenberg et al., 2013).

Mediator – Culture: Ubuntu is one of the most common cultural practices in South Africa (Bophela & Khumalo, 2019; Dube & Edwell, 2018; Matuku & Kaseke, 2014). This research tests the impact of ubuntu using cultural framing. Framing refers to the context provided to the decision required (Brañas-Garza, Cobo-Reyesa, Espinosa, Jiménez, Kovářík & Ponti, 2010), such as cultural and economic decisions (Alesina & Giuliano, 2015; Guiso, Sapienza & Zingales., 2006). The cultural definitions of Laud, Karpen, Mulye & Rahman, 2015 and Guiso et al., 2006 is leveraged. This research defines culture as traditional cross-generational values and beliefs that exist between religious, ethnic, and social groups, which influence individuals to drive value co-creation and meaning through their actions.

1.5. Significance of research to academic theory and business

Social capital theory suggests that strong trust between individuals builds a greater incentive for economic transactions, such as saving transactions (Karlan, 2005). Hence, empirical literature links social capital to financial market behaviour despite a limited number of studies focusing on the emerging market (Newman et al., 2014). Existing literature focuses on the impact of social distance on financial decisions relating to endowment and donations (Binzel & Fehr, 2013; Etang et al., 2011; Bohnet & Frey, 1999; Hoffman et al., 1996), as well as borrowing (Feigenberg et al,

2013; Karlan, 2007). The impact of social distance on saving behaviour is often established as part of a broader study focusing on rotating credit associations which encourage saving (such as Karlan, 2007; Etang et al., 2011; Binzel & Fehr, 2013). Furthermore, the impact of social distance has been determined by identifying differences between low social distance (such as family or friends) and high social distance (such as strangers) (Etang et al., 2011; Binzel & Fehr, 2013). Thus, this research contributes to academic theory by investigating the impact of increasing social distance on saving contribution in an emerging market context.

Existing literature tends to focus on understanding informal financial mechanisms amongst low-income families in the rural areas of developing countries such as the research by Kast et al. (2018) into group saving behaviour amongst the three lowest income strata in Chile and Newman et al. (2014) research into saving behaviour amongst a Women's Union in Vietnam. Although these studies have provided insight into the role of social networks as a determinant of savings behaviour in a rural setting, the primary focus of these studies was to develop an understanding of factors that inhibit the use of formal saving products. Thus, this research contributes to academic theory by providing insight into informal saving motivators that can be leveraged in the broader society, including an urban setting.

Literature suggests that culture is a crucial variable considered during economic decisions (Alesina & Giuliano, 2015). Existing literature has also established an association between culture and economic decisions, such as financial decisions, can also be guided by cultural norms (Alesina & Giuliano, 2015; Guiso et al., 2006). However, culture is an emerging topic as it is vague and difficult to measure (Alesina & Guiliano, 2015; Krupka & Weber, 2013). Within the South African context, ubuntu is a widespread cultural practice (Bophela & Khumalo, 2019; Dube & Edwell, 2018; Matuku & Kaseke, 2014). Thus, this research contributes to academic theory by determining whether the cultural practice of ubuntu impacts saving behaviour in an emerging market context. This research also contributes by testing the appropriateness of framing as a research design to measure ubuntu.

Based on the above, it is evident that existing literature focuses on financial decisions relating to the private provision of public goods rather than value cocreation. Value co-creation is defined as the involvement of customers in corporate marketing and product development (Akaka & Chandler, 2011). Hence, this research contributes to

academic theory by providing a perspective on the role of social capital on financial value cocreation. This research provides an opportunity for financial institutions and consumers to work together to design saving products. Social networks serve as a means to correct market failures through the dissemination of information (Newman et al., 2014). Hence, this research contributes to business by providing insight into effective channels of communication. This insight can be used to inform the marketing strategy of financial institutions. Social capital can also be used to inform development policy (Feigenberg et al., 2013). Hence, from a business perspective, this research can also be used to inform development policy at a national, provincial, and municipal level.

CHAPTER 2: LITERATURE REVIEW

2.1. Introduction

This chapter draws from academic literature to establish the current body of literature focusing on social distance, social ties, and culture. This chapter also aims to identify gaps in the literature, which this research can contribute towards. The literature review provided has been organised based on the key research objectives outlined in chapter one. Figure 2 illustrates the alignment between the research objectives and the sequential flow of the literature review

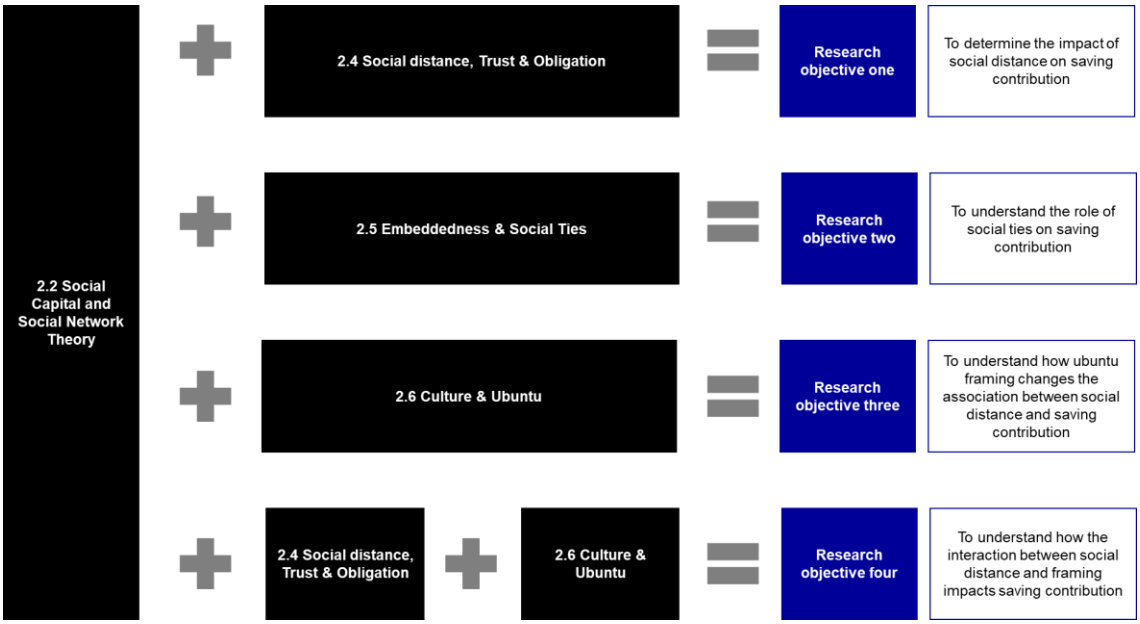

Figure 2: Literature review framework

2.2. Social Capital and Social Network Theory

During the South African apartheid era, black South Africans were excluded from meaningfully participating in the mainstream economy, with a lack of formal institutions to serve black South Africans (Matuku & Kaseke, 2014). This heightened the importance and emphasis placed on social connections and ties, such as family, friends, work colleagues, and neighbours. These social structures within a family, workplace, or a community network impact the decisions made by individuals (Coleman, 1988). This is referred to as social capital, which Coleman (1988) defines as social structures that facilitate the creation of social networks through which information is shared and disseminated. Social capital is a critical characteristic of

successful stokvels (Matuku & Kaseke, 2014). Through stokvels, social capital was used to substitute the weak presence of formal financial institutions serving black South Africans (Newman et al., 2014). In other words, the market failure of sub-optimal saving was rectified through social capital (Karlan, 2005; Newman, 2014). As a result, this research is anchored in social capital theory.

Strongly associated with social capital is social networks as social capital is transmitted through social networks via the transfer of information (Newman et al., 2014). Thus, this research is also anchored in the social networks theory. Social networks theory is grounded by the belief that individuals are socially connected through social patterns (Burt, 1980). Social networks theory is used to facilitate the investigation of social structures as it considers relational and influential patterns to anticipate their impact on outcomes, both at an individual and system level (Laud et al., 2015). The sharing of financial resources is fundamental to saving groups such as stokvels. This affirms that social networks play a key role in the sharing of resources as resources are embedded within social networks (Laud et al., 2015). Laud et. al (2015) and Akaka, Vargo and Lusch, (2012) argue that social networks motivate the sharing of resources thereby implying that connections and relationships can be used to access, adapt, and integrate resources. In other words, social networks are a dynamic form of social capital that improve the resource flow to and from households (Arun, Annim & Arun, 2016). Stokvels demonstrate the integration of financial resources through social networks as individuals are likely to join a stokvel due to pressure from their social networks such as neighbours and family (Matuku & Kaseke, 2014).

Information sharing, obligation and trust, and social norms are three defining characteristics which lead to improved outcomes for individuals through social capital and social networks (Coleman, 1988). Putman (1993) theorises that obligation, trust and social norms are crucial for functioning social organisations, such as savings groups. Section 2.3 unpacks the impact of obligation and trust whereas social norms will be discussed in greater detail in section 2.5.

2.3. Social distance, trust, and obligations

Trust and obligation are critical characteristics of social networks which facilitate the realisation of informal contractual obligations (Karlan, 2005). In other words, the

characteristics of trust and obligation create a network effect on behaviour and decision making. The impact of network effects on financial decisions is well documented throughout literature using a wide array of research designs. This affirms that financial decisions are not made in isolation and social networks influence financial decisions (Breza & Chandrasekhar, 2019). Social networks create a heightened obligation to saving commitments (Dupas & Robinson, 2013) due to constant reminders (Kast et. al, 2018) and the increased risk of reputation loss as information regarding saving commitment defaults are likely to flow across the network (Breza & Chandrasekhar, 2019). Social networks also create social pressure to save thereby increasing a community's commitment to saving (Dupas & Robinson, 2013). Peer effects can also be attributed to social networks as individuals often mirror the saving decisions of peers within their network (Breza & Chandrasekhar, 2019; Kast et al., 2018). Hence, network effects have a positive effect on household welfare (Breza & Chandrasekhar, 2019; Kast et al. 2018; Dupas & Robinson, 2013). However, studies such as Breza and Chandrasekhar (2019), Kast et al. (2018) and Dupas and Robinson (2013) have established their findings based on observations and field experiments over a period of time. These studies also focus on rural and/or low-income regions such as rural villages in India (Breza & Chandrasekhar, 2019), low-income households in Chile (Kast et al., 2018) and rural Kenya (Dupas & Robinson, 2013). Hence, it is questionable how applicable these results will be to the broader South African society in an urban context with high inequality.

From a trust perspective, decisions based on trust comprise of three components (Ermisch & Gambetta, 2010). Firstly, the decision is a cost-benefit evaluation of the expected returns should the trust-based obligations be met, relative to the expected costs should the trust-based obligations not be met (Ermisch & Gambetta, 2010). Secondly, the decision is influenced by the expected probability that the trust-based obligation will be fulfilled, and this probability is influenced by an individual's beliefs regarding specific persons or groups of people (Ermisch & Gambetta, 2010). Thirdly, the decision is influenced by the risk attitude, especially when the probability that the obligation will be fulfilled is low (Ermisch & Gambetta, 2010). Trust-based decision making is tested in literature using trust games. Trust games focus on establishing changes in trust against numerous variables (Murnighan & Wang, 2016; Etang et al., 2011). It measures the levels of cooperation and risk exposure that an individual can tolerant while susceptible to possible exploitation (Murnighan & Wang, 2016; Etang

et al., 2011). Trust games are commonly used to test the influence of social networks on financial decision making in a repeated games research design. In a repeated game the respondent will interact with the game for two or more times, usually knowing the decisions of others in the previous rounds (Thielman, Spadoro & Balliet, 2020). Using these games, the impact of social networks on financial decisions are determined by varying social distances (such as Binzel & Fehr, 2013; Feigenberg et al., 2013; Etang et al., 2011; Karlan, 2007; Bohnet & Frey, 1999; Hoffman et al., 1996). However, the social distance commonly used is low social distance such as family and friends, and high social distance such as strangers. For example, Binzel and Fehr (2013) used a trust game in a field experiment to test the impact of low and high social distance on endowment decisions. The study focused on two neighbouring villages in an informal housing region in Egypt (Binzel and Fehr, 2013). Low social distance was defined as individuals that reside within the same village and high social distance was defined as individuals that reside in the neighbouring village. Due to limited geographic mobility between the villages, it was highly unlikely that social connections existed between the villages (Binzel & Fehr, 2013). In other words, the respondents from one village were strangers to respondents from the second village. Etang et al. (2011) adopted a similar approach of using two neighbouring villages rural Cameroon to investigate the role of social distance on financial endowments. Both Binzel and Fehr (2013) and Etang et al. (2011) found that the value of endowment varies with social distance and reduced social distance results in an increased endowment. This is supported by previous studies (such as Karlan, Mobius, Rosenblat & Szeidl, 2009; Bohnet & Frey, 1999; Hoffman et al., 1996) that invested other forms of financial transactions such as donations or borrowing. The impact of social distance on saving contributions using a trust game has generally been inferred as part of a broader study focusing on rotating credit associations which encourage savings, rather than dedicated saving groups. Qualitative insights into the role of low social distance on saving behaviour insinuate that low social distance could be ineffective in encouraging positive savings behaviour. Kast et al. (2018) found that having a reduced social distance connection as a saving buddy often resulted in their saving buddy being too understanding when goals or saving obligations are not met. Hence, saving mechanisms with reduced social distance potentially reduces accountability which inhibits optimal economic activity.

Schreiner Pick and Kenning (2018) advocates for a complex relationship between social distance and behaviour in their study of willingness-to-share non-monetary items and social distance. In contrast to studies such as Binzel & Fehr, 2013; Feigenberg et al., 2013; Etang et al., 2011; Karlan, 2007; Bohnet & Frey, 1999; and Hoffman et al., 1996, Schreiner et al. (2018) defined social distance based on an incremental scale, such as mother, life partner, sibling, work colleagues, neighbours and acquittance. Although willingness-to-share increased systematically with reduced social distance, instances of a high willingness-to-share with high social distance was also observed for non-monetary items. Schreiner et al. (2018) speculate high willingness-to-share and high social distance could be attributed to a lack of negative experiences with the defined social distance level or the result of environmental concerns. Karlan et al. (2009) endorse the complexity of social distances by theorising that the trustworthiness a social network should not be determined in isolation but rather determined by assessing the entire social network. For example, as illustrated in figure 3 below, assume party one ("A") wants to form a saving group with party two ("B"). In a two-agent network, there is a direct relationship between A and B and consequently, the level of trust is determined by their relationship (Karlan et al., 2009). In a common friend network, the direct relationship between A and B intensified by a common friend (Karlan et al., 2009). Whereas, in a no direct link network, there no direct relationship between A and B. Thus, the level of trust between A and B will be determined by the weakest connection connecting A and B (Karlan et al., 2009). Thereby insinuating that not only social distance will not be considered during decisions making, and the network effect of trust will be dependent on the entire social network. Furthermore, through the network effect of trust, social connections serve as social collateral during informal financial transactions (Karlan et al., 2009).

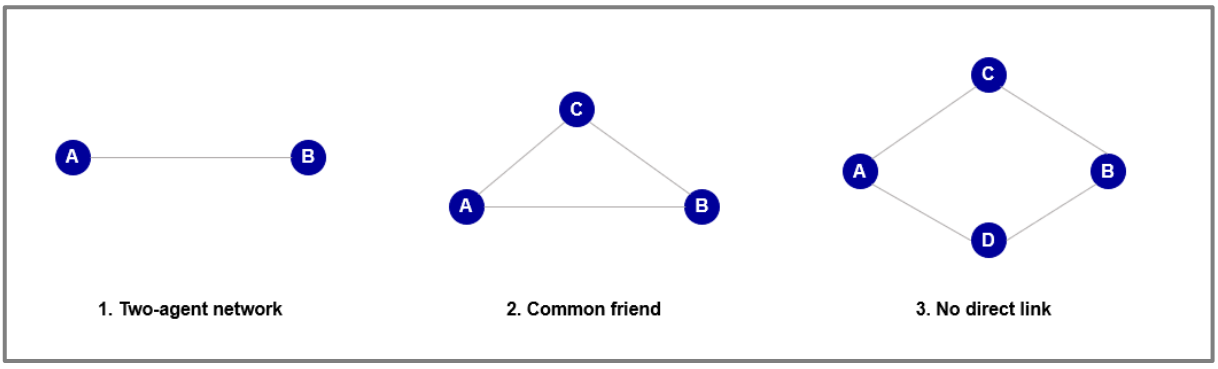

Figure 3: Social collateral in networks (Karlan et al., 2009)

The Network effects of trust have also been noted with connections that have a reduced geographic distance. Karlan (2007) noted a higher loan repayment rate and a higher saving rate amongst microfinance group members that reside within close geographical proximity to each other. This can be attributed to reduced monitoring costs, ease of interactions to procure information and an increased threat of reputation loss for defaults (Breza & Chandrasekhar, 2019; Kast et al., 2018; Karlan, 2007).

Similarly, the level of trust is also impacted by incentives (Berg, Ghatak, Manjula, Rajasekhar & Roy, 2017; Masahiro, 2016). Within a saving group context, the lump sum payments could act as a motivation to reduce social distance and thus incentive-based literature could be more relevant for this research in comparison to studies focusing on financial transactions such as endowments, donations or borrowing. Interestingly, incentive-based literature contradicts literature focusing on financial transactions within regards to proximity. Masahiro (2016) propose the individuals within the same area will have positive income correlation which will reduce the risk-sharing incentives. In comparison, individuals that do not reside in the same area are likely to have a negative income correlation, which creates a higher incentive for risk-sharing (Masahiro, 2016). This also posits an interaction between income and social distance could impact decision making.

Incentives also have an interesting interaction with social distance, with Berg et al. (2017) and Hong, Pavlou, Shi and Wang (2017) ascertaining that monetary incentives favour a high social distance. Berg et al. (2017) found that with no remuneration incentives, agents tasked with disseminating information on a public health insurance programme relied on spreading information across low social distances. However, with remuneration incentives, information was spread across high social distances (Berg et al., 2017). On the other hand, Hong et al. (2017) investigated the optimal design of an online referral system and found that high social distances preferred the equal sharing of monetary referral bonuses. Whereas monetary incentives were not optimal for low social distance (Hong et al., 2017). Given the contrasting impact of social distance on financial transitions and monetary incentives, it is uncertain which view will best align with the results of this study.

With a Gini coefficient at 0.63 (World Bank, 2020), South Africa has a high prevalence of inequality which could impact this research. This research may

experience social discounting and moral distance. Aguiar, Brañas-Garza and Miller (2008) define moral distance as the obligation status of person A towards person B. Moral distance discounts social distance which means that a stranger could receive more money than an acquittance if the stranger appears to be in more dire circumstances (Aguiar et al., 2008).

2.4. Embeddedness and social ties

Social networks influence resource allocation (Laud et al., 2015) and, consequently, the social distance within a saving group will determine how financial resources can be accumulated in savings groups. However, social distance is not static and thus can be reduced through social interactions. Social networks are often categorised into nodes and ties (Atmaca, Schoors & Verschelde, 2020; Laud et al., 2015). Within a saving group context, nodes are defined as the individual saving group members, whereas ties refer to the relationships within the saving group members (Laud et., 2015). Goette et al. (2012) define social ties as the extent to which an individual associates personal well-being to the well-being of another. Social interactions and engagements build emotional connections and trust to create social ties (Kast et al., 2018; Bapna et al., 2017; Feigenberg et al., 2013; Goette et al., 2012; Karlan, 2007). In other words, increased social ties increase trust and reduce social distance. The nature of social ties has also resulted in a growing focus on the concept of embeddedness within literature. Laud et al. (2015) define embeddedness as the knowledge of social connections as well as the depth of social connections. Linked to embeddedness is relational embeddedness, which represents the social distance that exists between individuals and insinuates that positive gains from social networks depend on the strength of ties (Arun et al., 2016). Thus, the level of embeddedness within a network will impact on an individual's resource decisions (Laud et al., 2015). Coleman (1988) and Laud et al. (2015) posit that the interactions between individuals when mobilising and accessing resources to address a local problem or achieve a desired outcome (such as an increased saving culture) is still dependent on their embeddedness (Coleman, 1988; Laud et al., 2015).

Social capital within savings groups is built through continuous interactions which in turn increases the cooperation for economic transactions such as monthly saving contributions. Feigenberg et al. (2013) used frequency of meetings as an indicator of social ties and found that microfinance groups with regular social interactions had a

lower default rate and yielded greater economic returns. Similarly, Karlan (2007) found that when a socially connected member defaults, the lending group can distinguish between default due to moral hazard and default due to the adverse effects of unexpected events. Thus, social ties increase understanding and forgiveness during transactions which creates a more stable environment for economic cooperation over a period of time (Bapna et al., 2017).

The social networks theory suggests structural equivalence, which means that individuals in the same social positions have the same level of connectedness within the social network (Akaka & Chandler, 2011). In other words, social networks theory suggests that individuals with the same social role have the same social position across their network. However, as demonstrated above, all ties are not the same and consequently, all social networks are not the same (Arun et al., 2016). Two types of social networks have been identified namely bridging networks and bonding networks. Bonding networks are defined as the social networks that exist between homogenous individuals that share a common interest (Arun et al., 2016). In contrast, bridging networks are defined as social networks that exist between heterogeneous individuals with diverse interests (Arun et al., 2016). Due to the commonality amongst homogenous groups, strong ties may exist amongst bonding networks (Arun et al., 2016) with frequent communication and high levels of trust (Granovetter, 1973). However, Arun et al. (2016) argue that this results in a sense of exclusivity and an inward focus. Atmaca et al. (2020) and Granovetter, (1973) also argues that bonding networks disseminate similar information across their networks. Conversely, due to the social differences with bridging networks, weak ties may exist amongst bridging networks (Arun et al., 2016). However, Arun et al. (2016) argue that this results in an outward focus and an increased focus on togetherness. Nonetheless, Atmaca et al. (2020), Arun et al. (2016) and Granovetter (1973) suggests that a behaviour change is more likely in bridging networks as weak ties promote the dissemination of diverse and new information, despite lower levels of trust. In other words, literature proposes that suggests that a change in saving behaviour is more probability amongst bridging networks.

The embeddedness viewpoint complements this as the greater the embeddedness of an individual, the greater the probability to access and mobilise resources (Laud et al, 2015; Akaka et al., 2012). Embeddedness also has been linked to the resource

integration process within a service ecosystem (Laud et al, 2015), which suggest that resource access and mobilisation for services-based transactions (such as financial transactions) is impacted by embeddedness. Resource access is defined as the extent to which individuals can make use of various resources across their social network (Akaka & Chandler, 2011; Laud et al, 2015). Resource mobilisation is defined as the willingness to exchange resources for value in a service-driven environment (Akaka & Chandler, 2011; Laud et al, 2015). Both resource access and mobilisation are crucial to the functional characteristics of saving groups which requires individuals to access their financial resources as well as be willing to exchange financial resources with other members of the savings group.

On the other hand, Karlan et al. (2009) argue behaviour within bonding and bridging networks is dependent on the items transacted rather than the strength of ties and level of embeddedness. For valuable transactions, Karlan et al. (2009) propose that the trustworthiness of bonding is more attractive. Whereas, for less valuable transactions such as providing information or advise, the access to varied resources offered by bridging network is more attractive. In order words, Karlan et al;. (2009) propose that bonding and bridging networks offer a trade-off between trust and access. It suggests that savings are expected amongst strong social ties due to the valuable nature of the transaction (Karlan et al., 2009).

2.5. Culture

Coleman (1988) includes social norms as one of the defining characteristics of social capital. Social norms represent actions rather than outcomes and are practices widely accepted by members of the population (Krupka & Weber, 2013). Within a South African context, ubuntu is a widely accepted cultural practice (Bophela & Khumalo, 2019; Dube & Edwell, 2018; Matuku & Kaseke, 2014). Ubuntu is conveyed through the Zulu proverb *“Umuntu Ngumuntu Ngabantu”,* and when translated means *“I am because you are, you are because we are”* (Khoza, 2012). Thus, the African philosophy of ubuntu implies that an individual exists because of a wider network of individuals, and the survival of one is intertwined with the survival of this wider network (Migheli, 2017). Ubuntu links to one of the four situations proposed by Thielman et al. (2020) in a prosocial theoretical framework. The framework suggests that the features and affordances of each independent situation will guide the traits displayed by individuals. The situation most apt for this research suggests

that when there is an opportunity for reciprocity, the feature of reciprocity emboldens individuals to express concern about the welfare of others. The practice of ubuntu theorises that the feature of reciprocity is inherent.

Migheli (2017) proposed that a link has been established between ubuntu and social capital. Contradictory to relational embeddedness, ubuntu suggests that decisions regarding resource allocation will be guided by positive outcomes for the wider network, rather than positive outcomes for the individual (Migheli, 2017; Chipp, Carter, & Chiba, 2019). Hence, based on the philosophy of ubuntu, it is speculated that individuals will more likely prioritise collectivism over individualism. However, the latest Hofstede insights (n.d.) for South Africa depict a high level of individualism amongst South African societies. This suggests that South Africans generally prioritise individualistic gains and the needs of their immediate family only (Hofstede Insights, n.d.), which contradicts the practice of ubuntu. Nevertheless, Okada (2020) and Guiso et al. (2006) propose individuals have more control over social capital than culture, as culture is largely transmitted from one generation to the next. This means that there is a delayed amendment to culture. For example, regional cultural differences in Italy is retained when individuals relocate (Guiso, Sapienza & Zingales, 2004). Likewise, the religious culture instilled during childhood is retained at adulthood, even if individuals are no longer part of the same religious group (Guiso, Sapienza & Zingales, 2003).

A cultural practice similar to ubuntu is osotua, which is a cultural concept amongst the Maasai people of north-central Kenya (Cronk, 2007). Osotua promotes gift-giving amongst the Maasai community. Cronk (2007) tested the impact of osotua on behaviour during a financial exchange. Without the osotua context, a positive correlation was established between the funds provided by player one to player two and the funds returned by player two to player one. In contrast, an osotua context, a negative correlation was established between the funds provided by player one to player two and the funds returned by player two to player one. In other words, within the osotua context, player two returned fewer funds to player one. Thus, indicating that osotua framing created the impression that the financial exchange illustrated a gift-giving exchange. This aligned to the definition of the osotua cultural practice. In contrast, Cameron, Erkal, Gangadharan and Zhang (2015) validate that behaviour based on cultural norms is dependent on cultural exposure. Cameron et al. (2015),

found greater exposure to western culture had a significantly negative impact on Chinese culture; as Chinese respondents with greater exposure to the western cultural norms of Australia exhibited fewer characteristics aligned to the Chinese culture such as altruism. This implies that despite ubuntu being a well-known cultural practice, South Africans will exbibit traits based on their cultural exposure.

From an economic perspective, culture is an important element of trust (Li, Turmunkh, & Wakker, 2019) and a crucial variable considered during economic decisions (Alesina & Giuliano, 2015). For example, in cultures with a high level of mistrust, due to strong mistrust beliefs transmitted from parents to their children, there will be no trades where there is no trust between the parties (Alesina & Giuliano, 2015). In contrast, cultures with a high level of trust, due to strong trust beliefs transmitted from parents to their children, will exhibit high trades where regardless of trust between the parties (Alesina & Giuliano, 2015). However, the study of culture is an emerging topic in economics literature as it is a vague variable that is difficult to measure (Krupka & Weber, 2013; Alesina & Giuliano, 2015). Nonetheless, cultural similarities are often used as a measure of social ties (Karlan, 2007). Culture is also used to explain variations in human behaviour and decision making, with Putman (1993) claiming that culture precedes social networks during economic decisions. Moreover, culture guides decisions where experience fails (Guiso et al., 2006). For example. Karlan (2007) found higher loan repayments and resultant opportunities for savings between randomly assigned participants in a microfinance group that had strong cultural similarities. Similarly, Feigenberg et al. (2013) that interactions increased amongst microfinance members with similar cultural backgrounds. Hence, cultural backgrounds aid economic cooperation and generate economic returns (Bapna et al., 2017; Feigenberg et al., 2013). These observations imply that strong social ties are built amongst members of similar cultural backgrounds, which means that culture is complementary to social capital.

Despite the interesting observations between culture and social distance noted above, there is a lack of studies focusing on the impact of culture and social distance on financial transactions, including savings. However, studies have explored the impact of culture and social distance on donations or generosity. Strombach, Jin, Weber, Kenning, Shen, Ma, and Kalenscher (2013) tested the impact of social distance and willing-to-share through donations between German and Chinese

respondents. The study established a hyperbolic relationship between generosity and social function (Strombach et al., 2013). The difference in generosity between Germans and Chinese has attributed the differences in behaviour to culture (Strombach et al, 2013). Additionally, Archambault, Kalenscher, and de Laat (2019) established that generosity not the same across all resources, including financial and non-financial resources. Resources that are already being pooled would not vary with social distance, whereas non-pooled resources would vary with social distance (Archambault et al. (2019). Nonetheless, currency effects are highly dependent on culture (Archambault et al., 2020), which suggest that the impact of ubuntu of saving contribution may be unique to other observations in literature.

2.6. Current research

This research theorises that the ability of social networks to generate positive effects is dependent on (1) the *social distance* between subjects, (2) the strength of the *social ties* between these subjects, (3) the level of *embeddedness* within the social network, and (4) the *cultural connection* between subjects. The following commonly used definitions from literature apply to this research as they relate to the above argument. Firstly, Hoffman et al. (1996) define social distance as an individual's perception of the level of mutual benefit that is derived from social interaction with another. Secondly, Goette et al. (2012) define social ties as the extent to which an individual associates personal well-being to the well-being of another. Thirdly, cultural embeddedness refers to the norms and values that govern an individual's actions within his/ her social network (Laud et al., 2015). Moreover, Guiso et al. (2006) define culture as the traditional cross-generational values and beliefs that exist between religious, ethnic, and social groups. This research proposes that a similar culture complements the creation of social connections which form social networks and build social capital. Hence, this research defines culture as traditional cross-generational values and beliefs that exist between religious, ethnic, and social groups, which influence individuals to drive value co-creation and meaning through their actions.

2.7. Conclusion

Social capital is a critical component of stokvels and thus the anchor for this research. Social capital is closely associated with social network theory as social capital is

transmitted through social networks (Newman et al., 2014). Thus, social network theory is also an anchor for this research. Financial decisions are not made in isolation but rather influenced by social networks (Breza & Chandrasekhar, 2019). The characteristics of obligation, trust and social norms are crucial for functioning social organisations, such as savings groups (Putman, 1993). Trust is crucial for decision making and the impact of trust and social networks is measured by varying social distance. However, the relationship between social distance and decision making is complex. Social distance is not static and social ties can be developed through repeated interactions. The strength of social ties influences trust and therefore social distance (Kast et al., 2018; Bapna et al., 2017; Feigenberg et al., 2013; Goette et al., 2012; Karlan, 2007). Social norms include cultural practices such as ubuntu, with ubuntu associated with social capital (Migheli, 2017). Culture is often used to explain variations in human behaviour and decision making, including in a financial context (Bapna et al., 2017; Feigenberg et al., 2013; Karlan, 2007).

CHAPTER 3: RESEARCH HYPOTHESES

3.1. Introduction

The literature review highlighted the role of social capital and social networks in financial decisions. Financial resources are embedded within social networks and can be accessed and mobilised through connections within the network (Laud et al. 2015; Akaka and Chandler, 2011). However, the impact of social capital on financial decisions differs across social networks. Literature suggests that the role of social networks on financial behaviour such as saving contribution is influenced by (1) social distance, (2) strength of social ties and embeddedness of social connections and (4) culture. This research aims to determine whether social capital and the cultural practice of ubuntu can influence saving decisions. In other words, this research aims to investigate how (1) social distance, (2) social ties and (3) culture affect saving decisions.

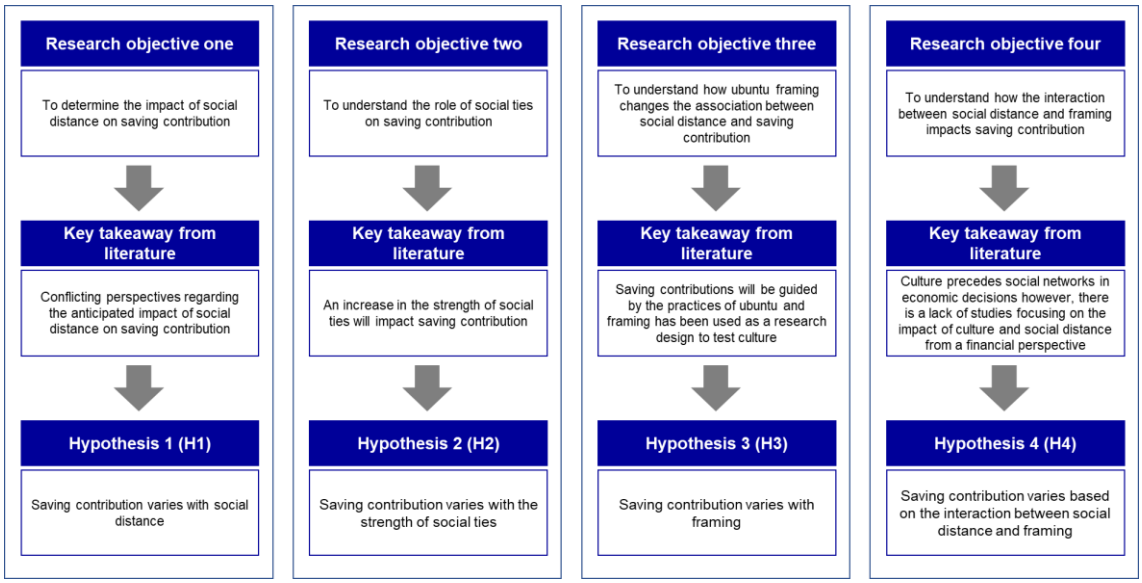

Figure 4: Framework for the research

In other to achieve the aim, this research proposes four hypotheses concerning the above-mentioned factors, which are also aligned to the research objectives as depicted in figure 4 above.

3.2. Hypothesis 1

The impact of social networks is measured by varying social distance. The

relationship between social distance and consumer decision making is complex. However, most of the existing literature focuses on analysing the differences between low social distance and high social distance. These studies have established that financial contribution increase when social distance decrease (Binzel & Fehr, 2013; Etang et al., 2011; Bohnet & Frey, 1999; Hoffman et al., 1996). However, incremental changes in social distance have observed high willingness-to-share non-monetary items at a high social distance (Schreiner et al. 2018). Monetary incentives also influence social distance, with monetary incentives being more effective at high social distance compared to low social distance (Berg et al., 2017; Masahiro, 2016). Thus, the studies reviewed provide conflicting perspectives regarding the anticipated impact of social distance on saving contribution. However, these studies affirm that changes in social distance impact decisions. This leads to the first hypothesis below:

H1: Saving contribution varies with social distance

3.3. Hypothesis 2

Social distance is not static and social ties can be developed through repeated interactions. As the strength of social ties increases, trust increases and social distance is reduced (Kast et al., 2018; Bapna et al., 2017; Feigenberg et al., 2013; Goette et al., 2012; Karlan, 2007). Social ties links to the concept of embeddedness which refers to the knowledge and depth of social connections (Laud et al., 2015). Embeddedness posits that the greater the level of embeddedness the greater the possibility that the network can access financial resources (Laud et al., 2015; Akaka et al., 2012). Thus, the studies reviewed suggest an increase in the strength of social ties will impact saving contribution. This leads to the second hypothesis below:

H2: Saving contribution varies with the strength of social ties

3.4. Hypothesis 3

Ubuntu is a widely accepted cultural practice in South Africa (Bophela & Khumalo, 2019; Dube & Edwell, 2018; Matuku & Kaseke, 2014), and a link between ubuntu and social capital has been established (Migheli, 2017). Culture is transmitted from one generation to the next and a delayed amendment to culture has been observed (Okada, 2020; Guiso et al., 2006). In contrast, cultural traits exhibited is often

dependent on cultural exposure (Cameron et al., 2015). Culture is an important element of trust (Li et al., 2019) and economic decisions (Alesina & Giuliano, 2015), however, it is considered vague and difficult to measure (Alesina & Giuliano, 2015; Krupka & Weber, 2013). Thus, the studies reviewed suggest that saving contributions will be guided by the practices of ubuntu. However, the studies do not provide a recommended research design to test the impact of culture. However, framing has been used as a research design to test culture (Chipp et al, 2019). Framing refers to the context provided to the decision required (Brañas-Garza et al., 2010), such as cultural and economic decisions (Alesina & Giuliano, 2015; Guiso, Sapienza & Zingales., 2006). This leads to the third hypothesis below:

H3: Saving contribution varies with framing

3.5. Hypothesis 4

Culture is often used to explain variations in human behaviour and decision making, including in a financial context (Bapna et al., 2017; Feigenberg et al., 2013; Karlan, 2007). Although there are claims that culture precedes social networks in economic decisions (Putman, 1993); there is a lack of studies focusing on the interaction of culture and social distance from a financial perspective. This leads to the fourth hypothesis below:

H4: Saving contribution varies based on the interaction between social distance and framing

CHAPTER 4: RESEARCH METHODOLOGY

4.1. Introduction

The purpose of this chapter is to outline and defend the research methodology selected to test the hypotheses detailed in Chapter three. Due to time constraints, a mono-methodological choice was adopted for this research. As there are existing theory and literature available on social networks and financial behaviour, a quantitative approach was adopted to test existing literature. The research adopted an explanatory research design, which Saunders and Lewis (2018) define as a research study that seeks to explain the relationship between variables. Thus, this research aims to determine whether social capital and the cultural practice of ubuntu can influence saving decisions. The research followed a deductive approach as the quantitative research strategy was designed specifically to test existing literature relating to the relationships between social distance, social ties, culture and saving decisions.

4.2. Philosophy

Saunders and Lewis (2018) define philosophy as the set of beliefs and assumptions which will govern the research. This research adopted a positivism philosophy meaning that a structured approach was applied, facts were measured, and the research can be replicated in the future (Saunders & Lewis, 2018). This research focused on establishing the relationship between social distance, social ties, culture and saving decisions.

4.3. Choice of methodology

Experimental economics is a popular methodology applied in social capital and culture literature (Cronk, 2007) which produces behaviour observations (Murnighan & Wang, 2016). Experimental economics has widely used games to model human decision-making behaviour in various social contexts (Murnighan & Wang, 2016). There are three common games used in literature, namely dictator games, trust games and framing. Dictator games is a game where player one, commonly referred to as the “dictator” makes unilateral decisions regarding a fixed amount of money with an often-anonymous recipient (Brañas-Garza et al., 2010). Dictator games are often used in literature to test the impacts of social distance on financial endowments

(such as Brañas-Garza, 2010; Hoffman et al., 1996; Bohnet & Frey, 1999). Trust games focus on establishing changes in trust against various variables (Murnighan & Wang, 2016; Binzel & Fehr, 2013; Etang et al., 2011). It measures the levels of cooperation and risk exposure that an individual can tolerant while susceptible to possible exploitation (Murnighan & Wang, 2016; Etang et al., 2011). Within social capital literature, trust games are used to establish changes in trust as social distance changes (such as Etang et al., 2011; Binzel & Fehr, 2013; Etang et al., 2011; Ermisch & Gambetta, 2010). These games often infer trust based on the changes to the funds provides relative to changes in the social distance (Etang et al., 2011).

Framing refers to the context provided to the decision required and, thus, is often used in conjunction with dictator and trust games (Brañas-Garza et al., 2010). Culture literature has used framing as a method to establish a connection between culture and economic decisions (Alesina & Giuliano, 2015; Guiso et al., 2006). For instance, Cronk (2007) used framing and trust games to determine the effects of the cultural concept of osotuta in Maasai, Kenya. Two sets of trust games were performed by participants; the first game used a neutral frame whereas the second game used an ostauta frame. Hence, framing can be used to test the impact of culture on financial decisions. Framing is often used to investigate social dilemmas, with social dilemmas defined as issues that involve a trade-off between immediate self-interest and a long-term collective benefits (Van Lange, Joireman, & van Dijk, E, 2013). Hence, participants are faced with two decisions, one representing the immediate self-gain and the other representing long-term collective benefit (Van Lange et al., 2013). Psychological factors influence decisions relating to social dilemmas. Psychological framing affects the reaction from the participant, for example, using words that promote individual gain such “personal goal” leads to reduced levels of cooperative compared to words that promote collective benefit such as “common goal” (Van Lange et al., 2013). Effects from framing can be modest, however, the effects are robust and allow us to understand how cooperation can be promoted (Van Lange et al., 2013). It also provides an understanding of the optimal ways to promote social dilemmas to achieve the desired psychological mindset and associated action (Van Lange et al., 2013).

Experimental economics has been criticised for low external validity due to concerns about the replicability of the behaviour displayed during laboratory experiments in

real-life scenarios (Binzel & Fehr, 2013; Etang et al., 2011; Brañas-Garza, 2010; Ermisch & Gambetta, 2010; Bohnet & Frey, 1999; Hoffman et al., 1996). This approach also does not model social risks that exist, and these risks differ amongst participants (Murnighan & Wang, 2016). Additionally, the behaviour observations of experiments do not present a unitary explanation for decisions, as the same decision can be made due to difference intentions, incentives and/or motivators (Murnighan and Wang, 2016).

As a result, this research adopted an Experimental Vignette Methodology (EVM), as an EVM approach allows participations to participate in the research within their own environments. Therefore, the EVM approach is considered to have relatively better external validity (Aguinis and Bradley, 2014). Malhotra (2014, p. 234) defines EVM as a "statistical experimental design that is used to measure the effects of two or more independent variables at various levels and to allow for interactions between variables". EVM allows factors pertinent to the research questions to be manipulated and allows for the exclusion of those factors that could obscure the results (Aguinis and Bradley, 2014). In other words, EVM allows this research to determine the nature of the relationship between social distance and saving decisions. It also allows for the simultaneous investigation of social distance and culture and will also test the interactions between these variables with a high level of internal validity. EVM also allows this research to vary social distance and introduce culture while also controlling for other facts that could confound the results. EVM is often used to research sensitive social issues such as social dilemmas. To recap, social dilemmas are defined as issues that involve a trade-off between immediate self-interest and a long-term collective benefits (Van Lange et al., 2013), such as saving decisions regarding individual gains comparative to collective benefits. In comparison to traditional surveys, EVM embeds questions within the vignettes which reduces the chances of receiving socially correct responses. There are four key design decisions required for an EVM research study. These include (1) the type of EVM, (2) the research design of the EVM, (3) the level of participant immersion required, and (4) the number of vignettes (Aguinis & Bradley, 2014).

There are two types of EVM, namely paper people, and policy capturing/ conjoint analysis (Aguinis and Bradley, 2014). Aguinis and Bradley (2014) define paper people EVM as the assessment of explicit processes and outcomes and policy

capturing/ conjoint EVM as the assessment of implicit processes and outcomes. This research adopted a paper people type of EVM as it facilitated the interpretation of explicit saving decisions based on the factors manipulated. Paper people EVM engages respondents to make explicit decisions based on the vignette shared, which assisted this research to interpret saving decision making preferences (Aguinis and Bradley, 2014). This allowed saving decisions to be analysed based on changes to the vignette provided with a high level of internal validity. In other words, the paper people vignette allowed changes in saving decisions to be noted based on varying social distance as well as the changes based on the impact of culture.

There are two types of research designs for EVM, namely between-subjects and within-subjects. A between-subjects research design means that each respondent is exposed to only one vignette and are required to answer a set of questions based on that vignette (Aguinis and Bradley, 2014). Whereas a within-subjects research design means that each respondent is exposed to all vignettes and are required to answer a set of questions for each vignette (Aguinis and Bradley, 2014). A between-subjects research design draws comparisons between participants, while a within-subjects research design draws comparison within each individual participant (Aguinis and Bradley, 2014). A between-subjects research design was adopted for this research to mitigate the probability that the respondents' decisions are influenced by exposure to the other vignettes. Exposure to all vignettes would have allowed the respondents to apply increased judgement to the saving decisions and thus provide the socially appropriate decision, rather than their true decision. Furthermore, the between-subjects research design will ensure that the time taken to respond to the questions is short to avoid respondent fatigue.

The level of immersion of vignettes improves the respondent's experience and assists to create a sense of reality to the hypothetical vignettes (Aguinis and Bradley, 2014). Forms of media such as images, videos, and virtual reality technology (VRT) assist to improve the level of respondent immersion (Aguinis and Bradley, 2014). However, a written vignette was selected for this research given the cost limitations of this research. The time allocation of the research as part of the MBA curriculum also guided this decision as other forms of media, such as videos and VRT, is time-intensive to produce.

Based on the conceptual model in figure 5, there are four variables within this research. Social distance is the independent variable, saving contribution is the dependent variable, strength of social ties is the moderator and culture is the mediator.

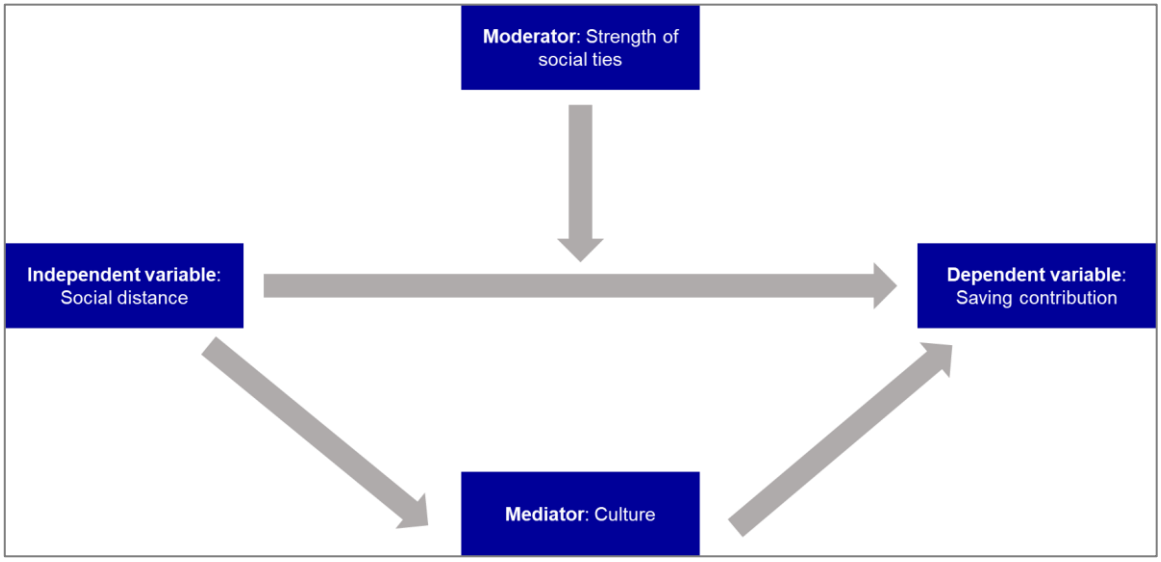

Figure 5: Conceptual Model

Based on existing research, the impact of social distance is tested through varying social distance (such as Schreiner et. al, 2018; Binzel & Fehr, 2013; Feigenberg et al., 2013; Etang et al., 2011; Karlan, 2007; Bohnet & Frey, 1999; Hoffman et al., 1996). Although the majority of existing research tests social distance at the extremes of low and high social distance, this research draws inspiration from Schreiner et. al (2018) to determine the impact of increasing social distance. Hence, this research tested the role of social distance across three increasing levels of social distance levels, namely immediate family, work colleagues and community. As the social distance increased with each factor level, this enabled this research was able to determine how social distance impacts saving contributions.

This research tested the impact of culture on saving contribution, through framing (such as Chipp et al., 2019; Alesina & Giuliano, 2015; Guiso et al., 2006). Culture was tested by using ubuntu framed vignettes and neutrally framed vignettes. Through the EVM design, this research was able to determine how the ubuntu framing impacts saving contribution amongst varying levels of social distance. This research used the strength of social ties as a moderator. The strength of social ties was determined through the level of participation and interaction at each social distance level (Newman et al., 2014).

This research design adopted a three by two factorial design and six vignettes were employed, as depicted in table 1. Each vignette required the respondent to decide on a monetary contribution to a saving group. This monetary contribution represented the dependent variable of saving contribution.

Table 1: Factorial design of the research

Social Distance	Culture	
	Neutral framing	**Ubuntu framing**
Immediate family	Vignette 1	Vignette 4
Work colleague	Vignette 2	Vignette 5
Community	Vignette 3	Vignette 6

4.4. Time horizon

Research studies follow either a cross-sectional or a longitudinal time horizon. For a cross-sectional study, data is collected from the selected sample once (Malhotra, 2014). Whereas for a longitudinal study, data is collected from the selected sample over a period of time (Saunders & Lewis, 2018). A cross-sectional time horizon was adopted for this research due to the mandatory timelines which govern this research.

4.5. Population

Population refers to the complete set of individuals that meet a required set of characteristics (Saunders & Lewis, 2018). The population for this research was defined as employed South Africans above 21 years of age. Employed South Africans were required for this research as work colleagues were one of the social distance levels tested in this research. Thus, employment helped to ensure that the work colleague vignettes were relatable. South Africans above 21 years were selected as this is defined as the most common graduation age for a three-year undergraduate qualification (Yoon & La Ferle, 2018).

4.6. Unit of analysis

The unit of analysis is the working-class South African citizen that is above 21 years of age.

4.7. Sampling method and size

The research applied non-probability purposive sampling, which means that the respondents were identified based on the researcher's judgement according to a range of screening criteria (Saunders & Lewis, 2018). The screen criteria included current employment status and age as all respondents were required to be above 21 years of age and employed.

There are no best practice recommendations relating to the sample size of EVM research, as the quality of the research is dependent on the quality of responses received (Aguinis and Bradley, 2014). The sample size is also guided by the number of factors and levels used. To assist with determining the sampling size for this research, an analysis was conducted into the sample size of studies that utilised an EVM design. A recent study in a four-star rated journal was identified. The study by McCarthy and Levin (2019), utilised a final sample size of n=210. This was used as a starting point to determine the proposed sample size for this research. To enhance the statistical reliability of the analysis process, this research aimed to achieve n=40 per vignette resulting in a total sample size of n=240. However, this research achieved a total sample size of n=228 after all incomplete entries were removed.

4.8. Measurement instrument

The measurement instrument for this study was an online self-completion questionnaire administered using Survey Monkey, an online platform. Given the mandatory timelines and the current social distancing culture, an online platform was selected as it provided adequate reach to meet the targeted number of responses. In line with the between-subjects research design, each respondent was exposed to one randomly assigned vignette. The Survey Monkey platform also monitored responses to prevent multiple responses from the same IP address, as this would have negatively impacted the validity of the results. The questionnaire had to be completed in one sitting and the respondents were not be allowed to go back to previous answers submitted.

The estimated completion time of the questionnaire was 4 minutes and the questionnaire consisted of the following sections:

Introduction: This introduction provided an overview of the aim and objective of this survey. It highlighted that participation and completion of the survey are voluntary as well as providing an estimated survey duration (4 minutes). The anonymity of the responses provided was emphasised to encourage participation. Lastly, the contact details for the researcher and the supervisor was shared should the potential respondent have any queries or concerns.

Screening questions: This section aimed to screen out respondents that do not qualify to participate in the research, as per the screening criteria mentioned above.

Section A: This section exposed the respondent to the randomly assigned vignette. The six vignettes are outlined in table 2 below. The respondent was required to input the rand values of the amount of money they were willing to save per month based on the assigned vignette.

Table 2: Vignettes applied to the research

#	Factors and level tests	Vignette
Vignette 1	**Immediate family and neutral framing**	You and your immediate family have established a rotating savings club. Assuming you currently contribute R350 to a savings account and have sufficient funds available, how much funds are you willing to contribute monthly to the rotating savings club?
Vignette 2	**Work colleagues and neutral framing**	You and your work colleagues have established a rotating savings club. Assuming you currently contribute R350 to a savings account and have sufficient funds available, how much funds are you willing to contribute monthly to the rotating savings club?

#	Factors and level tests	Vignette
Vignette 3	**Community and neutral framing**	You and your community members have established a rotating savings club. Assuming you currently contribute R350 to a savings account and have sufficient funds available, how much funds are you willing to contribute monthly to the rotating savings club?
Vignette 4	**Immediate family and ubuntu framing**	As South Africans, we need to ensure no one gets left behind. It is our moral obligation to ensure that all our communities are not financial vulnerable to unexpected incidents such as the Covid-19 lockdown. Are you willing to help your fellow South Africans save towards a better tomorrow? A small amount saved today could mean communities will not suffer from financial anxiety tomorrow. You and your immediate family have established a rotating savings club to encourage financial resiliency. Assuming you currently contribute R350 to a savings account and have sufficient funds available, how much funds are you willing to contribute monthly to the rotating savings club?

#	Factors and level tests	Vignette
Vignette 5	**Work colleagues and ubuntu framing**	As South Africans, we need to ensure no one gets left behind. It is our moral obligation to ensure that all our communities are not financial vulnerable to unexpected incidents such as the Covid-19 lockdown. Are you willing to help your fellow South Africans save towards a better tomorrow? A small amount saved today could mean communities will not suffer from financial anxiety tomorrow. You and your work colleagues have established a rotating savings club to encourage financial resiliency. Assuming you currently contribute R350 to a savings account and have sufficient funds available, how much funds are you willing to contribute monthly to the rotating savings club?
Vignette 6	**Community and ubuntu framing**	As South Africans, we need to ensure no one gets left behind. It is our moral obligation to ensure that all our communities are not financial vulnerable to unexpected incidents such as the Covid-19 lockdown. Are you willing to help your fellow South Africans save towards a better tomorrow? A small amount saved today could mean communities will not suffer from financial anxiety tomorrow. You and your community members have established a rotating savings club to encourage financial resiliency. Assuming you currently contribute R350 to a savings account and have sufficient funds available, how much funds are you willing to contribute monthly to the rotating savings club?

Section B: This section covered demographics such as gender and race. This section will also serve to determine additional information relating to the strength of

social ties with immediate family, work colleagues and the respondent's community.

4.9. Data gathering process

The survey was piloted twice. The first pilot was conducted with six of the researcher's friends. The purpose of this pilot was to determine if the respondents understood the survey. A 15-minute telephonic debrief was arranged with each pilot respondent to gauge their understanding of the survey. Once all debrief sessions were concluded, the survey was updated based on the feedback received. The updated survey was then piloted amongst two of the researchers MBA colleagues. The purpose of the second pilot was a final quality check before going to field. The responses from the second pilot were analysed to ensure that the questions and corresponding response are working as required on the Survey Monkey platform.

After a successful pilot, all responses on the online survey platform was cleared and fieldwork commenced. The fieldwork for this survey occurred between September and October 2020. The survey was first shared on the researcher's LinkedIn page, and shared by her LinkedIn connections. The researcher also distributed the link to her professional and social networks via WhatsApp and email. The number of completed surveys was tracked daily. Once a slowdown in the number of completed surveys was noticed, the researcher shared the survey on her Facebook page as well as via WhatsApp to her family network. The post was shared by the researcher's Facebook friends.

4.10. Analysis approach

As this is a between-subjects research design, the responses gathered for each vignette was combined and analysed together to draw comparisons across participants (Atzmüller & Steiner, 2010). The data was analysed to remove any incomplete data. The impact of outliers was assessed and outliers negatively impacting the distribution of the data was removed. The analysis approach is outlined in table 3 relative to the hypotheses outlined in chapter three. A Factorial Analysis of Variation (ANOVA) was performed for hypothesis one, two and four. A Mann Whitney U test was performed for hypothesis two.

Table 3: Statistical tests performed relative to hypotheses

Hypothesis	Analysis approach
H1: Saving contribution varies with social distance	Factorial ANOVA
H2: Saving contribution varies with the strength of social ties	Mann Whitney U test
H3: Saving contribution varies with framing	Factorial ANOVA
H4: Saving contribution varies based on the interaction with social distance and framing	Factorial ANOVA

Aguinis and Bradley (2014) recommend the use of the Factorial ANOVA statistical technique for EVM studies. The Factorial ANOVA assesses differences on a single dependent variable and two or more independent variables (Hair, Black, Babin & Anderson, 2010). For this research, the dependent variable was saving contribution and the two independent variables tested were social distance and framing. This test allowed the research to determine the impact of social distance (H1) and framing (H2) on saving contribution respectively, as well as determine how the interaction between social distance and framing impacts saving contribution (H4). The analysis was conducted using IBM SPSS Statistics 26 software (SPSS). The following assumptions apply to the Factorial ANOVA (1) one continuous dependent variable; (2) one independent variable with three or more sub-groups; (3) observations are independent; (4) absence of significant outliers in the dataset; (5) data is normally distributed and; (6) homogeneity of variances exist (Chiba, 2015).

The Mann-Whitney U test was performed due to the nature of the data for hypothesis two. Hypothesis two tested the relationship between the strength of social ties and saving contribution. The data for strength of social ties was ordinal data which consisted of two categories, namely strong social ties and weak social ties. Furthermore, there were different sample sizes for each category. Hence, the Mann-Whitney U test was selected as it is a nonparametric test, which means that the data does not need to be normally distributed and equal sample sizes are not required (Dinneen & Blakesley, 1973).

4.11. Quality controls

The Survey Monkey platform monitored responses to prevent multiple responses from the same IP address, as this would impact the validity of the results. As discussed above, the pilot surveys helped to ensure that the survey and vignettes had been designed to achieve the desired outcome. Once the study was in field, data was extracted every week to assess data quality and completeness. The data used for the analysis will be stored on the researchers' cloud account and external hard drive for a period of 10 years after the research has been concluded.

4.12. Limitations

The first limitation is the generalisation of the results as this research is not representative of the population. Thus, this research cannot be generalised to the South African population. The research was also performed within one country, South Africa. Thus, the second limitation is that the results cannot be used to generalise saving decisions for Southern Africa or the African continent. The third limitation is that the research focuses purely on savings decisions. Thus, the findings cannot be applied to other financial products such as annuity investments, pension funds and insurance products. The fourth limitation is that the study only considers the saving decisions of individuals with internet connectivity as an online data collection process was followed. Thus, the survey does not include the saving decisions of individuals without internet access. Furthermore, as the survey was distributed via the researcher’s professional, family and social networks, the research could be limited to respondents within the researchers direct and indirect network. The research followed a cross-sectional time horizon, which means data was collected once. Thus, the final limitation is that the research does not consider how saving decisions evolve over time.

CHAPTER 5: RESULTS

5.1. Introduction

This research intends to use stokvels as a proxy for exemplary saving behaviour, thus this research focuses on understanding how this behaviour can be replicated amongst the broader society. This research aims to determine whether social capital and the cultural practice of ubuntu can influence saving decisions.

This chapter outlines the sample achieved and presents the results according to the EVM methodology described in chapter four. This chapter first discusses the data editing and coding procedure performed on the raw survey data; and subsequently, the overall sample and descriptive statistics are presented. This is followed by the results of the factorial analysis of variance (ANOVA) test and then the results per hypothesis. As outlined in chapter three, there are four key hypotheses to this research, namely H1: Saving contribution varies with social distance, H2: Saving contribution varies with the strength of social ties, H3: Saving contribution varies with framing, and H4: Saving contribution varies based on the interaction with social distance and framing. Lastly, additional insights gleaned from the data is highlighted.

5.2. Data editing and coding

The outcome of the data editing and coding process is a data matrix which can be uploaded to SPSS, the statistical software used for this analysis. The data matrix is a Microsoft Excel spreadsheet where each column represents a variable based on the questions contained in the questionnaire and each row represents the responses at an individual level (Saunders & Lewis, 2018). For this research, the survey was conducted using Survey Monkey, as outlined in chapter four. Thus, there was minimal data editing required as the platform allows for the data to be extracted at an individual response level in Microsoft Excel format.

However, once the survey data was extracted, the following steps were performed in preparation for the data analysis. A total of 363 responses was received for this survey. The responses were assessed to ensure the survey screening criteria have been adhered too. As outlined in chapter four, the population defined for this research are individuals above 21 years of age that are currently employed. Hence, any responses in contradiction to the above were removed from the dataset. All

incomplete survey responses that relate to the dependent variable of saving contribution were removed from the dataset (Hair et al., 2010). As the survey input for saving contribution was a free text field, the dependent variable was assessed to ensure that individual responses were a single monetary value. In cases where a minimum and maximum monetary range was provided, the median was used as the dependent variable.

Two fields were added to the dataset based on the two factors the research is testing. The first field is the independent variable of social distance, denoted at three levels, namely (1) immediate family, (2) work colleagues, and (3) community. The second field is the mediator variable of cultural embeddedness which was tested through framing. The framing is denoted at two levels, namely (1) neutral, and (2) ubuntu. As highlighted in chapter four, a between-subjects research design was selected for this research, which means that each respondent was exposed to only one vignette. Thus, these fields were added based on the vignette viewed by the individual respondents, as outlined by table 4 below.

Table 4: Social distance and framing fields

	Social distance field	Framing field
Vignette 1	Immediate family	Neutral
Vignette 2	Work colleague	Neutral
Vignette 3	Community	Neutral
Vignette 4	Immediate family	Ubuntu
Vignette 5	Work colleague	Ubuntu
Vignette 6	Community	Ubuntu

Continuous interactions and participation assist to build social ties (Newman et al., 2014; Goette et al., 2012). Thus, the level of interaction and involvement with immediate family, work colleagues and community were used to code the moderator variable, strength of social ties. Table 5 to 7 outline the codes applied relative to the survey questions.

Table 5: Immediate family social ties coding

How often do you engage with your immediate family, either face-to-face or virtually?	
Response	**Coding**
Never	Weak social ties
Rarely	Weak social ties
Occasionally	Weak social ties
Frequently	Strong social ties
Very Frequently	Strong social ties

Table 6: Work colleagues social ties coding

Which of the following best describes your relationship with your work colleagues?	
Response	**Coding**
I do not socialise with my work colleagues outside of working hours and I disclose little to no personal information with my colleagues	Weak social ties
I socialise with my colleagues after working hours to celebrate work-related achievements and I disclose personal information relevant for the purposes of completing my tasks	Weak social ties
My colleagues are an extension of my friend circle and I disclose most important and personal information with them	Strong social ties

Table 7: Community social ties coding

How often are you actively involved in community initiatives and programmes?	
Response	**Coding**
Never	Weak social ties
Rarely	Weak social ties
Occasionally	Weak social ties
Frequently	Strong social ties
Very Frequently	Strong social ties

Subsequently, the distribution of the remaining survey responses were assessed as normal distribution and homogeneity of variances are two key assumptions of the Factorial ANOVA test (Chiba, 2015). Based on table 8, there are 228 completed survey responses after the screening criteria were validated and the incomplete survey responses were removed.

Table 8: Case processing by dependent variable (saving contribution) with outliers

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Saving contribution	228	100.0%	0	0.0%	228	100.0%

Based on table 9, the mean value of saving contribution is R1 192, 17, whereas the 5% trimmed mean is R492,13. The substantial difference of R 700, 04 indicates the impact of outliers on the data. This suggests that outliers should be removed from the sample. The skewness of saving contribution is 7,755 which invalidates the assumption of normality. The impact of the outliers can also be gauged from figure 6, as the boxplot provides a graphical representation of the data (Hair et al., 2010). The variation of the data is depicted through the length of the boxes and the whiskers in a box plot (Hair et al., 2010). The lack of a clear boxplot in figure 6 highlights the impact of the outliers on the distribution of the data. Based on figure 6, saving

contributions equal to or above R1 000 can be considered outliers. Thus, survey responses with saving contributions equal to or above R1 000 were removed from the sample.

Table 9: Descriptive statistics of the dependent variable with outliers

Descriptives

			Statistic	Std. Error
Saving contribution	Mean		1192.17	309.871
	95% Confidence Interval for Mean	Lower Bound	581.58	
		Upper Bound	1802.76	
	5% Trimmed Mean		492.13	
	Median		500.00	
	Variance		21892582.160	
	Std. Deviation		4678.951	
	Minimum		0	
	Maximum		45000	
	Range		45000	
	Interquartile Range		300	
	Skewness		7.755	.161
	Kurtosis		63.011	.321

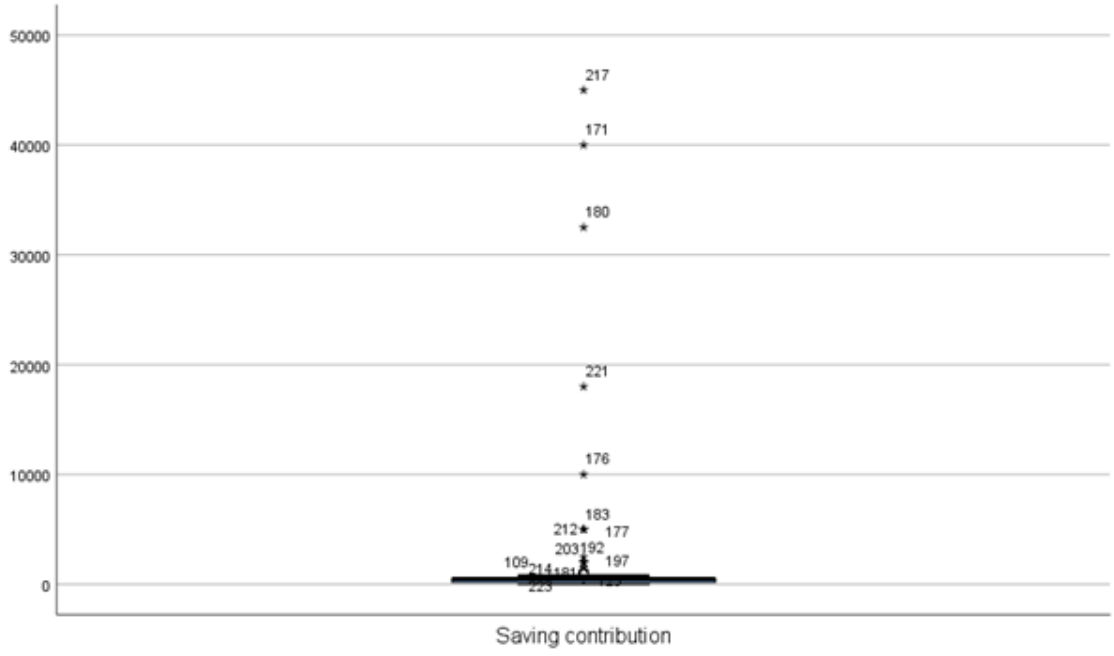

Figure 6: Boxplot of the dependent variable with outliers

The distribution of the remaining survey responses was assessed again, with the results presented below in tables 10 and 11 and figure 7. Based on table 10, there are 181 completed survey responses with saving contributions less than R1 000.

Table 10: Case processing by dependent variable (saving contribution) without outliers

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Saving contribution	181	100.0%	0	0.0%	181	100.0%

Based on table 11, there is minimal difference between the mean value of saving contribution (R333, 23) and the 5% trimmed mean (R334,19). The skewness of saving contribution is -0.95.

Table 11: Descriptive statistics of the dependent variable without outliers

Descriptives

			Statistic	Std. Error
Saving contribution	Mean		333.23	13.362
	95% Confidence Interval for Mean	Lower Bound	306.87	
		Upper Bound	359.60	
	5% Trimmed Mean		334.19	
	Median		350.00	
	Variance		32317.968	
	Std. Deviation		179.772	
	Minimum		0	
	Maximum		800	
	Range		800	
	Interquartile Range		300	
	Skewness		-.095	.181
	Kurtosis		-.730	.359

Based on figure 7, the middle median of the box plot depicts normal distribution (Hair et al., 2010), which validates the assumptions of the Factorial ANOVA test to be performed.

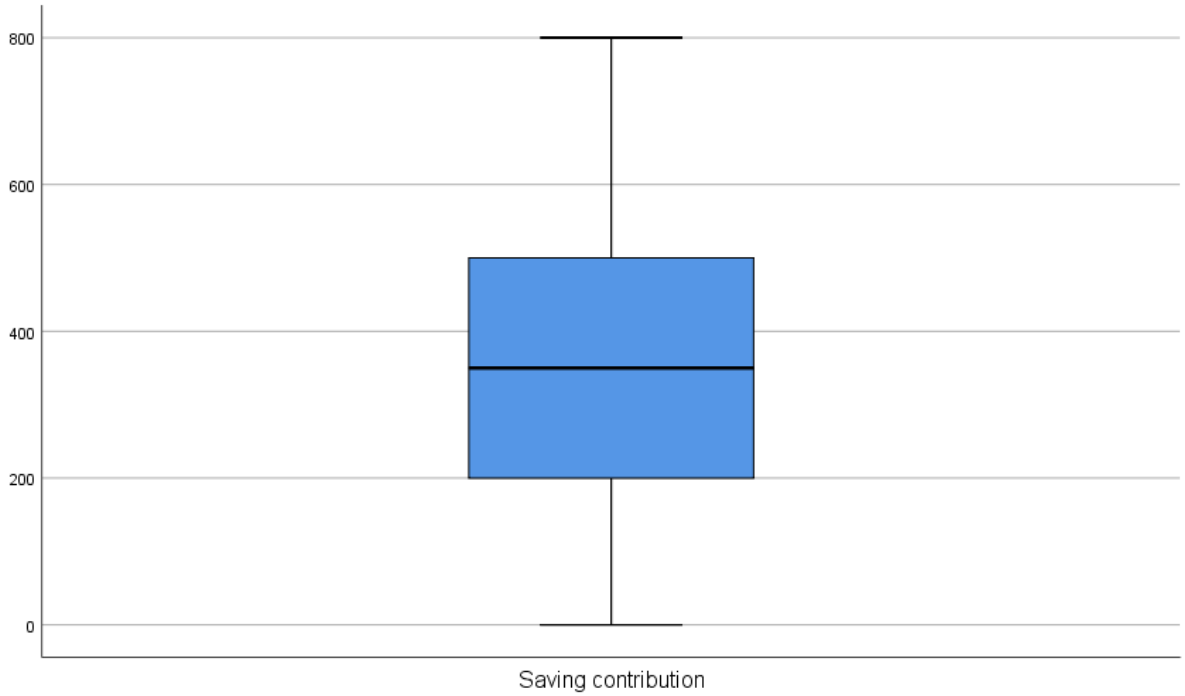

Figure 7: Boxplot of the dependent variable without outliers

5.3. Descriptive statistics

Based on the data editing and cleaning process, the analysis was performed with a sample size of n=181. The demographic information of the total sample is presented in table 12 and 13 below. The sample achieved 32% completion by black South Africans. According to the 2020 Establishment Survey (The Broadcast Research Council of South Africa, 2020) which is representative of the South African population, 80% of the population is black. Although this research was not designed to achieve a nationally representative sample, there is concern about the number of black respondents in this sample, as stokvels are prominently used by black South Africans to address the lack of service delivery from formal financial institutions (Matuku & Kaseke, 2014). A greater representation of black South Africans would have provided more depth to the study. South Africa has a young population with 54% of the population between 25 to 49 years old (The Broadcast Research Council of South Africa, 2020). This aligns to the age demographics of the sample as 90% of the sample is below 50 years of age. This alignment is important to ensure the longevity of the findings from this research. Online data collection was the only data collection channel adopted by this research, thus the household income for internet users is more applicable to this study. The average monthly income of South African households with interact access in the past seven days is R14 309 and 20% of South

African households with internet access earn above R20 000 per month. In comparison, 65% of the sample earned monthly household income above R20 000. Thus, the sample is skewed towards the middle- to high-income earners.

Table 12: Sample demographics

Demographics		Number of participants	Percent	Cumulative Percent
Age	21 to 29	46	25%	25%
	30 to 39	80	44%	70%
	40 to 49	38	21%	91%
	50 to 59	14	8%	98%
	Above 60 years	3	2%	100%
	Total	**181**	**100%**	
Gender	Female	118	65%	65%
	Male	63	35%	100%
	Total	**181**	**100%**	
Race	Asian	17	9%	9%
	Black	58	32%	41%
	Coloured	6	3%	45%
	Indian	64	35%	80%
	Other	3	2%	82%
	White	33	18%	100%
	Total	**181**	**100%**	
After-tax monthly household income	Below R5,600	3	2%	2%
	R5,601 to R10,000	16	9%	10%
	R10,001 to R20,000	43	24%	34%
	R20,001 to R30,000	44	24%	59%
	R30,001 to R40,000	26	14%	73%
	Above R40,000	49	27%	100%
	Total	**181**	**100%**	
Education level	Grade 12 (National Senior Certificate)	35	19%	19%
	National Diploma	25	14%	33%
	Bachelor's degree, Advanced Diplomas, Post Graduate Certificate and B-tech	41	23%	56%
	Honours degree, Post Graduate Diploma, and Professional Qualifications	63	35%	91%
	Master's degree	17	9%	100%
	Total	**181**	**100%**	

Table 13: Current savings behaviour of the sample

Current savings behaviour		Number of participants	Percent	Cumulative Percent
Monthly saving with a financial institution	Yes	146	81%	81%
	No	35	19%	100%
	Total	**181**	**100%**	
Participation in informal savings club	Yes	136	75%	75%
	No	45	25%	100%
	Total	**181**	**100%**	

5.4. Factorial analysis of variance (ANOVA)

As outlined in chapter four, the analysis technique for the EVM methodology is a

Factorial ANOVA test (Aguinis and Bradley, 2014). This test assesses differences on a single dependent variable and two or more independent variables (Hair et al., 2010). For this research, the dependent variable was saving contribution and the two independent variables tested were social distance and framing. This test determines the impact of social distance and framing on saving contribution respectively, as well as determine how the interaction between social distance and framing impacts saving contribution. In other words, the results of this test can be interpreted for hypothesis one, hypothesis two and hypothesis four. The SPSS output for the factorial ANOVA is presented in table 14 to 17. Table 14 outlines the sample sizes for the respective levels of each factor. For the social distance factor, n=57 for immediate family, n=61 for work colleagues, and n=63 for the community. For framing, n= 103 for the neutral framing and n=78 for ubuntu framing. Table 16 provides the Levene's test conducted to test the homogeneity of variances. To meet the conditions of equal variances, the significance value (p-value) of the Levene's test needs to greater than 0.05. The p-value of the Levene's test in table 16 is 0.807 which is greater than 0.05. Thus, the data for this research does not violate the assumption of homogeneity. Tables 15 and 17 will be discussed under hypothesis one, hypothesis three and hypothesis four.

Table 14: Factorial ANOVA SPSS Output - Summary of cases

Between-Subjects Factors

		N
FramingNEW	Neutral	103
	Ubuntu	78
SocialDistanceNEW	Immediate Family	57
	Work Colleagues	61
	Community	63

Table 15: Factorial ANOVA SPSS Output - Descriptive Statistics

Descriptive Statistics

Dependent Variable: Saving contribution

FramingNEW	SocialDistanceNEW	Mean	Std. Deviation	N
Neutral	Immediate Family	387.93	184.030	29
	Work Colleagues	371.50	177.743	40
	Community	327.94	163.388	34
	Total	361.75	175.004	103
Ubuntu	Immediate Family	276.79	192.682	28
	Work Colleagues	313.33	159.478	21
	Community	300.86	186.184	29
	Total	295.58	180.151	78
Total	Immediate Family	333.33	194.875	57
	Work Colleagues	351.48	172.596	61
	Community	315.48	173.346	63
	Total	333.23	179.772	181

Table 16: Levene's Test of Equality

Levene's Test of Equality of Error Variances[a,b]

		Levene Statistic	df1	df2	Sig.
Saving contribution	Based on Mean	.458	5	175	.807
	Based on Median	.447	5	175	.815
	Based on Median and with adjusted df	.447	5	170.101	.815
	Based on trimmed mean	.497	5	175	.778

Table 17: Factorial ANOVA SPSS Output - Factorial ANOVA

Tests of Between-Subjects Effects

Dependent Variable: Saving contribution

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	274211.680[a]	5	54842.336	1.731	.130	.047	8.657	.588
Intercept	18934111.74	1	18934111.74	597.773	.000	.774	597.773	1.000
FramingNEW	186586.750	1	186586.750	5.891	.016	.033	5.891	.675
SocialDistanceNEW	23897.795	2	11948.898	.377	.686	.004	.754	.110
FramingNEW * SocialDistanceNEW	53462.314	2	26731.157	.844	.432	.010	1.688	.193
Error	5543022.574	175	31674.415					
Total	25916125.00	181						
Corrected Total	5817234.254	180						

a. R Squared = .047 (Adjusted R Squared = .020)

b. Computed using alpha = ,05

5.5. Data analysis: Hypothesis one

The first hypothesis of this research proposes that saving contribution varies with social distance. To test this hypothesis, the factorial ANOVA in section 5.4 will be used. The factorial ANOVA tests the null hypothesis that saving contribution does not differ for varying social distance. Based on table 15, there is minimal difference in the means for the three levels of social distance. The mean for immediate family is R333, 33; the mean for work colleagues is R351, 48 and the mean for the community is R315,48. Based on table 17, the significance value for social distance is 0.686, which exceeds the value of 0.05 at a 95% confidence level. Hence, the test fails to reject the null hypothesis that saving contribution does not differ for varying social distance. The effect size for social distance is 0.004 which suggests a small effect based on Cohen (1988) standards. According to Cohen (1988), an effect below 0.02 is considered low. In other words, varying social distance does not lead to significant changes in saving contribution. The first hypothesis of this research is thus rejected.

5.6. Data analysis: Hypothesis two

The second hypothesis proposes that saving contribution varies with the strength of social ties. Strength of social ties consists of two categories, namely strong ties and weak ties. Thus, the strength of social ties is ordinal data and a Factorial ANOVA cannot be performed on ordinal data (Wegner, 2017). As a result, the Mann-Whitney U test was performed as this is a nonparametric test, which means it can be performed on ordinal data. Furthermore, there are different sample sizes for each category. Hence, the Mann-Whitney U test was also selected as the data does not need to be normally distributed and equal sample sizes are not required (Dinneen & Blakesley, 1973). A Mann-Whitney U test was conducted for each of the three levels of social distance, namely immediate family, work colleagues and community. The SPSS outputs for these tests are presented below.

5.6.1. Immediate family

The Mann-Whitney U test ranks the data, hence table 18 provides the mean rank for strong family ties and weak family ties. Based on table 18, there is minimal difference between the mean rank of strong family ties (mean rank = 28.73) and weak family ties (mean rank = 29.69). The null hypothesis for the Mann-Whitney U test is that the

observations for one group differ from the second group. The p-value of the Mann-Whitney U test is displayed in table 19. The p-value of the test is 0.840, which exceeds the p-value of 0.05. Hence, the test rejects the null hypothesis. This means that there is no difference in saving contribution amongst strong and weak family ties.

Table 18: Mann-Whitney U Test SPSS Output – Ranks for immediate family

Ranks

	FamilyTiesNEW	N	Mean Rank	Sum of Ranks
Saving contribution	Strong	41	28.73	1178.00
	Weak	16	29.69	475.00
	Total	57		

Table 19: Mann-Whitney U Test SPSS Output - Mann-Whitney U test for immediate family

Test Statistics[a]

	Saving contribution
Mann-Whitney U	317.000
Wilcoxon W	1178.000
Z	-.202
Asymp. Sig. (2-tailed)	.840

5.6.2. Work colleagues

Based on table 20, there is minimal difference between the mean rank of strong work ties (mean rank = 33.47) and weak work ties (mean rank = 30.20). The null hypothesis for the Mann-Whitney U test is that the observations for one group differ from the second group. The p-value of the Mann-Whitney U test is displayed in table 21. The p-value of the test is 0.522, which exceeds the p-value of 0.05. Hence, the test rejects the null hypothesis. This means that there is no difference in saving contribution amongst strong and weak work ties.

Table 20: Mann-Whitney U Test SPSS Output – Ranks for work colleagues

Ranks

	WorkTiesNEW	N	Mean Rank	Sum of Ranks
Saving contribution	Strong	15	33.47	502.00
	Weak	46	30.20	1389.00
	Total	61		

Table 21: Mann-Whitney U Test SPSS Output - Mann-Whitney U test for work colleagues

Test Statistics[a]

	Saving contribution
Mann-Whitney U	308.000
Wilcoxon W	1389.000
Z	-.640
Asymp. Sig. (2-tailed)	.522

5.6.3. Community

Based on table 22, there is minimal difference between the mean rank of strong community ties (mean rank = 25.13) and weak work ties (mean rank = 33.00). The null hypothesis for the Mann-Whitney U test is that the observations for one group differ from the second group. The p-value of the Mann-Whitney U test is displayed in table 23. The p-value of the test is 0.246, which exceeds the p-value of 0.05. Hence, the test rejects the null hypothesis. This means that there is no difference in saving contribution amongst strong and weak community ties.

Table 22: Mann-Whitney U Test SPSS Output – Ranks for community

Ranks

	CommunityTiesNew	N	Mean Rank	Sum of Ranks
Saving contribution	Strong	8	25.13	201.00
	Weak	55	33.00	1815.00
	Total	63		

Table 23: Mann-Whitney U Test SPSS Output - Mann-Whitney U test for community

Test Statistics[a]

	Saving contribution
Mann-Whitney U	165.000
Wilcoxon W	201.000
Z	-1.159
Asymp. Sig. (2-tailed)	.246

5.7. Data analysis: Hypothesis three

The third hypothesis proposes that saving contribution varies with framing. To test this hypothesis, the factorial ANOVA in section 5.4 will be used. The factorial ANOVA tests the null hypothesis that saving contribution does not differ for varying framing. Based on table 15, there is a considerable difference in the means for neutral framing (R361, 75) and ubuntu framing (R295, 58). Based on table 17, the significance value for framing is 0.016, which does not exceed the value of 0.05 at a 95% confidence level. Hence, the test rejects the null hypothesis that saving contribution does not differ for varying framing. The effect size for social distance is 0.033 which suggests 3.3% variation in the dependent variable can be attributed to the independent variable of framing. Thus, this analysis fails to reject the third hypothesis of this research.

5.8. Data analysis: Hypothesis four

The fourth hypothesis proposes that saving contribution varies based on the interaction with social distance and framing. The factorial ANOVA in section 5.4 also tests the effect of the interaction between social distance and framing on saving contribution. The profiles plot in figure 8 below provides a visual view of this interaction. The figure shows a difference between the neutral framing and the ubuntu framing at an immediate family level, work colleagues level and community

level, respectively.

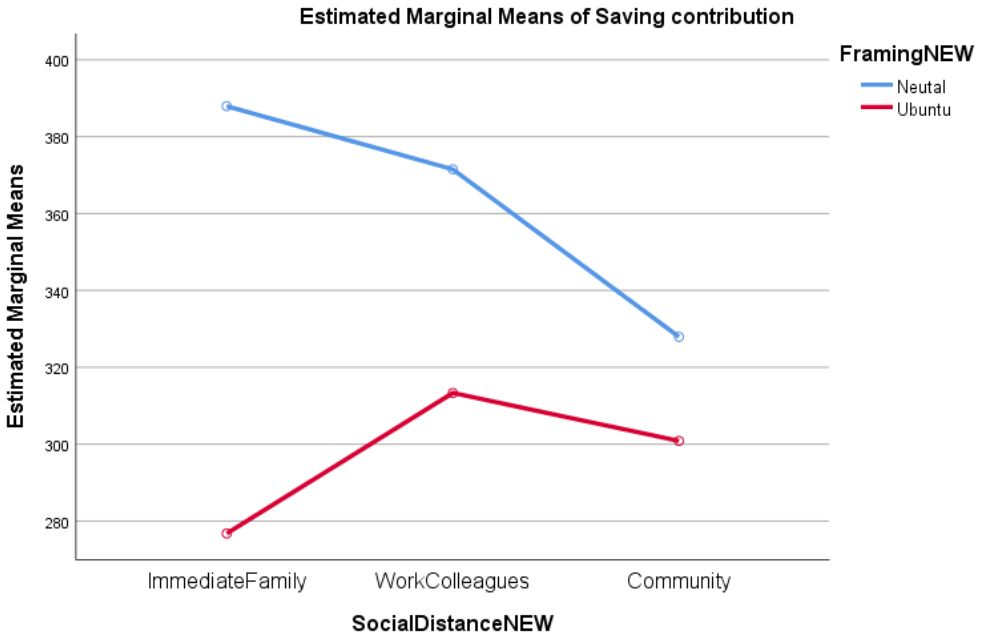

Figure 8: Profile plot of the interaction between social distance and framing

However, table 17 assesses whether this difference is significant. The factorial ANOVA tests the null hypothesis that saving contribution does not differ due to the interaction of social distance and framing. Based on table 17, the significance value for the interaction of social distance and framing is 0.432, which exceeds the value of 0.05 at a 95% confidence level. Hence, the tests fail to reject the null hypothesis that saving contribution does not differ for the interaction of social distance and framing for varying framing. Thus, although there is a visual difference between the neutral framing and the ubuntu framing across the three levels of social distance, this difference is not significant. Hence, this analysis rejects the fourth hypothesis of this research.

5.9. Data analysis: Other insights - Interaction between social distance and income

An additional factorial ANOVA test was also performed for the dependent variable (saving contribution) and two independent variables, namely social distance and after-tax household income. This test allowed the researcher to determine the impact of social distance and income on saving contribution respectively, as well as determine how the interaction between social distance and income impacts saving contribution. The SPSS output for the factorial ANOVA is presented in table 24 to 26.

Table 24 outlines the sample sizes for the respective levels of each factor.

Table 24: Factorial ANOVA SPSS Output - Summary of cases

Between-Subjects Factors

		Value Label	N
SocialDistanceNEW	1.00		57
	2.00		61
	3.00		63
After-tax monthly household income	1	Above R40,000	49
	2	Below R5,600	3
	3	R10,001 to R20,000	43
	4	R20,001 to R30,000	44
	5	R30,001 to R40,000	26
	6	R5,601 to R10,000	16

Table 25: Levene's Test of Equality

Levene's Test of Equality of Error Variances[a,b]

		Levene Statistic	df1	df2	Sig.
Saving contribution	Based on Mean	1.053	15	165	.405
	Based on Median	.628	15	165	.849
	Based on Median and with adjusted df	.628	15	112.707	.846
	Based on trimmed mean	1.053	15	165	.404

Table 26: Factorial ANOVA SPSS Output - Factorial ANOVA

Tests of Between-Subjects Effects

Dependent Variable: Saving contribution

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	937973.458[a]	15	62531.564	2.115	.011	.161	31.719	.962
Intercept	10555324.40	1	10555324.40	356.945	.000	.684	356.945	1.000
SocialDistanceNEW	62611.823	2	31305.912	1.059	.349	.013	2.117	.233
HouseholdIncomeNEW	125913.553	5	25182.711	.852	.515	.025	4.258	.300
SocialDistanceNEW * HouseholdIncomeNEW	714901.838	8	89362.730	3.022	.003	.128	24.176	.953
Error	4879260.796	165	29571.278					
Total	25916125.00	181						
Corrected Total	5817234.254	180						

a. R Squared = .161 (Adjusted R Squared = .085)

b. Computed using alpha = ,05

The factorial ANOVA tests the null hypothesis that saving contribution does not differ due to the interaction of social distance and income. Table 25 provides the Levene's test conducted to test the homogeneity of variances. To meet the conditions of equal variances, the significance value (p-value) of the Levene's test needs to greater than 0.05. The p-value of the Levene's test in table 25 is 0.405 which is greater than 0.05. Thus, the data for this research does not violate the assumption of homogeneity. Based on table 26, the significance value for the interaction between social distance and income is 0.003, which does not exceed the value of 0.05 at a 95% confidence level. Hence, the test rejects the null hypothesis that saving contribution does not differ due to the interaction of social distance and income. The test suggests that 12.8% of the variation in the dependent variable can be attributed to the interaction between social distance and income.

5.10. Conclusion

This chapter outlined the results of the statistical tests performed to test the three hypotheses of this research. Hypothesis one proposes that saving contribution varies with social distance. However, the analysis has shown that social distance does not cause a significant change in saving contribution. Hence, hypothesis one of the research is rejected. Hypothesis two proposes that saving contribution varies with the strength of social ties. The analysis highlighted that saving contribution does not significantly change due to the strength of ties for the three levels of social distance, namely immediate family, work colleagues and community. Hence, hypothesis two of the research is rejected. Hypothesis three proposes that saving contribution varies

with framing. The analysis has shown that framing does cause a significant change in saving contribution. Hence, the analysis fails to reject hypothesis three of this research. Hypothesis four proposes that saving contribution varies based on the interaction with social distance and framing. The analysis has shown that saving contribution does not vary based on the interaction with social distance and framing. Hence, hypothesis four of the research is rejected. The summary of the results is presented in table 27 below. The analysis also established a significant relationship between saving contribution and the interaction between social distance and after-tax household income. The analysis found that saving contribution does differ due to the interaction of social distance and after-tax household income. The following chapter (chapter six) discusses the results in further detail.

Table 27: Summary of hypothesis testing results

Hypothesis	Results
Hypothesis one (H1)	Rejected
Hypothesis two (H2)	Rejected
Hypothesis three (H3)	Failed to reject
Hypothesis four (H4)	Rejected

CHAPTER 6: DISCUSSION OF RESULTS

6.1. Introduction

This research aims to determine whether social capital and the cultural practice of ubuntu can influence saving decisions. As outlined in chapter one, this research is guided by the following specific objectives:

Research objective one: To determine the impact of social distance on saving contribution – Does a reduced social distance increase the saving contribution?

Research objective two: To understand the role of social ties on saving contribution – Does the strength of social ties influence the relationship between social distance and saving contribution?

Research objective three: To understand how ubuntu framing changes the association between social distance and saving contribution – Does the ubuntu framing promote an increase in saving contribution relative to a neutral framing?

Research objective four: To understand how the interaction between social distance and framing impacts saving contribution – Does the interaction between social distance and framing promote an increase in saving contribution?

Based on the above-mentioned research objectives, the hypotheses outlined in table 28 were tested in Chapter 5. This chapter discusses the results per hypothesis in further depth by drawing comparisons and contrasts to existing literature.

Table 28: Overview of research objectives and their associated hypothesis

Research Objective	Hypothesis	Result
Research objective one	H1: Saving contribution varies with social distance	Saving contribution does not vary with social distance
Research objective two	H2: Saving contribution varies with the strength of social ties	Saving contribution does not vary with the strength of social ties
Research objective three	H3: Saving contribution varies with framing	Saving contribution varies with framing
Research objective four	H4: Saving contribution varies based on the interaction with social distance and framing	Saving contribution does not vary based on the interaction with social distance and framing

6.2. Research objective one - Hypothesis one (H1): Social distance

Based on the first hypothesis, this research found that saving contribution does not vary with social distance. This finding contradicts existing literature from Binzel and Fehr (2013) and Etang et al. (2011) which found financial contributions to vary with social distance, as well as Schreiner et al. (2018) which found that non-financial willing-to-share also vary with social distance. However, the contradiction to the existing literature linking financial decisions to social distance can be attributed to the differences in research design. Existing literature has primarily defined social distance across two levels, namely known connections and unknown connections or strangers. For instance, Binzel and Fehr (2013) and Etang et al. (2011) measure social distance using two neighbouring villages with participant residing in the same villages termed friends and family; and participants of the neighbouring village considered strangers. Due to limited geographic mobility, it was likely that there were no prior interactions between the villages. This research diverged from existing literature relating to financial decisions to define social distance across increasing levels, namely immediate family, work colleagues and community.

Rural regions of developing countries have been a prevalent choice for most existing literature which observed changes to financial decisions across varying social distance. These regions can be characterised as low-income areas and include villages in India (Breza and Chandrasekhar, 2019; Arun et al., 2016; Feigenberg et al., 2013), Chile (Kast et al., 2018), Cameroon (Etang et al., 2011), Bangladesh (Masahiro, 2018) and informal housing areas in Egypt (Binzel and Fehr, 2013). In contrast, this sample is skewed to the middle- to upper- income category with 65% earning a monthly household income above R20 000, relative to a national average monthly household income of R14 309. Furthermore, the African middle class have a wide range of social networks, including alumni networks, professional networks and religious networks (Chikweche & Fletcher, 2014). Cavusgil, Deligonul, Kardes and Cavusgil, (2018) distinguish between the traditional and the new middle class, with the new middle class referring to the emerging black middle-class in African. The emerging middle-class is known to widely consult across their networks before purchase decisions to assess the social status and social acceptance of purchases (Chikweche & Fletcher, 2014; Cavusgil et al., 2018). Thus, based on the income skew of the sample, it is plausible that saving contribution does not vary across social distance due to the loose social ties of the emerging middle-class across various social networks. Based on the income skew of the sample and the data collection method, which involved leveraging the researcher's networks, it can be assumed that the majority of the sample reside in urban areas. Although there are studies that focus on urban populations, these studies continue to focus on social distance through known social connections and strangers. For example, although Ermish and Gambetta (2010) utilise panel data of the British population and a field trust game which suggests comparable income categories, the study continues to focus on the impact of family ties on trust with strangers.

Existing literature has been conducted using observations from laboratory or field experiments, whereas this research also uses a paper-based research design. The majority of the existing studies have not focused purely on savings behaviour with Arun et al. (2016) focusing on the impact of social networks on consumption behaviour, Binzel and Fehr (2014) and Etang et al. (2011) focusing on endowments and donations and Kast et al. (2018), Feigenberg et al. (2013) and Karlan (2007) focusing on borrowing. Based on these differences in the research design the comparability of the findings will be problematic.

Furthermore, the timing of this research could have also influenced the findings. Given the current Covid-19 pandemic, there is a possibility that saving contribution decisions were unconsciously guided by social and personal rules and heuristics (Murnaghan and Wang, 2016). While responding to the vignettes, respondents possibly considered the expected response and responded in line to those expectations (Murnighan & Wang, 2016). Thus, it is hypothesized that the current pandemic shifted the focus from social distance to moral distance. Leveraging off Hoffman et al. (1996) definition of social distance, Aguiar et al. (2008) define moral distance as the obligation status of person A towards person B. Though Aguiar et al. (2008) focused on moral distance within the context of endowments and donations to third wheel countries, the current economic impact of Covid-19 has potentially created a moral dilemma for South Africans. Given the high levels of equality with the South African Gini coefficient at 0.63 (World Bank, 2020), there is a possibility that wealthy South African are experiencing a moral obligation to assist their immediate family, work colleagues or communities members struggling during this time. Similarly, black South Africans also face with the expectation of black tax which is the colloquial term used for financial transactions to direct and indirect family members (Mangoma & Wilson-Prangley, 2019). Mangoma and Wilson-Prangley (2019) declared black tax to be substantial amounts sent to immediate and distant family generally every month. Thus, it is possible that the prevalence of black tax amongst South African society impacted the results of this study.

Similarly, Feigenberg et al. (2013) propose that similar socio-economic status aid economic cooperation and generates economic returns. This implies that it is also possible that South Africans in similar socio-economic conditions to their immediate family, work colleagues or communities members will experience a moral obligation to assist. Schreiner et al. (2018) affirm this view by noting willingness-to-share non-financial items with high social distance due to external concerns. Although Schreiner et al. (2018) referred to environmental concerns relating to the additional production of goods, the current external concern of Covid-19 could be used to explain the finding of this research.

No variation in saving contribution across the social distance advocate that the impact of social distance depends on other network factors such as peer effects (Breza and Chandrasekhar, 2019) and reminders (Kast et al., 2018). Differences in

monetary contribution observed in literature could be attributed to peer pressure and regular saving reminders, which is easily facilitated due to reduced social distance (Kast et al., 2018). The research design could have also not modelled social risks that exist, as experiments do not present a unitary explanation for decisions, as the same decision can be made due to difference intentions, incentives and/or motivators (Murnigham and Wang, 2016). Similarly, the research design could have not modelled for the ability to save. For example, Breza and Chandraseker (2019) attest that reputation matters amongst social connection as information about saving behaviour is transmitted through social networks. Similarly, research by Karlan (2007) revealed social connections serve as social collateral in monetary transactions. However, both direct and indirect connections serve as social collateral due to the connectedness of social networks (Karlan, 2007). Hence, within the selected levels of social distance for this research, there will be a high prevalence of both direct and indirect ties as these are intertwined in an urban setting. Thus, there is a possibility that saving contribution decisions were made based on reputation concerns. Although experiments are an efficient way to model behaviour, they are considered imperfect (Murnigham and Wang, 2016).

The findings also posit that the role of incentives needs to be further interrogated within the saving context. Berg et al. (2017) investigate the impact of a remuneration incentive in 151 villages in India with agents to distribute information regarding the public health insurance programme. With no remuneration incentives, agents relied on spreading information across low social distances, however, with remuneration incentives information was spread across high social distances (Berg et al., 2017). In other words, incentives appear to motivate a reduction in social distance. Within a saving group context, the lump sum payments could serve as an incentive to reduce social distances.

6.3. Research objective two - Hypothesis two (H2): Strength of social ties

The second hypothesis found that saving contributions does not vary based on strength of social ties. This finding contradicts the consensus amongst academic literature that regular interactions lead to significant economic return (Feigenberg et al.,2013). Bapna et al. (2017) endorse that trust is built through repeated interactions and this creates monetary motivations and symbolic motivations. However, the impact of social ties is often observed through repeated games, rather than once-off

games. In a repeated game the respondent will interact with the game for two or more times, usually knowing the decisions of others in the previous rounds; whereas in a once-off game, the respondent only reacts to one game (Thielman et al., 2020). The research design adopted by this research is similar to a once-off game as every respondent sees only one vignette and it required to only make one saving contribution decision. In contrast, studies like Binzel and Fehr (2014) and Etang et al., (2011) adopt a repeated game. The contradiction in the findings could you attributed to the different research design.

Additionally, moral distance does not relate to the strength of social ties as a stranger could receive more money than an acquittance if the stranger appears to be in more dire circumstances (Aguiar et al., 2008). Within the context of a saving group, each member of the group receives a lump sum payment which creates speculation that saving groups have a stronger incentive relative to other financial transactions such as borrowing, consumption, investment and donations. Masahiro (2018), Arun et al. (2016) and, Binzel and Fehr (2014) found a higher level of trust is formed amongst individuals linked to a strong incentive. This insinuates that when there is a strong incentive, factors such as social ties or frequency of interactions have an insignificant effect on behaviour.

The insignificant relationship between saving contribution and strength of social ties could be attributed to a simplistic measure for the strength of ties. This research used the level of engagement and interaction as a proxy to determine the strength of social ties, with strong social ties identified as frequent interactions and weak ties as seldom interactions. A potential alternative measure could be geographic proximity. Karlan (2007) deduced that reduced geographic proximity results in closer social ties due to reduced monitoring costs and an increase in the reputation risk for defaults.

6.4. Research objective three - Hypothesis three (H3): Framing

The third hypothesis established that saving contribution does significantly vary based on framing. This finding infers that saving contribution for a neutral framing varies from saving contribution with an ubuntu framing. Ubuntu is a widely accepted cultural practice which implies that an individual exists because of a wider network of individuals and the survival of one is intertwined with the survival of this wider network (Migheli, 2017). The importance of culture in decisions making can be

inferred through this finding, which aligns with existing literature such as Alesina and Giuliano (2015), Feigenberg et al. (2013) and Karlan (2007). Culture is often used as a means to explain variation in human behaviour and decisions, and cultural similarity is often used as a measure of social connection (Karlan, 2007). The finding affirms that similar cultural backgrounds aid economic cooperation and generates economic returns (Bapna et al., 2017; Feigenberg et al.,2013). For instance, Karlan (2007) found cultural similarities between randomly assigned participants in a microfinance group resulted in higher loan repayments and resultant opportunities for savings.

This finding supports the prosocial theoretical framework proposed by Thielman et al. (2020), which suggest that the features and affordances of each independent situation will guide the traits displayed. Thielman et al. (2020) outline four situations, with one specific situation being relevant for this research. This situation relates to the possibility of reciprocity and within the context of saving groups, the action of saving contribution by one member will be reciprocated by another. The feature of reciprocity allows individuals to express concern about the welfare of others. Similarity, ubuntu is anchored in the welfare of the collective which is conveyed through the translated Zulu proverb "*I am because you are, you are because we are*" (Khoza, 2012).

Despite the latest Hofstede insights (n.d.) advocating a high level of individualism amongst South African societies, the result implies the prevalence of ubuntu amongst South Africans today. This supports the critique that the Hofstede measure does not consider culture dynamics and rather considers national culture as static (Beugelsdijk & Welzel, 2018). Furthermore, Brewer and Venaik (2011) question the accuracy of the individualism and collectivism dimensions used in the Hofstede. Based on the nature of the items used to measure these dimensions, Brewer and Venaik (2011) recommend that the individualism label is changed to self-orientation, and the collectivism label is changed to work-orientation. Based on the young sample, with 69% between 21 to 39 years old, these findings also support the claim that parents are responsible for the transmission of culture from one generation to the next (Okada, 2020) and that there is a time delay to cultural amendments (Guiso et al., 2006). However, the finding could be attributed to the timing of the study. The pandemic has created a renewed sense of appreciation for humanity, empathy, and the spirit of ubuntu (Old Mutual, 2020). The study by Chipp et al. (2019) used a similar

measure of ubuntu which established the ubuntu framing effect to be insignificant.

Nonetheless, the result supports that greater exposure to culture is associated with a significant convergence of cultural special norms (Cameron et al., 2015), as the young sample was exposed to the ubuntu spirit in their childhood. Cameron et al. (2015) provide evidence of cultural convergence in the Chinese culture in Australia. Cameron et al. (2015), found Chinese respondents with a greater exposure to the western cultural norms of Australia exhibited fewer characteristics aligned to the Chinese culture such as altruism. In other words, greater exposure to western culture had a significantly negative impact on Chinese culture.

6.5. Research objective four - Hypothesis four (H4): Interaction between social distance and framing

The fourth hypothesis found saving contribution does not differ due to the interaction between social distance and framing. Existing literature has predominately focused on social distance and culture separately, with culture viewed as an emerging variable (Alesina & Giuliano, 2015). However, culture is acknowledged as an important element of trust (Li et al., 2019) and economic (Putman, 1993) decisions. Furthermore, currency effects are highly dependent on culture (Archambault et al., 2020).

There is limited literature available relating to social distance and culture to draw comparisons. Culture has also been investigated to determine the impact of culture on trust from a social distance perspective, such as Alesina and Giuliano (2015) that investigated the role of culture in the level of trust exhibited with strangers. The relationship between social distance and culture is speculated based on the outcomes of social distance studies. For example, Feigenberg et al. (2013) and Karlan (2007) explain strong social ties amongst members of a microfinance group and lending group, respectively, due to similar cultural backgrounds. Similarly, Strombach et al. (2013) tested the impact of social distance and generosity amongst Germans and Chinese and attributed the differences in behaviour to culture. The Chinese culture speaks to altruism and thus the Chinese were generous with low social distance and high social distance.

6.6. Other insights: Interaction between social distance and income

The final finding established by this research is that saving contribution significantly varies based on the interaction between income and social distance. This finding complement's Masahiro's (2018) finding of a correlation between income and levels of trust. However, the primary focus of existing literature is understanding the differences in saving behaviour between low- and high-income groups. Gruber (2018) highlighted that peer effects could negatively impact the upper-income strata, as social capital and social influence motivates wealthy individuals to spend their disposable income on assets to improve their social status. Similarly, purchase decisions of the middle-income class depend heavily on social acceptance across a wide range of social networks (Chikweche & Fletcher, 2014). Thus, suggesting that social influence and social acceptance plays a role in determining the difference between household financial behaviour in low to high-income households.

The results of a significant relationship between saving contribution and the interaction between income and social distance could be attributed to the current Covid-19 pandemic. Given the high level of inequality in South Africa, it is plausible that high-income earners are excessively generous. However, Archambault et al. (2019) established that generosity is not the same across all resources, including financial and non-financial resources. Resources that are already being pooled would not vary with social distance, whereas non-pooled resources would vary with social distance (Archambault et al. (2019). With the prevalent of the ubuntu spirit being established, it is plausible that money is considered a pooled resource at this point, given that the high levels of equality have been heightened by the pandemic.

6.7. Conclusion

This chapter discussed the four hypotheses that this research intended to investigate. The results for H1 contradict literature by establishing that saving contribution does not significantly vary for social distance. This contradiction can be attributed to the timing of the study as well as the research design. As the fieldwork for this study occurred during the peak of the pandemic, it is plausible that the pandemic has resulted in a heightened sense of reciprocity. This research opted to define social distance at increasing levels, whereas existing literature defined social distance at the extreme ends of known and unknown connections. The results for

H2 also contradicted literature and this contradiction can be attributed to the differences in research design and a potentially too simplistic measure of the strength of social ties. The differences in research design include a paper-based research design in comparison to the laboratory and in-field experiments conducted in literature. Furthermore, a once-off experiment was performed whereas a repeated game approach has been adopted in the literature. The results for H3 extends the existing literature by establishing that saving contribution significantly varies for framing. This result supplements existing claims that culture influences decision making as well as assists to provide a potential measure for culture. As there is limited literature available relating to the interaction between social distance and culture, it was difficult to draw comparisons between H4 and literature. However, this research noted an insignificant relationship between saving contribution and the interaction between social distance and culture. Lastly, this research established a significant relationship between saving contribution and the interaction between social distance and income. This finding contributes to the literature as the primary focus of existing literature is understanding the differences in saving behaviour between low- and high-income groups.

CHAPTER 7: CONCLUSIONS AND RECOMMENDATIONS

7.1. Introduction

This study was conceptualised based on three motivations, (1) the positive effect of savings on economic welfare from a macro and household level, (2) the need to create financial resilience amongst South Africans, and (3) the need to alleviate the high level of inequality and poverty in South Africa. In comparison to other developing countries such as India and China, South Africa has a poor saving culture (Cronjé & Roux, 2010). Additionally, the current Covid-19 pandemic has accentuated South Africa's poor saving culture with 37% of working-class South Africans that earn more than R5 000 per month being in arrears on household expenses (Old Mutual, 2020). The level of debt amongst working-class South Africans has also increased by 35% in the past year (Old Mutual, 2020). Despite this, Stokvels are an established informal savings mechanism which this research used as a proxy for exemplary saving behaviour. This research intended to understand how informal saving mechanisms can be leveraged across the broader society. The research aim was to determine whether social capital and the cultural practice of ubuntu can influence saving decisions.

This chapter aims to conclude this research by presenting the principal conclusions in line with the research objectives of this study. The implications of the principal conclusions for the financial services sector and the government are outlined as well as the limitations of this research. Lastly, the suggestions for future research stemming from this study are highlighted.

7.2. Principle conclusions

The first key finding is that saving contribution does not vary with social distance. This finding addresses research objective one which was to determine whether social distance impacts saving contribution. This finding contradicts the findings of Binzel and Fehr (2013) and Etang et al. (2011) that established a change in monetary contributions as social distance varies. Nonetheless, the contradicting finding could be attributed to the research design and the timing of the study given the external concerns such as the current Covid-19 pandemic.

The second key finding is that saving contribution does not vary based on strength of social ties. This finding addresses research objective two which focused on understanding the role of social ties on saving contribution. This finding contradicts the findings of Bapna et al. (2017), Feigenberg et al. (2013) and Karlan (20017) which propose regular interactions lead to significant economic return. The differences in findings could be attributed to different research designs, including a paper-based design rather than laboratory and in-field experiment as well as a once-off game rather than repeated games.

The third key finding is that saving contribution does significantly vary based on framing. This finding addresses research objective three which focuses on understanding how ubuntu framing changes the association between social distance and saving contribution. This finding extends the existing literature by establishing that ubuntu impacts saving decision making. Thus, this research has identified that culture can be leveraged as an informal saving motivator in the broader society including in an urban setting. This research has contributed to academic theory by determining that the cultural practice of ubuntu impacts saving behaviour in an emerging market context; and this research has validated the appropriateness of framing as a measure of ubuntu

The fourth finding is that saving contribution does not differ due to the interactions between social distance and framing. This finding addresses research objective four which focuses on understanding how the interaction between social distance and framing impacts saving contribution. However, there is limited literature available relating to the interaction between social distance and culture.

An additional key finding which does not address one of the research objectives but is rather an additional insight gleaned through the data is that saving contribution significantly varies based on the interaction between income and social distance. This finding contributes to the literature as the primary focus of existing literature is understanding the differences in saving behaviour between low- and high-income groups.

7.3. Implications of the research

This section provides recommendations to formal financial institutions and the South

African National government based on the key findings of this research. The findings infer the importance of culture in savings decisions. Thus, it is recommended that the marketing and communication teams within formal financial institutions be deliberate with the framing utilised in marketing and advertising campaigns and promotions. To successfully cultivate a strong savings culture in South Africa, financial institutions should use culturally based framing and messages as part of their marketing and communications strategy.

As this research found that social distance does not impact saving contributions, it is recommended that financial institutions focus on savings product development based on the sharing economy. Product development can be driven with customers and financial institutions working together to effectively design shared economy-based saving products. The collaboration between customers and financial institutions promotes financial value co-creation (Laud et al., 2015).

Based on the key findings, it is recommended that the government establish shared economy programmes for society, to assist savers to empower each other. This will drive social welfare empowerment through resource pooling and value co-creation amongst South Africans, rather than donations and social grants. These programmes can be coordination at a provincial level through the local economic agencies. These programmes also have the potential of attracting entrepreneurs and Small, Medium and Micro Enterprises (SMMEs) as a mechanism to self-generate investment capital. As a result, a shared economy programme allows the government to reduce government spending on social grants.

7.4. Limitations of the research

This section outlines the limitations of this research. This first limitation relates to the research design. The research design could have not modelled social risks that exist, as experiments do not present a unitary explanation for decisions, as the same decision can be made due to different intentions. Similarly, the research design could have not modelled for the ability to save. It is also acknowledged the findings of experimental games should be interpreted with caution as these findings reflect the choices of respondents rather than the strategy of respondents (Murnighan and Wang,2016). Hence, framing effects can influence game decisions as they activate different social norms and meanings. Although the culture framing activated a

change in saving behaviour, it is cautioned that this effect can be attributed to the wording used in the ubuntu framed vignette and similar studies may not generate comparable outcomes.

The second limitation relates to the data collection methodology. An online data collection was the only data collection channel adopted by this research. Thus, this research only considers the saving decisions of individuals with internet connectivity. The survey does not include the saving decisions of individuals without internet access. Furthermore, as the survey was distributed via the researcher's professional and social networks, the research could be limited to respondents within the researchers direct and indirect network.

The third limitation relates to the income distribution of this study. The average monthly income of South African households with interact access in the past seven days is R14 309 and 20% of South African households with internet access earn above R20 000 per month. In comparison, 65% of the sample earned monthly household income above R20 000. Thus, the sample is skewed towards high-income earners, which limits the depth of study regarding the low- and middle- income households.

The fourth limitation relates to the race distribution of this study. The research was completed by 32% of black South Africans. According to the 2020 Establishment Survey (The Broadcast Research Council of South Africa, 2020) which is representative of the South African population, 80% of the population is black. Although this research methodology was not designed to achieve a nationally representative sample, there is concern about the number of black respondents in this sample as stokvels are prominently used by black South Africans to address the lack of service delivery from formal financial institutions (Matuku & Kaseke, 2014). A greater representation of black South Africans would have provided more depth to the study.

The final limitation is that this research followed a cross-sectional time horizon, which means data was collected once. Thus, this research does not consider how saving decisions evolve over time. In other words, this research does not serve to provide insight into long-term savings decisions.

7.5. Recommendations for future research

Financial decisions are not made in isolation but rather influenced by social networks (Breza & Chandrasekhar, 2019). Culture is also a crucial variable considered during economic decisions and economic decisions, such as financial decisions, can also be guided by cultural norms (Alesina & Giuliano, 2015). However, the majority of the available literature focuses specifically on rural and low-income regions of emerging markets (such as Breza and Chandrasekhar, 2019; Masahiro, 2018; Kast et al., 2018; Arun et al., 2016; Feigenberg et al., 2013; Binzel and Fehr, 2013; Etang et al., 2011). Hence, there is a growing field of literature focusing on the impact of social networks and culture amongst societies with a high level of inequality. Based on the current body of literature and the key findings of this research, the following further research topics are suggested:

The first recommendation is that impact of social networks and culture on saving contribution is observed through repeated games, rather than once-off games. In a repeated game the respondent will interact with the game for two or more times, usually knowing the decisions of others in the previous rounds; whereas in a once-off game, the respondent only reacts to one game (Thielman et al., 2020).

The second recommendation is impact of culture on saving contribution is contrasted amongst two groups of respondents. The first group of respondents includes individuals with no prior participation in informal saving groups such as stokvels, whereas the second group of respondents will be current stokvel members. Experiments varying social distance and cultural framing can be performed on both groups to determine how previous engagement in informal saving mechanisms influence saving decisions.

The third recommendation is the further exploration of the relationship between social distance and income. The significant interaction between social distance and income should be investigated using an income quotas for the low-income, middle-income, and upper-income categories. This will help to determine if this interaction was driven by moral distance or social acceptance.

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APPENDIX 1: CONSISTENCY MATRIX

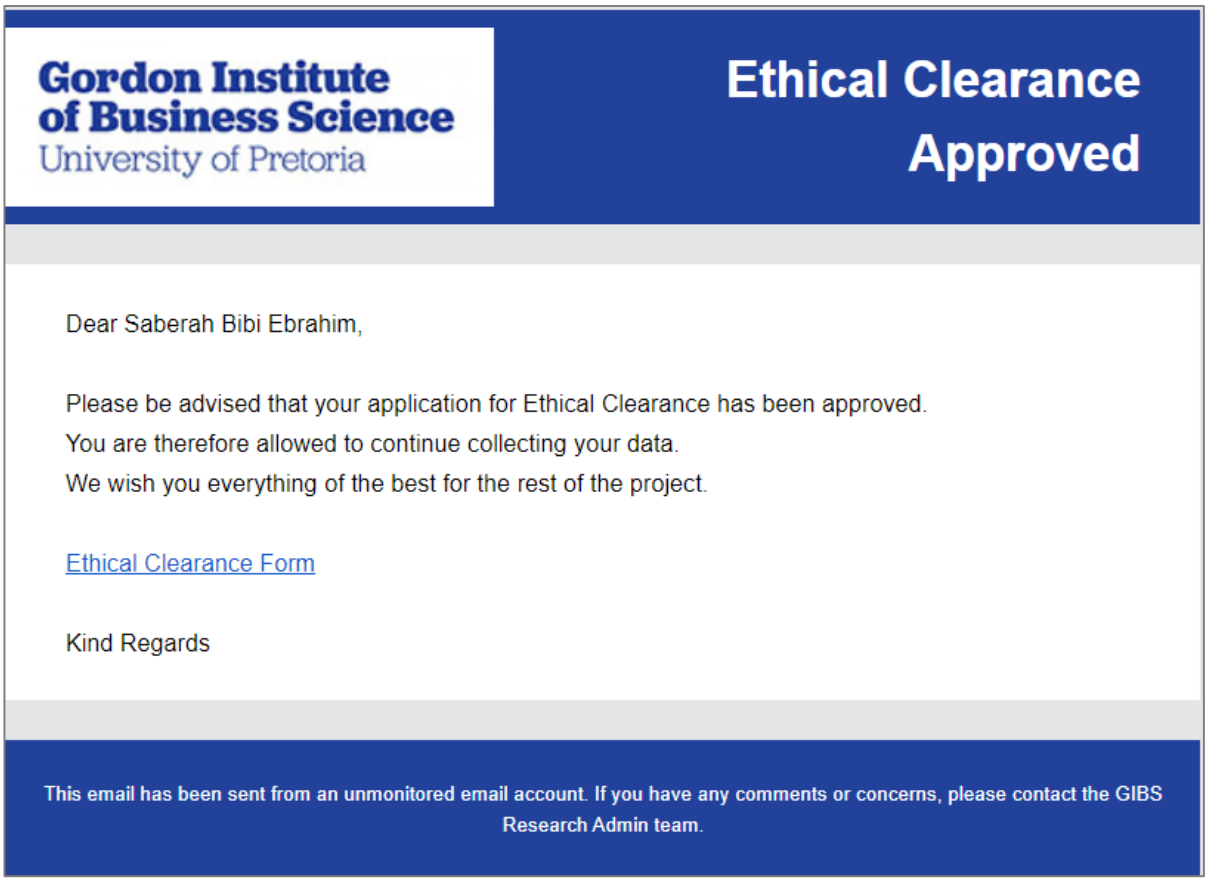
Table 29: Consistency matrix

Hypothesis	Literature review	Data collection tool	Analysis
H1: Saving contribution varies with social distance	Thielman et al., 2020 Breza & Chandrasekhar, 2019 Kast et al., 2018 Schreiner et al., 2018 Berg et al., 2017 Hong et al., 2017 Masahiro, 2016 Murnighan & Wang, 2016 Dupas & Robinson, 2013 Binzel & Fehr, 2013 Feigenberg et al., 2013 Etang et al., 2011 Ermish & Gambetta, 2010 Karlan et al., 2009 Aguiar et al., 2008 Karlan, 2007 Karlan, 2005 Bohnet & Frey, 1999 Hoffman et al., 1996 Karlan, 2005	Section A: Factorial Question	Factorial ANOVA
H2: Saving contribution varies with the strength of social ties	Atmaca et al., 2020 Kast et al., 2018 Bapna et al., 2017 Arun et al., 2016 Laud et al., 2015	Section B: Demographics Q3: Immediate family Q5: Work colleagues Q6: Community	Mann-Whitney U test

Hypothesis	Literature review	Data collection tool	Analysis
	Feigenberg et al., 2013 Goette et al., 2012 Akaka et al., 2012 Akaka & Chandler, 2011 Karlan et al., 2009 Karlan, 2007 Coleman, 1988 Granovetter, 1973		
H3: Saving contribution varies with framing	Thielman et al., 2020 Okada, 2020 Archambault et al., 2019 Li et al., 2019 Chipp et al., 2019 Bophela & Khumalo, 2019 Dube & Edwell, 2018 Migheli, 2017 Bapna et al., 2017 Alesina & Giuliano, 2015 Cameron et al., 2015 Matuku & Kaseke, 2014 Krupka & Weber, 2013 Feigenberg et al., 2013 Strombach et al., 2013 Khoza, 2012	Section A: Factorial Question	Factorial ANOVA

Hypothesis	Literature review	Data collection tool	Analysis
	Cronk, 2007 Karlan, 2007 Guiso et al., 2006 Guiso et al., 2004 Guiso et al., 2003 Putman, 1993 Coleman, 1988		
H4: Saving contribution varies based on the interaction with social distance and framing	Archambault et al., 2019 Bapna et al., 2017 Cameron et al., 2015 Feigenberg et al., 2013 Strombach et al., 2013 Karlan, 2007	Section A: Factorial Question	Factorial ANOVA

APPENDIX 2: ETHICAL CLEARANCE



Gordon Institute of Business Science
University of Pretoria

Ethical Clearance Approved

Dear Saberah Bibi Ebrahim,

Please be advised that your application for Ethical Clearance has been approved.
You are therefore allowed to continue collecting your data.
We wish you everything of the best for the rest of the project.

Ethical Clearance Form

Kind Regards

This email has been sent from an unmonitored email account. If you have any comments or concerns, please contact the GIBS Research Admin team.

APPENDIX 3: SURVEY QUESTIONNAIRE

Introduction

I am currently a student at the University of Pretoria's Gordon Institute of Business Science and completing my research in partial fulfilment of an MBA.

I am conducting research on the determinants of savings behaviour. To that end, you are asked to look at a website and complete a survey on that site. This will help us better understand saving behaviour and should take no more than 5 minutes of your time. Your participation is voluntary, and you can withdraw at any time without penalty. Your participation is anonymous and only aggregated data will be reported. By completing the survey, you indicate that you voluntarily participate in this research. If you have any concerns, please contact my supervisor or me. Our details are provided below.

Researcher: Saberah Ebrahim
Email: 26309948@mygibs.co.za

Research Supervisor: Kerry Chipp
Email: chippk@gibs.co.za

Screening questions

1. Which of the following age groups do you belong to?
    a. Below 21 *> end survey*
    b. 21 to 29
    c. 30 to 39
    d. 40 to 49
    e. 50 to 59
    f. Above 60 years

2. Are you currently employed on a full-time basis?
    a. Yes
    b. No *> end survey*

3. Do you currently have a bank account with a South African financial services institution that you have used to conduct financial transactions over the past month?
    a. Yes
    b. No

4. Which of the following ***after-tax*** monthly income brackets applies to your household?
    a. Below R5,600
    b. R5,601 to R10,000
    c. R10,001 to R20,000
    d. R20,001 to R30,000
    e. R30,001 to R40,000
    f. Above R40,000

Section A: Factorial Question

Vignette 1: You and your immediate family have established a rotating savings club. Assuming you currently contribute R350 to a savings account and have sufficient funds available, how much funds are you willing to contribute monthly to the rotating savings club? Please enter an amount in Rands below.

Vignette 2: You and your work colleagues have established a rotating savings club. Assuming you currently contribute R350 to a savings account and have sufficient funds available, how much funds are you willing to contribute monthly to the rotating savings club? Please enter an amount in Rands below.

Vignette 3: You and your community members have established a rotating savings club. Assuming you currently contribute R350 to a savings account and have sufficient funds available, how much funds are you willing to contribute monthly to the rotating savings club? Please enter an amount in Rands below.

Vignette 4: As South Africans we need to ensure no one gets left behind. It is our moral obligation to ensure that all our communities are not financial vulnerable to unexpected incidents such as the Covid-19 lockdown. Are you willing to help your

fellow South Africans save towards a better tomorrow? A small amount saved today, could mean communities will not suffer from financial anxiety tomorrow. You and your immediate family have established a rotating savings club to encourage financial resiliency. Assuming you currently contribute R350 to a savings account and have sufficient funds available, how much funds are you willing to contribute monthly to the rotating savings club? Please enter an amount in Rands below.

Vignette 5: As South Africans we need to ensure no one gets left behind. It is our moral obligation to ensure that all our communities are not financial vulnerable to unexpected incidents such as the Covid-19 lockdown. Are you willing to help your fellow South Africans save towards a better tomorrow? A small amount saved today, could mean communities will not suffer from financial anxiety tomorrow. You and your work colleagues have established a rotating savings club to encourage financial resiliency. Assuming you currently contribute R350 to a savings account and have sufficient funds available, how much funds are you willing to contribute monthly to the rotating savings club? Please enter an amount in Rands below.

Vignette 6: As South Africans we need to ensure no one gets left behind. It is our moral obligation to ensure that all our communities are not financial vulnerable to unexpected incidents such as the Covid-19 lockdown. Are you willing to help your fellow South Africans save towards a better tomorrow? A small amount saved today, could mean communities will not suffer from financial anxiety tomorrow. You and your community have established a rotating savings club to encourage financial resiliency. Assuming you currently contribute R350 to a savings account and have sufficient funds available, how much funds are you willing to contribute monthly to the rotating savings club? Please enter an amount in Rands below.

Respondents to enter an amount

Section B: Demographics

1. Do you currently have a savings account with a financial institution that you contribute to monthly?
    a. Yes
    b. No

2. Have you been part of an informal savings club such as a stokvel?
    a. Yes
    b. No

3. How often do you engage with your immediate family, either face-to-face or virtually?
    a. Never
    b. Rarely
    c. Occasionally
    d. Frequently
    e. Very frequently

4. Please confirm the number of years within your current employer?
    a. Less than 6 months
    b. Between 1 and 2 years
    c. Between 3 and 4 years
    d. Five years or more

5. Which of the following best describes your relationship with your work colleagues?
    a. I do not socialise with my work colleagues outside of working hours and I disclose little to no personal information with my colleagues
    b. I socialise with my colleagues after working hours to celebrate work-related achievements and I disclose personal information relevant for the purposes of completing my tasks
    c. My colleagues are an extension of my friend circle and I disclose most important and personal information with them

6. How often are you actively involved in community initiatives and programmes?
    a. Never
    b. Rarely
    c. Occasionally
    d. Frequently

e. Very frequently

7. What is your gender?
    a. Male
    b. Female

8. Which of the following ethnic groups do you most identify with?
    a. Asian
    b. Black
    c. Coloured
    d. Indian
    e. White
    f. Other

9. Please select your highest qualification level.
    a. Grade 12 (National Senior Certificate)
    b. National Diploma
    c. Bachelor's degree, Advanced Diplomas, Post Graduate Certificate and B-tech
    d. Honours degree, Post Graduate Diploma, and Professional Qualifications
    e. Master's degree
    f. Doctor's degree