Online platform for the pre-purchase of groceries

*Applied Research Project*

*Submitted by*

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[January 2019]

*Protocol number: WBS/BA1069634/640*
DECLARATION

I, Caston Nyabadza, declare that this business venture project is my own work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration in the Graduate School of Business Administration, University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

Caston Itayi Nyabadza

__________________________________________

Signed at Johannesburg

On the 5th day of April 2019
DEDICATION

This research study is dedicated to my wife, Sarah Dzonga, to my children, Cayden Thato Nyabadza, Christabel Natsai Nyabadza and my unborn son Caston Itayi Nyabadza Jnr.
ACKNOWLEDGEMENT

Many people have contributed to my success in completing this research project. I was fortunate to have three outstanding gentlemen to help me succeed in completing this research project.

Mr. Japheth Munyw'oki was a wonderful supervisor, and I want to thank him for all his help from the first time we talked about my research topic around a business venture to purchase groceries through stokvels but using online platforms. He was an encouraging force for my research.

Dr Max MacKenzie was instrumental in guiding me on the structure of my research project. His contribution was a key-contributing factor to my success.

Dr Tonderayi Madziwa provided great insights on the topic. I sincerely appreciate his encouragement and willingness to review numerous updates.

And finally, to my family, my wife and my kids, thank you for sacrificing valuable time so that I could complete this project.
SUPPLEMENTARY INFORMATION

Project format: Business venture proposal

Nominated journal: N/A

Supplementary files: N/A
ABSTRACT

Research Question: Is an online platform for the pre-purchase of groceries feasible enough to be a viable commercial venture?

Research Purpose: To explore whether it is possible to set up an online platform for the pre-purchase of groceries as a business venture that uses its bargaining power to negotiate for deep discounts and at the same time be a cheaper working capital financing vehicle for the suppliers that offer these groceries.

Method: This is a quantitative study. The survey was used as a research strategy.

Conclusion: The venture is feasible but will need further studies to address the limitations identified in this research.
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Chapter 1: Introduction

“South African consumers are under tremendous financial pressure due to higher prices (inflation has averaged 5.4 percent over the past five years, edging up to 6.4 percent in 2016) and low real growth in wages (averaging 1.3 percent in the past five years). To buy what they need, many South Africans have had to dig into savings or make purchases on credit” (Hattingh, Magnus, & Ramlakan, 2018, p. 1)

There is a case to be made in confirming that a strengthened buying power of the South African consumers can reduce socio-economic issues driven by collusion, price inflation, and inefficient resource utilisation, among others. The development of a strengthened buying power among consumers is an antecedent to the reduction of most socio-economic issues. As such, the author decided to focus on conceptualising and developing a business model that will facilitate the strengthening of the buyers’ buying power leading to substantial discounts and ultimately reducing socio-economic problems through the already established concept of stokvels.

1.1 Background

“Consumers will continue to pay high food prices as long as the "cosy" relationship between major South African supermarkets and food suppliers continues” (Comins, 2009, p. 1)

Kirsten (as cited in Comins, 2009) highlighted that the relationships between large chain stores and major food companies have been easy and have matured over time although there were tough negotiations in-between. Kirsten (as cited in Comins, 2009) concluded that consumers might end up paying more than they should because of this very secret and unclear situation between retailers and big manufacturers. This therefore leads to the notion that the exclusion of the final consumers from such negotiations and relationships disenfranchises them as many
of the cost factors included in the final products are either avoidable or not necessarily for the good of the greater community.

These problems are evident in the numerous price fixing scandals in South Africa. Companies that have been involved in food price fixing include Tiger brands, fishing group Oceana, Clover and Foodcorp (Mail & Gurdian, 2018). This was also identified in other industries e.g. price fixing in the telecoms industry between MTN and Vodacom, and the construction industry by companies such as Aveng and Murray & Roberts (Mail & Gurdian, 2018). This list is by no means exhaustive.

Such exclusionary acts do not only limit industry participation by other players but expose the final consumer due to the usually exorbitant prices that will be charged in the long run. It is therefore important to consider the feasibility of aggregating the final consumers’ power, to be able to participate in the supply chain negotiations and relationships at an industrial scale using the already established practice of stokvels in the South African context.

“Compared to individual purchase, buyers benefit from their collective bargaining opportunity because of group purchase only if the sellers’ bargaining power relative to the buyer group is sufficiently low and/or buyers’ preferences toward the sellers are sufficiently strong” (Li, 2012, p. 761).

Li (2012) highlighted that collective bargaining is only effective in two situations i.e. when the seller’s bargaining power is weak and/or buyers’ preference towards the sellers is sufficiently strong. This holds true for the South African market as the supermarkets have a high buying power as highlighted by Kirsten (as cited in Comins, 2009). Porter’s five forces highlights that supplier’s weaknesses might emanate from the fact that there are many sellers selling a similar product in the market as the case of an efficient market model, cost of switching between sellers is very low, buyers are price sensitive and well informed about the product. Although, it is evident that when the buyers have strong preference towards products of different sellers, each seller can charge high prices, and this creates an opportunity for collective bargaining to negotiate for price cuts with rivals based on
volume, causing all the other sellers to also reduce their prices or risk being undercut by their rivals (Li, 2012).

Sellers’ bargaining power and buyer preferences can be researched as moderators to ‘strengthen buying power’. The history of Stokvels in South Africa is evidence that the South African buyers have been trying to strengthen their buying power for a long time, hence it is important to find out why it has not been successful.

Stokvels are informal savings mechanisms whose focus is to allow its members to save towards large expenses (Klug, Shulgin, Mate, & Trajkovic, 2014). A stokvel is a savings society to which members contribute on a regular basis an agreed amount from which either a lumpsum payment, or goods that are purchased collectively, are received (Oxford dictionaries, 2018). The key concept behind a stokvel is to have a saving society that saves money towards a certain common goal. They fulfil a social as well as a financial role in the community as they create bonds between neighbours, friends and family and that bond is bound by the trust amongst the members.

The basic principle of the stokvel is to pool savings and allow members to draw cash in turn, usually called the Rotating Savings and Credit Associations (ROSCAs) or only draw money to assist in funeral arrangements when a member passes on (Klug, Shulgin, Mate, & Trajkovic, 2014).

In South Africa, the main representative body is the National Stokvel Association of South Africa (NASASA) and this body does occasionally negotiate on behalf of member stokvels with banks, insurance companies and commercial firms. The stokvels in South Africa are generally constituted as follows; 43% are general savings stokvels, 22% are burial societies, 16% are grocery stokvels and the remaining 19% are a mix of school fees stokvel, birthday stokvels, investment stokvels and other goal-specific credit unions (African Response, 2012). This study focuses on the grocery stokvel because it is specific to Fast Moving Consumer Goods (FMCG) and the goods are consumed on a regular basis, therefore easier
for the Stokvel to be open, meaning people can enter and leave the stokvel at any point in time after their objectives have been met.

### 1.2 Research Focus

“*Many haven’t abandoned their preferred brands but are shopping around to find retailers that sell these brands at lower prices. Some are also purchasing in smaller quantities, waiting until the brands are on sale, or buying only with discount coupons*” (Hattingh, Magnus, & Ramlakan, 2018, p. 1)

With a Stokvel economy that is worth R49 billion in South Africa alone (National Stokvel Association of South Africa, 2017), there is a case to be made to alleviate wicked problems associated with tough economic times, such as poverty, unemployment, inequality, inflation and bad business practices, such as uncompetitive behaviour e.g. collusion, price fixing and corruption, by making use of the power of stokvels (Matuku & Kaseke, 2014).

With most industries in South Africa being dominated by a few large players, consumers are not able to determine prices that are fair and commensurate with fair business practices. Matuku and Kaseke (2014) observed that stokvels have been one of the best strategies that have been used by the black community in South Africa to alleviate poverty. Key to the success of stokvels is to pool as many resources as possible together and the ability to remain trustworthy among all the participants (Matuku & Kaseke, 2014).

Ndalana (2014) quoted the African Response report as showing that there are over 11.4 million people who belong to an estimated 811 830 stokvels (Ndalana, 2014). This represents a massive South African culture of saving through stokvels. What brings these members together are the tangible benefits that come from cost savings, better buying power and having peace of mind during hard times. Consolidating some of these stokvels will give the funds much more bargaining power.
High interest rates, prime rate siting at 10.25% (South African Reserve Bank, 2018) and high factoring rate, sitting between 20-25% (FINFIND, 2018) imply that sources of funds are not anywhere close to cheap. The pooling of funds in a stokvel and purchasing of goods in advance will attract business as this is a cheaper form of accessing funds.

The disruption from e-tailers like Amazon and Takealot, which has disrupted the normal brick and mortar retail stores by redefining the sales distribution channel of delivering goods at the customer’s doorstep has still created two main problems. As much as they are modelled based on convenience to the customer, e-tailers’ goods return rates are very high and costly, mostly since there is higher transportation costs and the lack of the face-to-face and hands-on experience for the customer (Hightower, 2017). Secondly, as much as they initially cut costs due to the elimination of the brick and mortar store, they had to invest massively in huge warehouses and set-up extensive distribution networks which, in the long run, increase the costs. Making use of existing structures (warehouses, brick and mortar stores) and the disruptive online platforms will create a more efficient use of resources as goods can be purchased anywhere and those who need to try and fit goods before purchasing can also be catered for.

This study is therefore motivated by the possibility of tapping into the stokvel market, which if aggregated, can bring about the final consumers’ bargaining power and possibly bring about efficiency in the South African food market. The research also focuses on the extent to which the supermarkets and manufacturers will accept the stokvel as a means of cheaper capital.

1.3 Research Problem

Key to this research is to discover whether it is possible to strengthen the buying power of buyers by creating a very big open stokvel that can influence, determine or negotiate prices. The research also focuses on the willingness of the grocery manufacturers or retailers to partner with such a stokvel and enhance their business
competitiveness. The online platform can therefore be used as a group-buying platform where buyers are recruited to generate volume sales, to create a basis for lower transaction prices (Yen, 2015). In addition, the supplier would have access to the funds in advance, hence, have an opportunity to use the funds as working capital to further their business.

There are two key important questions the research seeks to answer. The first one is whether consumers are willing to aggregate their buying power to seek attractive discounts by participating in an online platform for the pre-purchase of groceries that is accessible to any person and not tied to specific products, brands or companies. Secondly, are sellers attracted to these funds as a form of cheaper capital that can improve their liquidity and, are they willing to create strategic partnership with this online platform? Answers to these questions would inform the best way to configure the supply chain in a way that remains attractive to customers, sellers and those facilitating this relationship.

The aim of this research is to determine the feasibility of a business model that attracts as many buyers to the online platform for the pre-purchase of groceries and attracts suppliers to offer attractive discount schedules. Therefore, the main research question of this thesis is:

*Is an online platform for the pre-purchase of groceries feasible enough to be a viable commercial venture?*

The following sub-questions are generated to help understand the research and the topics covered in it. Moreover, these sub-questions are designed to help the author to answer the main research question as well.

1. Will there be significant number of customers for an online platform for the pre-purchase of groceries using intention as a predictor? This will assist in estimating the number of customers willing to purchase groceries via the platform;
2. Is the intention to participate on the online platform for the pre-purchase of groceries validated by the attitude of potential customers towards the online platform for the pre-purchase of groceries?

3. Do the following attitude antecedents confirm the attitude potential customers have towards the online platform for the pre-purchase of groceries?
   i. Trust that the discount benefits will be justified as a sufficient benefit to participate in an online platform for the pre-purchase of groceries? In other words, would they deem the online platform useful?
   ii. Trust that the trade-off from the social cohesion practice of stokvels in favour of deep discounts is the better choice? How easy will it be for customers to move away from the traditional practice to a more modern way of stokvelling and move towards online grocery shopping as an alternative?

4. Are South African grocery suppliers willing to offer attractive price discount schedules and what factors should they consider when negotiating with stokvels?

1.4 Research Aim

The main aim is to develop a working model that can be used for setting up an open virtual grocery stokvel. The research is also of great interest to government agencies that deal with uncompetitive behaviours as this might be a market self-regulatory mechanism to curb uncompetitive behaviours as this model involves all the players in the food industry i.e. from the farmer, manufacturer, supermarket and final consumer. This study also aims to add to the growing body of knowledge about group buying and how it can be effectively introduced in South Africa.

1.5 Report Structure

This report consists of six chapters in the following structure:
Chapter 1 – Introduction.
Chapter 2 – Literature Review and Hypotheses.
Chapter 3 – Case: Online Grocery Stokvel
Chapter 4 – Methodology.
Chapter 5 – Results and Analysis.
Chapter 6 – Discussion.
Chapter 7 – Conclusion.
Chapter 2: Literature Review and Hypotheses

2.1 Introduction

With regards to e-commerce, stokvels, collective bargaining and working capital financing, the literature review helped in identifying what has already been established and the gaps to ensure the relevance of this study (Kumar, 2005). It also assisted in aligning with best research methodologies used in similar studies, locating, fine tuning and justifying hypotheses and findings, as well as expanding on the knowledge base of online shopping, as it relates to the grocery stokvel market in South Africa.

The use of e-commerce platforms brings significant advantages to both business and customers. To business, it brings the advantages of reaching a wider network of customers at a lower transactional cost (Saridakis, Laib, Mohammed, & Hansen, 2018). E-commerce is also a tool that can be used to eradicate poverty as it allows collaborative strategies, such as sharing of information and creating conditions that are conducive towards the development of the community (Cui, Pan, Newell, & Cui, 2017).

On the other hand, grocery stokvels have always been viewed only as savings or social security schemes (Dube & Kaseke, 2018) and not as viable business venture. This is evident in how so much research has been focused on stokvels and has confined stokvel related ventures to survivalist entrepreneurships that are in dire need of government support (van Wyk, 2017; Dube & Kaseke, 2018). Van der Merwe (2016) however, analysed that such invisible markets are a significant portion of the South African market that have been ignored. The social aspect being solved, as suggested by most of the current literature, fails to highlight that stokvels in their current form, lack the strength to bargain with existing businesses and that in the long run, will wind back to poverty. It therefore almost suggests that stokvels
need not to be viewed only as social security tools, but funding models that are beneficial to both the buyers and sellers.

The aim of the study was to test the strength of consolidating the buying power of stokvel members through an e-commerce platform by using technology acceptance models as predictors for adoption. The study also determined if the stokvels or the pre-purchase of groceries can be considered as a cheaper form of capital. The results assisted in the development of the "Online platform for the pre-purchase of groceries" business model.

2.2 Stokvels and Online Purchasing in the South African Context

To understand the potential market for this business model, there was a need to profile the current stokvel members. African Response (2012) profiled the stokvel members as being slightly biased towards women (male - 42.6% vs females - 57.4%). The stokvel population predominantly falls between the age range of 25 to 49 years of age (78.2% of the total population) which is a significant portion of the total population (African Response, 2012). Generally, stokvel members mainly fall into the Living Standards Measure (LSM) 5 and 6 (32% and 27% respectively). Stokvel members are generally economically active members of society, with 83% of them being employed in some form or another and over half (50%) of them earning less than R5000 per month (African Response, 2012). African Response (2014) highlighted that members participating in grocery stokvels constitute 21% of the 8.6 million collective savings stokvel members. The average monthly contribution per member is R174 towards a grocery stokvel, although the majority contribute between R100 and R200 (African Response, 2014).

To tap adequately into this market and aggregate it, there is a need to understand the nature of the South African online shopping market. E-commerce is arguably the best tool to reach a wider community in the stokvel market. In South Africa, online shopping has an annual value of between R6-7 billion and is growing at a rate of between 25 and 35% year-on-year; this accounts for 1% of the retail sector.
as a whole (uAfrica.com, 2015). Most online shoppers are women aged between 18 to 39 who spend between R250 and R1000 per online purchase (uAfrica.com, 2015). This confirms that active online shoppers are the younger generation who spend more than the average grocery stokvel member. Could it be that the lower numbers of online shoppers could be compensated by the value of their purchase?

2.3 Behavioural Intention to adopt E-commerce (BOPS Model)

E-commerce is short for electronic commerce and it refers to financial transactions conducted over computer and telephone networks (Huseynov & Yildirim, 2016) and it may involve marketing, ordering, payment, online delivery of goods and services (Harris, 2000). Huseynov and Yildirim (2016) described the reasons why customers are beginning to prefer e-commerce as being centred around convenience, wide variety of products, easy price comparisons, discounted products. Addo, Chen and Leu (2006) highlighted that there are four primary types of e-commerce, namely, business-to-business (B2B) used by businesses to transact amongst themselves, business-to-consumer (B2C) used by businesses to offer goods/services to customers, consumer-to-consumer (C2C) which refers to electronic exchanges between consumers themselves and consumer-to-business (C2B) which involves grouping consumers so that they present themselves as a buyer group to businesses. It therefore infers that the conceptual model of grouping stokvel members to purchase via an online platform in exchange for deep discounts and as a means for suppliers to raise capital conforms to both the B2C and C2B e-commerce business model.

Tangpong and Islam (2009) established that the emergency of any B2C e-commerce platform can either service a new niche market which has never been exploited by existing firms, hence create new opportunities, or it might be an innovation that has greater appeal to buyers, hence creatively destroying the existing market structure of incumbent firms (Schumpeter, 1975). In their conclusion, Tangpong and Islam (2009) found that the emergence of a B2C e-
commerce can result in either a new niche formation if the products are less digitisable or a creative destruction if they are digitisable. Digitisable products are those that can be easily converted into soft copies, marketed and sold entirely via the internet e.g. music, books, movies, as opposed to products like furniture which still need traditional brick and mortar structures. Groceries are therefore not fully digitisable as they are physical goods whose tasting or delivery cannot be done entirely via the internet except for the pricing information and payment. Therefore, according to Tangpong and Islam (2009), the online e-commerce platform for the pre-purchase of groceries can be used to serve that untapped niche market of grocery stokvel members by the existing suppliers. Hansen, Jensen and Solgaard (2004) concluded that groceries purchased online will always be “mixed goods” which contains a mixture of search attributes (e.g. price, brand, country-of-origin, fat content) and experience (e.g. taste, flavour, temperature).

This niche market will encourage the suppliers to engage in an omnichannel sales environment that allows different sales channels than can seamlessly and interchangeably be used by consumers to search and purchase products (Kima, Park, & Leeb, 2017). The platform should allow customers to buy online and pick-up in the store (BOPS) closest to them (Jin, Li, & Cheng, 2018). This integrates very well with the stokvel community because their saving schemes always require them to pay upfront, usually as a series of affordable payments and only collect the goods later. It also allows online payments without the time and location constraint (Shukla & Sharma, 2018).

The BOPS model is a new concept and could integrate very well with the South African concept of stokvels. However, the fact that online shopping is still very low in South Africa, it is difficulty to simulate the actual purchasing behaviour under such a model. One of the best ways to measure the future adoption of the online platform for the pre-purchase of groceries that makes use of the BOPS model is through the potential customer’s intention to use the platform. Fishbein, Howard and Sheth (as cited in Mehta & Pandya, 1979) have confirmed that there is a high correlation between buying intention and actual purchase.
Intention is defined as the willingness to perform certain behaviours (Cheng, Sheen, & Lou, 2006) and in this case, the intention is to purchase groceries in advance using an online platform. Ajzen (1991) generalised that when there is a stronger intention to engage in a behaviour, the more likely should be its performance. However, the behavioural intention can find expression in the behaviour only if the behaviour in question is under volitional control i.e. if the person can decide at will to perform or not perform the behaviour (Ajzen, 1991). Hsu and Chiu (2004) (as cited in Yen, 2015) raised the fact that a user’s behavioural intention to use any e-services is a significant determinant of his or her actual use of that service.

2.4 Technology Acceptance Model

The Technology Acceptance Model (TAM) is a dominant theory used in explaining the process of user acceptance of high-tech products (Cheng, Sheen, & Lou, 2006). This section of the literature review assessed the factors that are key in explaining user adoption of new technologies (Taherdoost, 2018). The TAM will confirm the validity of the users’ intentions or the lack thereof to participate in an online platform for the pre-purchase of groceries, based on the most appropriate and most present literature.

TAM was developed from the Theory of Planned Action (TPA). The TPA emphasises that any human behaviour can be predicted and explained through the attitude, subjective norm and intention to perform that behaviour (Ajzen, 1991). A person’s attitude towards a specific behaviour is the degree to which he or she holds a favourable or unfavourable evaluation or appraisal of that behaviour, in this case buying groceries in advance via an online platform (Ajzen, 1991). Subjective norms are the social influences which provide an indication of whether referent others might view it as appropriate or inappropriate (Chudzicka-Czupala, et al., 2015). The TAM model however replaced the subjective norm with perceived ease of use and perceived usefulness as technology adoption is more intrinsic in nature than extrinsic (Chi, 2018).
Perceived usefulness is the degree to which a person believes that using the online platform to purchase groceries in advance will secure good discounts that are better than the ordinary stokvel. Perceived ease of use is the ease by which the users can navigate around a mobile app or website to do their grocery shopping. It can also be construed to identify trust issues around the ability of breaking the stokvel bonds to create one online stokvel community.

The TAM model suggests that perceived usefulness and perceived ease of use affect the attitude towards use (Cheng, Sheen, & Lou, 2006). A favourable attitude towards the use should give rise to a positive intention to use the technology (Yen, 2015).

2.4.1 Attitude towards intention to use the online platform

Attitude is considered an important antecedent of behavioural intention (Adnan, Nordin, Amini, & Langove, 2018). Klockner and Nayum and Mehmetoglu (as as cited in Adnan, 2018) found that consumers with a more positive mindset regarding the environment are more eager for electric car adoption. It can therefore be deduced that the attitude one has towards online platforms for the pre-purchase of groceries should determine the intention to partake in it. Therefore, the following hypothesis is proposed:

**H1**: The grocery buyers’ attitude towards the online platform for the pre-purchase of groceries is positively associated with their intention to participate in it.

2.4.2 Perceived usefulness of an online grocery pre-purchase platform

We argue that the online grocery pre-purchase platform is more useful if it groups buyers to match or achieve greater returns than traditional stokvels. It is basically a group buying platform. At the core of group buying is to aggregate demand to obtain or negotiate for volume discount (Anand & Aron, 2003). Group buying is a form of
quantity discount where the seller declares the demand bands within which price is stable while price declines between bands i.e. higher demand bands are characterised by lower prices (Anand & Aron, 2003). Sellers therefore stimulate demand and increase their revenue; hence the business model therefore creates a win–win proposition for sellers and buyers (Chung & Chen, 2015).

Online group-buying (OGB) is a business model which aggregates buyers’ power to gain lower prices using e-commerce websites or cell phone apps (Che, Peng, & Hua, 2016). Group-buying auctions, such as Groupon, are transaction mechanisms in which buyers are recruited to generate volume orders, to create a basis for lower transaction prices (Kauffman, Lai, & Ho, 2010). Online group buying is a widely used price-discovery mechanism in a variety of markets and contexts (Anand & Aron, 2003). The companies operating OGB sites use the power of group-buying to negotiate big discounts with retailers. When many people commit to buy something, the guaranteed sales mean discounts are not as big a risk for the vendors and the OGB sites receive a cut of the profits (CHOICE, 2016). This will even be more attractive to stokvel members as they do not only commit to buy but do so in advance. Matemba and Li (2018) highlighted the fact that for technology to be adopted, it must be of superior technology than the traditional process. Therefore, the following hypothesis is proposed:

**H2:** The grocery buyers’ perceived usefulness of the online grocery pre-purchase platform in getting them better discounts than traditional stokvels or existing online grocery platforms is positively associated with their attitude towards the online grocery pre-purchase platform.

### 2.4.3 Perceived ease of use an online grocery pre-purchase platform

A key question is why stokvels, in their current form, have failed to effectively transform the members? The answer to this important question is best answered by some of the following observations. Most of the members are not aware of how the money they generated could be invested or put to better use, as this money is
usually banked in the stokvel account where it accrues paltry interest (Mulaudzi, 2017). The stokvel fulfill as much a social role as a financial role hence they are not necessarily profit oriented. Mutual support and regular meetings play the key role, while opportunities to get higher interest rates on savings seem to be considered secondary objectives (African Response, 2012). The major beneficiaries are the banks and big retailers and not the members themselves. The banks usually invest these lazy deposits for their own profits, big retailers will benefit through improved sales from these bulk purchases while the members get as little as 1% in discounts (Mulaudzi, 2017).

The majority of these stokvels are closed stokvels i.e. they are only limited to people acquainted to each other or that have a common purpose and are in the same small locality, hence it might be difficult to pull together funds that will have material impact in negotiating better discounts. The fact that members are confined to social structures and mainly depositing money in the bank elicits the fact that trust is key in determining the members’ attitude towards participating in an online stokvel. The concept of advance purchasing as a means for sourcing substantial discounts is remote in the stokvel community as the members wait for the events for which the funds are set aside, to start with the purchasing; in most circumstances, this will coincide with the usually periodical discounts, such as Christmas specials.

The stokvels have failed to significantly transform the lives of the members, although they could have, because they are created to enhance and support the social capital more than the leverage on the financial capital. The risk of turning stokvels into profit making ventures is that social bonds will be broken or at least, not nurtured, as was done in the traditional sense of the stokvels. This therefore leads to the following hypothesis:

**H3:** The grocery buyers’ perceived ease in moving away from the social coerciveness of the traditional stokvel to a more discount searching or financial returns-based model is positively associated with their attitude towards the online grocery pre-purchase platform
2.5 Group buying as it relates to volume-based suppliers

Most group-buying schemes are structured in such a way that either the supplier first commits to a price-quantity schedule leading to demand realisation, and then procures or produces the products in volumes exactly calibrated to the realised demand and this addresses the demand uncertainty or the supplier first procures or produces products and then sells via a group-buying market through a volume discounting mechanism, usually above 50% (Anand & Aron, 2003).

The major benefit to suppliers is gaining the advantage of price discrimination as they attract price-sensitive and deal prone consumers, particularly for firms going through hard times, such discounts will bring in new customers and make sales (Erdogmus & Cicek, 2011). Erdogmus and Cicek (2011) also highlighted that advertising is another benefit that group buying suppliers will realise since there will be many consumers who will be informed of the seller’s existence, particularly suppliers with a low recognition among prospective consumers. According to Jackson (as cited in Munson & Rosenblatt, 1998), suppliers offer quantity discounts for two main reason namely, for marketing and operations reason. The marketing reasons involve sales stimulation, requirements from large buyers and customer acquisition and retention; and the operation’s reasons involve better production planning, economies of scale, savings in shipping costs and inventory reduction (Jackson, 2015). The feasibility of the online stokvel can therefore be enhanced if the suppliers have already existing or planned marketing and/or operations reasons to offer quantity discounts. Erdogmus and Cicek (2011) further highlighted the fact that lower prices and discounts attract customers to purchase via an online group buying site.

2.6 Working capital

The net working capital, often referred to just as working capital, is investment in inventories and debtors, net of creditors (Wasiuzzaman, 2015). Working capital is vital for the any organisation’s survival, solvency, liquidity and profitability (Mohanty
Key to the working capital management is the cash flow and cash conversion cycle (Mohanty & Mehrotra, 2018). These two concepts define the ability to generate cash from the business activities and the time it takes to collect account receivables respectively. The ideal situation is to have a very low conversion cycle.

The objective of working capital management is to devise the best payment and collection policies to retain as much funds as possible without affecting operations by efficiently managing the current assets and current liabilities of the firm so that optimal use is made of them (Wasiuzzaman, 2015). There are many studies that have tried to identify the correlation between working capital management and profitability of an organisation. Hirigoyen (1985) concluded that there is a positive relationship between the liquidity (positive net working capital) and the profitability. This was on the assumption that lower liquidity results in a greater need for loans which attract interests which will reduce profitability. Akinlo (2012) however, argued that there is an inverse relationship between working capital and profitability. Wasiuzzaman (2015) split the components of working capital and assessed the relationship with profitability. It was concluded that investment in inventory and receivables has a negative correlation with profitability, but payables have a positive correlation with profitability.

It therefore seems to suggest that funding operations using creditors’ funds leads to better profitability. However, the delaying of payment might affect profitability due to discounts missed or favourable pricing not secured from the supplier.

Profit making firms should endeavour to set target levels for inventory, receivables, payables and cash conversion cycle to maximise profitability (Afriwa, 2015). Godfred Afriwa (2015) noted that an optimal setting of a receivables level helps a company avoid the over-investment in customers as this requires external funds to finance the investment in the customer (Afriwa, 2015).

We propose a business model that changes from the need to extend the receivables and payables period and in fact, reduces or eliminates it. The proposal aims to
reduce investments in inventories, receivables and payables and promote pre-purchases. This is in line with the stokvel culture which is prevalent in South African society (Matuku & Kaseke, 2014). This has the same or better effect in retaining as much funds as possible because this model maintains better financial relationships with both creditors and debtors. Creditors are paid on time while the debtors' balance is significantly reduced as pre-payments are encouraged, hence reducing the debtors balance and subsequently, bad debts.

2.6.1 Cost of working capital

The cost of capital is the minimum required rate of return associated with any investment (Firer, Ross, Westerfield, & Jordan, 2012). Al-Ali and Arkwright (2000) concluded that addressing the issue of the cost of capital is a crucial factor in business performance. Working capital is usually financed by long-term funds, such as equity, and long-term or short-term funds, such as trade-credit, factoring, short-term loans, bank overdraft and tax provisions. Businesses select the funding structure based on the cost, nature and availability (Pettit & Singer, 1985). Trade credit proved to be the primary source of funding for working capital for JSE-listed companies (Kwenda & Holden, 2013). The main factor that makes it popular is the fact that it is the cheapest source of funding which is almost free (Kwenda & Holden, 2013). The credit terms define the timing of payments, discounts for early settlements, and (if applicable) interest or penalties for late payment (Summers & Wilson, 2002). If the buyer is within the defined terms, the cheapness of this source of funding becomes clear as there is no need to pay penalties or miss discounts. Holden and Kwenda (2014) concluded that the next substitute for trade credit is a bank credit or overdraft. The South African prime overdraft prime rate was at 10% as of October 2018 (Trading Economics, 2018).

Another way of managing liquidity is factoring. Factoring is achieved by selling receivables (unpaid invoices) accumulated by a company, to a third party, often a bank, at a certain discount and the third party will initiate steps to recover the due amounts, making a profit when it collects a bigger sum than the price paid for the
receivables (David & Ravas, 2010). For companies that have more than 30, 60- or 90-days factoring, factoring might provide the necessary cash flow relief considering rising interest rates and difficulty in accessing cheaper credit from the bank. Lenders usually lend the supplier about 75% to 80% of the amount in the debtors’ book (outstanding invoices) and the percentage lent varies from lender to lender and is linked to the total size of the debtor book and the customer rating and creditworthiness (FINFIND, 2018). This high cost of capital through either acquiring credit from the bank or factoring is a significant factor that affects a company’s liquidity, price of goods and subsequently, the profitability.

2.6.2 Stokvels: an untapped crowdfunding model

Crowdfunding is a funding mechanism that raises money for new projects or ventures by collecting small to medium size investments from a group of individuals instead of professional investors and financial institutions (Quero & Ventura, 2018). It makes use of collective bargaining decision making through social platforms to evaluate and raise financing for these new project and ventures (de la Vina & Black, 2017). It can be considered as an alternative that challenges existing funding practices as it is a more open and egalitarian source of capital for economic, social and cultural entrepreneurship (Langley & Leyshon, 2017). It can be argued that stokvels are a pre-existing crowdfunding model, with the exception that they rarely use technology platforms, but social structures. What also qualifies stokvels as a crowdfunding model is that members actively participate in the value co-creation process and exchange much more than just money (Quero & Ventura, 2018). Stokvels are informal social security initiatives to respond to poverty and income security among communities (Matuku & Kaseke, 2014).

There are three kind of participants who should be in a crowdfunding arrangement, the one who proposes the idea/projects to be funded, the crowd that supports the idea/project and the platform that brings together those who deliver new initiatives to the crowd (Ordanini, Miceli, Pizzetti, & Parasuraman, 2011). Those that should propose the ideas could be the players in the grocery value chain i.e. supermarkets,
wholesalers, manufacturers and farmers. The crowd in this model would be traditional stokvel members. The platform would be the online platform for the pre-purchase of groceries.

Key to maintaining the crowdfunding mechanism is ensuring that the value proposition is one that leads to the co-creation of value (Quero & Ventura, 2018). It means that all actors should have a shared strategy that brings them together to produce a mutually valued outcome. In exchange for commensurate discounts, customers, through group buying and advance payment, already can provide the working capital to produce goods for existing orders and demand. We argue that this model can be used to fund working capital for companies in the groceries industry at a better cost to traditional funding models except maybe for trade credit.

In addition, grocery suppliers could gain the advantage of price discrimination as they will attract price-sensitive and deal prone consumers, particularly for firms going through hard times, hence use discounts to bring in new customers and make sales (Erdogmus & Cicek, 2011). Erdogmus and Cicek (2011) also highlighted that advertising is another benefit that the suppliers will realise since there will be many consumers who will be informed of the seller’s existence. According to Jackson (as cited in Munson & Rosenblatt, 1998), suppliers offer quantity discounts for two main reason, namely, for marketing and operations reasons. The marketing reasons involve sales stimulation, requirements from large buyers and customer acquisition and retention; and the operations reasons involve better production planning, economies of scale, savings in shipping costs and inventory reduction (Jacksons, 2015). We therefore propose the following hypothesis:

**H4:** There is a positive relationship between suppliers who use volume discounting to enhance sales and their willingness to crowdfund through the online platform for the pre-purchase of groceries.
2.7 Theoretical Research Model

This study attempts to predict the adoption of the online platform for the pre-purchase of groceries. The structural model below (Fig. 1) represents the paths between the constructs identified in the research with the customer side and supplier side constructs on either side of the platform. The proposed structural model for the research made use of two structural models which are interconnected through the platform.

The customer side of the platform made use of the Technology Acceptance Model with the aid of four latent variables to predict the acceptance of the platform. These latent variables followed the sequence from left to right with the perceived use and perceived ease being the independent variables while the attitude towards the platform and intention to use the platform being the dependent variables.

The supplier side of the platform made use of the appetite for suppliers to issue deep discounts to raise cheaper working capital. Although the assumption is that structural models are developed from the left to the right (Sarstedt, Ringle, & Hair, 2017), the supplier side was designed to sequence from the right to the left.

Each path in the model represented the hypotheses to be tested, therefore used to estimate and validate the potential market of the online grocery platform for the pre-purchase of groceries through matching the results from both side of the structural model.
Figure 1: The Proposed Research Model
Chapter 3: Case: Online Grocery Stokvel

“A business model describes the rationale of how an organisation creates, delivers, and captures values” (Osterwalder & Pigneur, 2010)

In this chapter, the idea of the open online virtual stokvel is further introduced and analysed. It attempts to capture how creating an open online platform for pre-purchase of groceries will create and deliver value to both the customers who will purchase goods through the platform and the entire grocery supply chain starting from the farmer to the manufacturer and all the way to the supermarket.

The general idea is to facilitate grocery transactions directly between customers who are conscious of their demand in advance and suppliers who might want to use the advance payment as working capital. Unlike the traditional stokvels, which are usually limited to acquaintances (Matuku & Kaseke, 2014), the platform will be open to the public to enhance the opportunity to negotiate for volume discounts (Langley & Leyshon, 2017). However, like the traditional stokvels, payments are done in advance directly to the grocery supplier and anyone in the value chain and, as a result, funds are available immediately to fund current operational cash demands and possibly replacing the need to borrow from the bank.

The online platform for pre-purchase of groceries is a multi-sided platform that seeks to serve both the customers who buy grocery items via the platform and the retailers/manufacturers who supply the goods. On the buyer side of the platform, it will serve the mass market, meaning that it is open to all the people willing to buy in advance and take advantage of discounts (Bennet, Chin, & Jones, 2015). However, on the supplier side, the platform will cater for the niche supplier market as the platform is heavily dependent on suppliers that have the capacity to service customers, provide deep discounts and provide reasonable assurance that they will deliver on the promise in future.
3.1 SWOT Analysis

The SWOT analysis was used to further understand the proposed model for the online platform for the pre-purchase of groceries.

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>- The stokvel mechanisms provides for product demand certainty hence reduces the cost associated with uncertain demand such as spoilage, shelf life and marketing (Dana, 1998)</td>
<td>- The low internet penetration rates in South Africa (African Response, 2014)</td>
</tr>
<tr>
<td>- It will be the first in South Africa</td>
<td>- Online buying is still in its infancy in South Africa (uAfrica.com, 2015)</td>
</tr>
<tr>
<td>- A proprietary mathematical model that generates value in the whole value chain and that will not be easy to imitate</td>
<td></td>
</tr>
<tr>
<td>- Evens out the bargaining power by giving the buyers more bargaining power (Li, 2012)</td>
<td></td>
</tr>
<tr>
<td>- The stokvel market which will have the bulk of the customers to the platform is worth R49 billion (National Stokvel Association of South Africa, 2017)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Suppliers can raise cheaper working capital and be able to gauge the strength of their brands based on how many people are willing to purchase in advance (Quero &amp; Ventura, 2018)</td>
<td>- The weakening South African economy will affect the buying patterns of consumers (Liu, Gupta, &amp; Scalling, 2010)</td>
</tr>
<tr>
<td>- Rising interest rates and higher exchange rates might result in the platform becoming a cheaper source of capital (Langley &amp; Leyshon, 2017)</td>
<td>- Potential policy changes on the land reform might affect the food supply chain networks which are crucial (Antwi &amp; Chagwiza, 2018)</td>
</tr>
<tr>
<td>- The platform will act as an advertising platform</td>
<td></td>
</tr>
</tbody>
</table>

Table 1: SWOT Analysis
3.2 Business model canvas

To understand the general outline and the different aspects of the open virtual grocery stokvel, the business model canvas below was developed.
<table>
<thead>
<tr>
<th>Key Partners</th>
<th>Key Activities</th>
<th>Value Proposition</th>
<th>Customer Relationships</th>
<th>Customer Segments</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Stokvel members will contribute to the stokvel fund</td>
<td>• Huge contributions to the stokvel funds bring a better bargaining power</td>
<td>• Negotiated deep discounts for stokvel members</td>
<td>• Proof that this is the cheapest form of purchasing goods</td>
<td>• Age group between 25 – 49 years</td>
</tr>
<tr>
<td>• Supermarkets as part of the value chain will make the goods accessible to the local community</td>
<td>• Mark-up between the negotiated discounted price and the price charged to the customers</td>
<td>• Access to cheaper forms of capital for the suppliers and supermarkets</td>
<td>• Offer suppliers and supermarkets platforms to raise means of cheaper capital</td>
<td>• 5 – 7 LSM</td>
</tr>
<tr>
<td>• Suppliers of grocery goods are the initial source from where the discounts will be sourced</td>
<td>• The service fees charged on the customers who transact on the platform</td>
<td>• Matching the need for customers to obtain goods at low price with the need for suppliers/supermarkets to obtain cheaper forms of capital</td>
<td>• Because the customers’ risk of not getting the goods/services already bought increases the further apart the day of purchase and consumption, deep discounts are the main option to balance the customers’ risk and reward to an optimal level</td>
<td>• Stokvel members who are willing to buy in bulk and in advance</td>
</tr>
<tr>
<td></td>
<td>• Suppliers using the platform</td>
<td></td>
<td></td>
<td>• Because Stokvel members buy in bulk and in advance, their demand is certain, the fund will secure deep discounts for them</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Suppliers/Supermarkets willing to accept this as a cheaper form of capital</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Key Resources</th>
<th>Value Proposition</th>
<th>Customer Relationships</th>
<th>Customer Segments</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Online platform</td>
<td>• Negotiated deep discounts for stokvel members</td>
<td>• Proof that this is the cheapest form of purchasing goods</td>
<td>• Age group between 25 – 49 years</td>
</tr>
<tr>
<td>• People – IT and Call Centre agents</td>
<td>• Access to cheaper forms of capital for the suppliers and supermarkets</td>
<td>• Offer suppliers and supermarkets platforms to raise means of cheaper capital</td>
<td>• 5 – 7 LSM</td>
</tr>
<tr>
<td>• The ability to raise a huge Stokvel fund that will be able to negotiate for deep discounts that will attract even more members</td>
<td>• Matching the need for customers to obtain goods at low price with the need for suppliers/supermarkets to obtain cheaper forms of capital</td>
<td>• Because the customers’ risk of not getting the goods/services already bought increases the further apart the day of purchase and consumption, deep discounts are the main option to balance the customers’ risk and reward to an optimal level</td>
<td>• Stokvel members who are willing to buy in bulk and in advance</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Because Stokvel members buy in bulk and in advance, their demand is certain, the fund will secure deep discounts for them</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Suppliers/Supermarkets willing to accept this as a cheaper form of capital</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Suppliers/Supermarkets will have a cheaper and interest free form of capital</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Channels</th>
<th>Revenue Streams</th>
</tr>
</thead>
<tbody>
<tr>
<td>• All transaction will be through an online platform or a cellphone app</td>
<td>• Margins calculated between the negotiated prices with the suppliers/supermarkets and the price charged to the Stokvel members</td>
</tr>
<tr>
<td>• Customers without the latest smart phones or access to cellphones should be assisted inside participating supermarkets</td>
<td>• Service fees for every transaction created via the platform</td>
</tr>
<tr>
<td></td>
<td>• Cancellation fees</td>
</tr>
<tr>
<td></td>
<td>• Participation fees paid by the participating suppliers and supermarkets</td>
</tr>
<tr>
<td></td>
<td>• Advertising fees by suppliers/supermarkets that advertise via the platform e.g. for new products</td>
</tr>
</tbody>
</table>

Table 2: Business Model Canvas
3.3 Financial Model

The financial model demonstrates the financial gains on both the customer and supplier using both the traditional stokvel avenue and the online platform. The Nedbank Stokvel Account option was selected for the analysis. Its key features included an initial deposit of R1000 plus additional deposits of over R100 (Lukhele, 2018). Interest is pegged at 7.15% for amounts greater than R1 000, 7.45% for amounts greater than R10 000 and the maximum grocery discounts one can get is 10% (Nedbank, 2019). Figure below highlights a sample of a stokvel of five women who will make an initial deposit of a R1 000 and a further additional 12 series of R1 000 at the end of each month. Compounding interest daily, their final balance at the end of the term will be R13 478.25 and interest earned will be R478. If they are offered the maximum 10% discount, their discount will be R1 347.82, hence the total benefit to the stokvel members will be R1 826.07. See Figure 2

<table>
<thead>
<tr>
<th>Deposits</th>
<th>Initial Deposit</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount in the bank (initial deposits + interest + additional deposits)</td>
<td>1000</td>
<td>2 005.89</td>
<td>3 017.72</td>
<td>4 035.50</td>
<td>5 059.28</td>
<td>6 089.10</td>
<td>7 124.98</td>
<td>8 166.98</td>
<td>9 215.11</td>
<td>10 269.42</td>
<td>11 332.48</td>
<td>12 402.08</td>
<td>13 478.25</td>
<td>13 478.25</td>
</tr>
<tr>
<td>Total Interest Accrued</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>478.25</td>
</tr>
<tr>
<td>Grocery benefit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1 347.82</td>
</tr>
<tr>
<td>Total Benefit to the customer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1 826.07</td>
</tr>
</tbody>
</table>

**Figure 2: Traditional Stokvel Contribution**

For the supplier’s profit and loss calculation, we will use the weighted average cost of capital (WACC) for the consumer market industry to estimate the supplier’s cost of capital required produce goods and it was estimated to be 7.2% (Castedello &
Schoniger, 2017). We will be assuming the worst-case scenario whereby the Supplier absorbs all the discount cost promised to Nedbank Stokvel Customers on the basis that Nedbank pulls these huge pools of funds with they then bargain with. Assuming the stokvel uses the funds to buy 2-litre low-cost pasteurised milk with the below price and cost structure (see Figure 3).

<table>
<thead>
<tr>
<th>Low Cost Pasteurised Milk</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Price</td>
<td>23.90</td>
</tr>
<tr>
<td>Cost of bringing milk to the shelf</td>
<td>20.70</td>
</tr>
<tr>
<td>Retailer Markup</td>
<td>3.20</td>
</tr>
</tbody>
</table>

**Figure 3: Price-Cost composition of low-cost pasteurised milk (Source: National Agricultural Marketing Council 2017)**

The Stokvel will be able to buy 564 items (R13 478.25/R23.90). The accounting loss to the supplier will be R384.96 (Refer to Figure 4).
Figure 4: Supplier’s profit and loss from the transaction

Under the traditional stokvel option, the stokvel members had a total benefit of R1 826.07 therefore, they should at least get a discount of R140.47 per deposit (R1 826.07/13), this implies that, for groceries worth R13 478.25, they should at most pay R859.53 under the same terms.

Figure 5: Supplier Adjusted Price Schedule

Figure 5 also highlights the effects of compounding all the receipts the supplier receives from the customer monthly. This reflects the benefits accrued to the supplier having received the funds earlier and supplying later. Compounding the receipts daily using...
a WACC of 7.2% represents benefits such as using own capital for other business opportunities other than production, interests from investments of the cash deposits etc. Therefore, the new accounting loss is R94.20 (See Fig. 6). This implies that the supplier has buffer of R290.76 (-R384.96 – (-R94.20)) which he can use to adjust the price further without being worse off than when using the traditional stokvel option.

<table>
<thead>
<tr>
<th>Profit &amp; Loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue <em>(total amount in the bank)</em></td>
</tr>
<tr>
<td>Less Cost of goods sold <em>(564 * R20.70)</em></td>
</tr>
<tr>
<td>Less Discounts</td>
</tr>
<tr>
<td>Add Returns/savings earned by the supplier</td>
</tr>
<tr>
<td>Profit</td>
</tr>
</tbody>
</table>

Figure 6: The revised Profit & Loss under the new business model
Chapter 4: Research Design and Methodology

4.1 Introduction

“A traditional research design is a blueprint or detailed plan for how a research study is to be completed through operationalising variables so that they can be measured, selecting a sample of interest to study, collecting data to be used as a basis for testing hypothesis, and analysing the results” (Thyer, 1993)

Having defined the research questions, which stipulates what we need to find out, the next step was to establish how we were going to find the answers and this path to finding the answers to the research question constitutes the research methodology (Kumar, 2005). Post-positivism was the research philosophy that was used in this study because the investigation is mainly to determine the feasibility of a concept that has not been fully tested in the South African market, hence there was little experiential learning, instead reasoning was used as the source of knowledge (Villanueva, 2015). It was reductionistic as it sought to test a set of hypotheses defined to test for the adoption of the online platform for the pre-purchase of groceries.

This section outlines the strategy that was used in this study to ensure that the earlier stated objectives were achieved. The methodology, population, sample size and sampling method, unit of analysis, measuring instrument, data collection process, data analysis and methodological limitations were discussed in this chapter.

4.2 Research Design

The function of the research design was firstly to identify and/or develop procedures and logistical arrangements required to undertake this study, and secondly emphasise the importance of quality in these procedures to ensure their validity,
objectivity and accuracy in getting answers to the research questions (Kumar, 2005). At the end of this study we were able to determine whether a market exists for customers who want to adopt an online platform to purchase groceries in advance. The platform will participate in price negotiations and discounts, not only with one brand or supplier, but with various retailers and manufacturers on behalf of the customers.

For this study, we selected the survey research design with the main instrument of enquiry being the survey questionnaire. This involved the administering of an online standardised questionnaire to a selected sample of respondents from the main population of customers, retailers, manufacturers and farmers.

The survey research design was selected because of the following reasons:

• The main purpose of the study was to obtain the opinions and attitudes of two main large groups namely, potential customers, particularly stokvel members, and the executives from the grocery value chain e.g. retailers, manufacturers and farmers. The survey is the most effective method to reach these diverse groups;
• It is cost effective when collecting large volumes of data (Phillip & Saunders, 2011);
• Surveys reduce the risk of bias as there will be minimal contact with the respondents (Phillip & Saunders, 2011);
• It also ensures confidentiality of the participants (Phillip & Saunders, 2011);
• Allows the participants to complete in their own time hence is less intrusive compared to other research design options and has a higher chance of buy-in; and
• It is less time consuming as the researcher does not have to sit with the participants (Phillip & Saunders, 2011).

The survey questions were administered online, hence making the collection of data much easier. The participants for the survey were people who had both time and access to the internet. The questionnaire was sent to participants so that they could
complete in their own time regardless of their location hence was poised to yield a higher probability of getting good results.

4.3 Research Methodology

The primary goal of this study was to determine the feasibility of an online platform for pre-purchase of groceries as a feasible business venture that can be used to bargain for substantial discounts. This was a cross-sectional study with one contact with the population and was prospective in nature due to its variation to already existing stokvels which are either closed group stokvels or aligned to specific traders or events.

4.3.1 Measurement Development

Measurement items used in this study were adapted from the relevant literature as far as possible. Perceived usefulness, perceived ease of use, attitude and intention variables were developed based on Yen (2015); Li (2012); Matemba and Li (2018); Chi (2018); Gye-Soo (2016). The measurement of the influence of discounts on the attitude towards online was developed, based on Erdogmus and Cicek (2011). The supplier’s willingness to participate in supplying an online grocery stokvel was developed, based on Anand and Aron (2003); Quero and Ventura (2018).

4.3.2 Population

Two set of questionnaires were sent to the target populations, one sent to the potential customers and the other sent to the executives for potential supermarkets chains, manufacturers and farmers that might be willing to engage with the platform.
4.3.3 **Unit of Analysis**

The unit of analysis for the customer side of the online platform for the pre-purchase of groceries consisted of any individual who contributes towards the household income and is involved in the grocery purchasing decisions. For the supplier side of the platform, the unit of analysis consisted of individuals involved in the decision making of the pricing of goods, sales and marketing of goods, financing of working capital, sourcing of raw materials and logistics in any organisation that is involved in the grocery value chain i.e. from farming, manufacturing, distribution, retail and supermarkets. These are the unit of analysis from which the data was collected.

4.3.4 **Sampling Frame**

As in most of the cases that are being studied, it is impossible to collect data on the whole population because if it is either too large and/or geographically dispersed (Humanitarian Response, 2012). It was not feasible to send the questionnaire to all the stokvel members, online grocery customers and all the grocery retailers and suppliers. A sample that is representative of the whole population was chosen for both the customers and the suppliers. The selection of the sample was not random but subject to the author’s selection. Since the sample was restricted to “a part of the” population that was readily accessible and depended on volunteers who were willing to participate in measuring a troublesome process, a non-probability sample was selected (Cochran, 1977).

The sampling frame defines the records of the population from which the sampling units are drawn (Hussey & Hussey, 1997). The sampling frame for the potential customers of the online platform for the pre-purchase of groceries included the Witwatersrand University student database, FNB employees and Social networks – LinkedIn, friends and family.

The sampling frame for the supplier side included the Executives for member companies of the Consumer Goods Council of South Africa (CGCSA). The is a
premier membership non-profit organisation (NPO) representing the interests of companies engaged in the manufacture, retail, wholesale and distribution of consumer goods, which has a combined value of R707 billion (Consumer Goods Council of South Africa, 2018). A LinkedIn network search for executives in the Fast-Moving Consumer Goods Industry was also conducted.

4.3.5 Sample Size

To calculate the sample size, we selected the “10-times rule” method. This method requires the sample size to be greater than 10 times the maximum number of inner or outer model links pointing at any latent variable in the model (Kock & Hadaya, 2018). To calculate the sample size, it is important to calculate the maximum number of model links pointing at any variable in the model.

The customer side has four latent variables, with Attitude being the most central latent variable with a maximum of six possible links running either from or towards it, therefore the minimum sample size should be 60. For the supplier side, there are only two latent variables hence the maximum possible links are only two, therefore the minimum sample size should only be 20.

4.3.6 Measuring Instrument

Two questionnaires were used to get opinions from participants who had been purposefully selected and identified through the snowballing sampling technique (Mutsekwa, 2017). The survey questionnaire for potential customers was administered to anyone above the age of 16 and possibly had an income and could relate to grocery purchasing decisions within a household. The survey for the supplier side of the online grocery platform was administered to executives for organisations that are part of the groceries value chain i.e. FMCGS industry. Such organisations would include farmers, manufacturers, distributers, retailers and supermarkets.
The representatives should have been able to make decisions or been involved in making decisions around the following; pricing of goods, sales & marketing, financing of working capital, sourcing of raw materials and logistics. Typically, this would be, but not limited to the following; Owners of the business, Boards of directors, Senior executives, Financial managers, Sales and Marketing managers and Supply Chain managers.

These two measuring instruments were similarly divided into three parts. The first part was the introduction to the research, its purpose and the benefits of conducting the study and the second part contained questions on select demographic details of participants or the organisation they represented which helped to determine their suitability for the research and served as control variables (Mutsekwa, 2017). The third part included questions which gave insight on variables that were based on the research hypothesis and part of the instrument contained a five-point Likert scale as shown in table 3:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>2</td>
<td>Disagree</td>
</tr>
<tr>
<td>3</td>
<td>Neutral</td>
</tr>
<tr>
<td>4</td>
<td>Agree</td>
</tr>
<tr>
<td>5</td>
<td>Strongly Agree</td>
</tr>
</tbody>
</table>

**Table 3: Five-point Likert Scale Anchors**

These two survey instruments were assessed for the accuracy in measuring the customer and supplier willingness to participate in an online grocery stokvel and
this assessment consisted looking at the validity and reliability of these survey instruments (Litwin, 1995).

4.3.7 Questionnaire Design

Making sure that the research questions or objectives are defined and understood is critical in designing a questionnaire (Clow & James, 2014). Limiting the research questions or objectives to a manageable number ensures that the questionnaire length does not negatively impact the response rate and discussing the decisions that would result from the data obtained through the questionnaire increases the chances that the right data is collected (Clow & James, 2014). The main research question was to identify the feasibility of an online platform for the pre-purchase of groceries to attract enough members and contribution to bargain for very deep discounts from the supermarkets and suppliers.

The first questionnaire was designed to determine whether consumers were willing to aggregate their buying power to seek attractive discounts by participating in this online platform that is accessible to any person and not tied to specific products, brands or companies. The table below links the relevant sub-research questions to the survey objectives.

The second research question sought to determine if there are adequate grocery suppliers attracted to stokvels as forms of cheaper capital that can improve their liquidity. Would they be willing to create strategic partnerships with this platform? Answers to these questions would inform the best way to configure the supply chain in a way that remains attractive to customers, sellers and the one facilitating this relationship.
<table>
<thead>
<tr>
<th>Sub-problem</th>
<th>Literature Review</th>
<th>Hypotheses</th>
<th>Research Instrument</th>
</tr>
</thead>
<tbody>
<tr>
<td>Will there be significant number of customers for an online platform for the pre-purchase of groceries using intention as a predictor?</td>
<td><strong>E-commerce</strong>&lt;br&gt; - Tangpong and Islam (2009)&lt;br&gt; - Jin, Li and Cheng (2018)</td>
<td>H1: The grocery buyers’ attitude towards the online platform for the pre-purchase of groceries is positively associated with their intention to participate in it.</td>
<td><strong>(INT) Intention Reflective Indicators</strong>&lt;br&gt;1. (INT1) - Assuming I have access to the online platform or mobile app for the pre-purchase of groceries, I intend to use it.&lt;br&gt;2. (INT2) - Given that I had access to the online platform or mobile app for the pre-purchase of groceries, I predict that I would use it.&lt;br&gt;3. (INT3) - I am likely to use the online platforms or mobile apps to pre-purchase groceries in the future.&lt;br&gt;4. (INT4) - I will persuade others to purchase groceries using online platforms or mobile apps for the pre-purchase of groceries.&lt;br&gt;5. (INT5) - A large portion of portion of my grocery will be done via online platforms or mobile apps for the pre-purchase of groceries.&lt;br&gt;6. (INT6) - I plan to continue using the online platforms or mobile apps to pre-purchase groceries frequently</td>
</tr>
<tr>
<td>Sub-problem</td>
<td>Literature Review</td>
<td>Hypotheses</td>
<td>Research Instrument</td>
</tr>
<tr>
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</tr>
<tr>
<td></td>
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<td></td>
<td><strong>(ATT) Attitude Reflective Indicators</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1. (ATT1) - I like the idea of converting traditional stockvels into online and easily accessible platforms.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2. (ATT2) - Using online platforms and mobile apps for the pre-purchase of groceries is a wise idea.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3. (ATT3) - Using online platforms and mobile apps for the pre-purchase of groceries is a better idea than stockvels.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4. (ATT4) - It is practical that using online platforms or mobile apps for the pre-purchase of groceries can provide better discounts than traditional stockvels which are limited to fewer people.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5. (ATT5) - I trust that pre-purchasing groceries using online platforms or mobile apps is more transparent than traditional stockvels.</td>
</tr>
<tr>
<td>Sub-problem</td>
<td>Literature Review</td>
<td>Hypotheses</td>
<td>Research Instrument</td>
</tr>
<tr>
<td>-------------</td>
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</tr>
</tbody>
</table>
| Would the customers deem the online platform useful? | - Anand and Aron (2003)  
- Chung and Chen (2015)  
- Che, Peng and Hua (2016)  
- Kauffman, Lai and Ho (2010)  
- Matemba and Li (2018) | H2: The grocery buyers’ perceived usefulness of the online grocery pre-purchase platform in getting them better discounts than traditional stokvels or existing online grocery platforms is positively associated with their attitude towards the online grocery pre-purchase platform. | (PU) Perceived Usefulness Formative Indicators  
1. (PU1) - Shopping via an online platform or mobile app for the pre-purchase of groceries might provide adequate budgetary relief through better discounts.  
2. (PU2) - I believe that pre-purchasing of groceries via online platforms or mobile apps can provide value for money.  
3. (PU3) - Shopping via online platforms or mobile apps for the pre-purchase of groceries can enhance my effectiveness in my shopping tasks.  
4. (PU4) - I find that shopping via online platforms or mobile apps for the pre-purchase of groceries is more convenient than traditional stokvels as I can participate in the comfort of my home.  
5. (PU5) - Shopping for groceries using online platforms or mobile apps for the pre-purchase of groceries enhances competitive pricing as there are more people bargaining for better prices than traditional stokvels or grocery buying practices.  
6. (PU6) - Shopping for groceries using online platforms or mobile apps for the pre-purchase of groceries would provide better information regarding the pricing of goods. |
<table>
<thead>
<tr>
<th>Sub-problem</th>
<th>Literature Review</th>
<th>Hypotheses</th>
<th>Research Instrument</th>
</tr>
</thead>
</table>
| How easy will it be for customers to move away from the traditional practice to a more modern way of stokvelling? | - Mulaudzi (2017)  
- African Response (2012) | H3: The grocery buyers’ perceived ease of use to move away from the social coerciveness of the traditional stokvel to a more discount searching or financial returns-based model is positively associated with their attitude towards the online grocery pre-purchase platform | **(PE) Perceived Ease of use Formative Indicators**  
1. (PE1) - Learning to use online platforms or mobile apps for the pre-purchase of groceries should be easy for me.  
2. (PE2) - I will find it easy for me to switch from my normal grocery shopping practice or traditional stokvel to shopping via online platforms or mobile apps for the pre-purchase of groceries.  
3. (PE3) - It will be easy for me to become skilful in using online platforms and mobile apps for the pre-purchase of groceries in order to maximise discounts.  
4. (PE4) - Based on previous interaction with online shopping platforms and mobile apps, I should find it easy for me to use the online platforms or mobile apps for the pre-purchase of groceries to do what I want it to do.  
5. (PE5) - My interaction with online platforms or mobile apps for the pre-purchase of groceries would be clear and understandable. |
<table>
<thead>
<tr>
<th>Sub-problem</th>
<th>Literature Review</th>
<th>Hypotheses</th>
<th>Research Instrument</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are South African grocery suppliers willing to participate on the online platform for the pre-purchase of groceries?</td>
<td>- Anand and Aron (2003)</td>
<td>H4: There is a positive relationship between suppliers who use volume discounting to enhance sales and their willingness to crowdfund through the online platform for the pre-purchase of groceries.</td>
<td><strong>(SVD) Supplier Volume Discounting Formative Indicators</strong></td>
</tr>
<tr>
<td></td>
<td>- Chang and Chen (2015)</td>
<td></td>
<td>1. (SVD1) - Setting price-quantity schedules or volume discounting mechanism will improve sales targets and profitability</td>
</tr>
<tr>
<td></td>
<td>- Che, Peny and Hua (2016)</td>
<td></td>
<td>2. (SVD2) - Price-quantity schedules will stimulate our sales</td>
</tr>
<tr>
<td></td>
<td>- Kauffman, Lai and Ho (2010)</td>
<td></td>
<td>3. (SVD3) - Price-quantity schedules is a requirement we always get and allow from our large buyers</td>
</tr>
<tr>
<td></td>
<td>- Erdogmus and Cicek (2011)</td>
<td></td>
<td>4. (SVD4) - Price-quantity schedules will help us acquire and retain customers</td>
</tr>
<tr>
<td></td>
<td>- Erdogmus and Cicek (2011)</td>
<td></td>
<td>5. (SVD5) - Price-quantity schedules will help us manage better our production planning</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6. (SVD6) - Price-quantity schedules will enhance economies of scale in our production</td>
</tr>
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<td></td>
<td></td>
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<td>7. (SVD7) - Price-quantity schedules will save us in transportation and inventory costs</td>
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<td></td>
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<td>8. (SVD8) - Our organisation is willing to engage in negotiations for discounts with any stokvel</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>9. (SVD9) - With the right levels of volumes, our organisation is willing to offer discounts that are more than 50%</td>
</tr>
</tbody>
</table>
Are South African grocery suppliers willing to participate on the online platform for the pre-purchase of groceries?

- Wasiuzzaman (2015)
- Mohanty and Mehrota (2018)
- Matuku and Kaseke (2014)
- Fire, Ross, Westerfield and Jordan (2012)
- Al-Ali and Arkwright (2000)
- Kwenda and Holden (2013, 2014)
- Quero and Ventura (2018)
- Langley and Leyshon (2017)
- Ordanini, Miceli, Pizzetti and Parasuraman (2011)

H4: There is a positive relationship between suppliers who use volume discounting to enhance sales and their willingness to crowdfund through the online platform for the pre-purchase of groceries.

(CF) Crowdfunding Reflective indicators
1. (CF1) - Would you consider crowdfunding over the normal bank loans to fund working capital? (Yes, maybe, no)
2. (CF2) – It is cheaper to use stokvel funds as pre-order crowdfunding platforms from customers who like our products than to borrow from the bank
3. (CF3) - I am curious about 'alternative' funding such as crowd funding
4. (CF4) - I need funding for my business, organisation or project
5. (CF5) - I am unable to access funding via the 'traditional' banking sector
6. (CF6) - I know about pre-order crowd funding and intend raising finance via this route

Table 4: Consistency Matrix
4.3.8 Data Analysis Approach

The analysis of the data collected in this study was used to answer the research questions. The empirical data were analysed using the Partial Least Squares – Structural Equation Modelling (PLS-SEM), a second-generation multivariate data analysis method (Gye-Soo, 2016). Its attractiveness stems from the fact that it allows researchers to estimate very complex models with many constructs and indicator variables, especially when prediction is the aim of the analysis (Sarstedt, Ringle, & Hair, 2017).

The measurement model or inner model measures the relationship between the latent variables and with a block of its manifest indicators. The research structural model contains both reflectively and formatively measured constructs, therefore both the reflective and formative measurement models were used (Sarstedt, Ringle, & Hair, 2017). All the exogenous latent variables, i.e. independent latent variables, were measured using the formative measurement model because the formative indicators were assumed to cause these latent variables (Sarstedt, Ringle, & Hair, 2017). The research model defined the following exogenous latent variables whose formative indicators were measured using the formative measurement model; perceived usefulness, perceived ease of use and volume discounts (refer to Figure 1). However, the endogenous latent variables i.e. dependant latent variables, were measured using the reflective measurement model because the reflective indicators were assumed to be reflective of the consequences or effects of the latent variables (Sarstedt, Ringle, & Hair, 2017). The research model defined the following endogenous latent variables whose reflective indicators were measured using the reflective measurement model; attitude towards the platform, intention to use the platform and supplier willingness to participate on the platform (refer to Figure 1).

The indicators to these latent variables were responses to the questions from the two questionnaires that were used to elicit raw data from both the customers and suppliers. All the questions tried to elicit either the opinion or behaviours of potential
customers and suppliers and were expressed in intervals using the Likert scale (Saunders, Lewis, & Thornhill, 2009).

4.3.9 Descriptive statistics for observable variables and constructs

Descriptive statistics were applied to the data collected in the survey as part of the preliminary data analysis and it was mainly concerned with describing as well as summarising and presenting these in diagrammatic forms that enabled patterns and relationships to be discerned which were not apparent in raw data (Hussey & Hussey, 1997). Three key things that were described in the data collected were:

- Measures of central tendency – which are measures pointing towards a number around which a variable seem to hover and the commonly used measures are the mean, mode and median (Leedy & Ormrod, 2015); and
- Measure of variability: dispersion and deviation – measures how much the data clusters around the point of central tendency and the more the data clusters around this central tendency, the greater the probability of making a correct guess about where any data point lies (Leedy & Ormrod, 2015). Common measures include range, standard deviation and variance.

4.3.9.1 Measuring reliability for the survey tools

The reliability of a measurement tool, in this case, the survey, is the degree to which it produces certain and consistent results when the entity measured has not changed (Leedy & Ormrod, 2015). The measurement tool would be reliable if the same data collection techniques and analytical procedures would reproduce consistent findings when repeated on another occasion or replicated by another researcher (Barcik, 2016).

The indicator reliability and internal consistency tests were conducted to test the reliability of the measurement models. A loading above 0.70 should indicate that the construct explains more than 50% of the indicator’s variance hence is satisfactory to pass the indicator reliability test (Sarstedt, Ringle, & Hair, 2017). The
internal consistency measures whether the survey questions that are designed to measure the same construct actually do so (Sarstedt, Ringle, & Hair, 2017). The Cronbach’s coefficient alpha ($\alpha$) was also used as a measure of the internal consistency reliability and a value of +0.8 or greater was considered a good internal consistency (Price, Jhangiani, Chiang, Leighton, & Cuttler, 2017).

### 4.3.9.2 Measuring validity for the survey tools

The validity test centres on the extent to which measures or indicators represent the construct of interest (Edwards, 2011). The convergent validity and discriminant validity test were used to measure validity of the research model (Sarstedt, Ringle, & Hair, 2017). The convergent validity measures the extent to which the indicators that are supposed to measure the same construct are related. Convergent validity was accessed by Average Variance Extracted (AVE) which should exceed variance due to the measurement error i.e. should be greater than 0.5 (Yen, 2015; Sarstedt, Ringle & Hair, 2017; Gye-Soo, 2016). After convergent validity was tested, the last step of this reflective model testing was discriminant validity testing. Discriminant validity ensures that that constructs that should not have a relationship, do indeed not have a relationship and that indicators distinctly represent only a single construct (Sarstedt, Ringle, & Hair, 2017).

### 4.3.9.3 Hypothesis testing

A hypothesis is an idea that is tested using statistical analysis (Hussey & Hussey, 1997). It is a proposed law of science that has a testable prediction (Chang, 2017). This study proposed four hypotheses to determine the feasibility of an online platform for the pre-purchase of groceries. The hypothesis testing is therefore a statistical process that can be used to inform the judgement of the truth or falsity of the hypotheses (Veazie, 2015). The hypotheses are an attempt to verify what we believe to be true regarding the proposed business model (Chang, 2017). The structural model assessment was used to validate the proposed study model (Alalwan, Baabdullah, Rana, & Tamilmani, 2018). The structural model on the left side platform (customer side) was developed using already established constructs.
of the Technology Adoption Model which has its roots from the Theory of Planned Behaviour (Shukla & Sharma, 2018).

Two key measures that were used for this test were the strength of the path coefficients and their statistical significance. The strength of the path coefficient is measured between -1 to +1 with a value closer to +1 indicating a strong positive relationship and a value closer to -1 indicating a strong negative relationship (Sarstedt, Ringle, & Hair, 2017).

The significance testing was done using the bootstrapping procedure where a large sample of subsamples are taken from the sample with replacements to give the bootstrap standard error (Gye-Soo, 2016). This formed the basis of calculating the $t$-value and $\rho$-value (Sarstedt, Ringle, & Hair, 2017). As this was a consumer research project, the traditional guideline for choosing the level of significance ($\alpha$) is that it should be 0.05 (Veazie, 2015). Therefore, a path coefficient should be significant at 5% probability error level if zero does not fall within the 95% confidence interval (Sarstedt, Ringle, & Hair, 2017). If the $\rho$-value is less than $\alpha$ (0.05) and the $t$-value is greater than 1.96, we accept the hypotheses (Garson, 2016).
Chapter 5: Research Results

5.1 Introduction

This chapter presents the findings of this study. The overall aim of this study was to determine the feasibility of setting up an online platform for the pre-purchase of groceries. Two questionnaires were used in this study to obtain data from both the customer side and supplier side of the platform. The demographic and descriptive statistics were used to explain the composition of the sample. Results of the construct validity and reliability of the research models were discussed and finally the relationships between the constructs were used to validate the feasibility of the online platform.

5.2 Survey Response Rate

The data was collected over a period of one month from the 1\textsuperscript{st} of December 2018 using Wits Qualtrics for both questionnaires. Over the period, 125 attempts on the customer side survey were observed. However, the data was reduced to 103, due to incomplete responses. The completion rate of the customer side survey was therefore 82%.

On the supplier side survey, 28 attempts were observed and was above the 20-survey response target. Eight survey responses were however excluded because some questions were not completed. The completion rate for the supplier side survey was therefore 71%.

5.3 Profile of Survey Participants

This section highlights the socio-demographic characteristics of the participants who were aligned to the research objectives. Table 5 highlights that 103 participants completed the customer side survey and 70 (68.0\%) of the participants were male.
and 33 (32.0%) were female. Most of those participants (49; 47.6%) were observed to be within the age group of 26 to 35 years, most probably because the largest single database that was used to distribute the survey was the Wits University student database. This might also explain why most of the participants are from Gauteng (93; 90.3%). Most of the respondents who declared their household incomes (58; 56.0%) come from households with an income over R40 001. As for the participants’ living arrangements, the majority (45; 43.7%) are part of a family with less than or equal to four. Grocery decisions for most of the participants (60; 58.3%) are made by the respondents themselves.
<table>
<thead>
<tr>
<th>Measure</th>
<th>Value</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>70</td>
<td>68.0</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>33</td>
<td>32.0</td>
</tr>
<tr>
<td>Age</td>
<td>16 to 25 years</td>
<td>4</td>
<td>3.9</td>
</tr>
<tr>
<td></td>
<td>26 to 35 years</td>
<td>49</td>
<td>47.6</td>
</tr>
<tr>
<td></td>
<td>36 to 45 years</td>
<td>42</td>
<td>40.8</td>
</tr>
<tr>
<td></td>
<td>46 to 60 years</td>
<td>8</td>
<td>7.8</td>
</tr>
<tr>
<td></td>
<td>Over 60 years</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Province</td>
<td>Eastern Cape</td>
<td>1</td>
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</tr>
<tr>
<td></td>
<td>Free State</td>
<td>2</td>
<td>1.9</td>
</tr>
<tr>
<td></td>
<td>Gauteng</td>
<td>93</td>
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<td>Kwa-Zulu Natal</td>
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<td>Northern Cape</td>
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<td>0.0</td>
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<td>North West</td>
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<td>Living Arrangement</td>
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</tr>
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<td></td>
<td>Living with spouse</td>
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<td>11.7</td>
</tr>
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<td></td>
<td>Family of &lt; 4</td>
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<td>43.7</td>
</tr>
<tr>
<td></td>
<td>Family of &gt; 4</td>
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<td>15.5</td>
</tr>
<tr>
<td>Grocery Shopper</td>
<td>Self</td>
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<td>58.3</td>
</tr>
<tr>
<td></td>
<td>Spouse</td>
<td>39</td>
<td>37.9</td>
</tr>
<tr>
<td></td>
<td>Parent</td>
<td>4</td>
<td>3.9</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Household Income</td>
<td>R1 - R10 000</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>R10 001 - R20 000</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>R20 001 - R30 000</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>R30 001 - R40 000</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>&gt; R40 001</td>
<td>58</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td>Preferred not to say</td>
<td>7</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 5: Profile of the Customer Side Survey Respondents

On the supplier side, the survey was completed by 20 participants as indicated by table 6. Most respondents were in the grocery manufacturing and distribution sector (7; 35%) and most of them were C-suite executives and part of the Sales and Marketing management team (4; 20%). Most suppliers finance their working capital through long-term borrowings (6; 30%).
<table>
<thead>
<tr>
<th>Measure</th>
<th>Value</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Value chain</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Manufacturer</td>
<td>7</td>
<td>35.0</td>
</tr>
<tr>
<td></td>
<td>Distributor</td>
<td>7</td>
<td>35.0</td>
</tr>
<tr>
<td></td>
<td>Retailer</td>
<td>1</td>
<td>5.0</td>
</tr>
<tr>
<td></td>
<td>Missing data</td>
<td>5</td>
<td>25.0</td>
</tr>
<tr>
<td><strong>Authority</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Board member</td>
<td>2</td>
<td>10.0</td>
<td></td>
</tr>
<tr>
<td>Executive</td>
<td>4</td>
<td>20.0</td>
<td></td>
</tr>
<tr>
<td>Sales and Marketing</td>
<td>4</td>
<td>20.0</td>
<td></td>
</tr>
<tr>
<td>team management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply Chain Management</td>
<td>2</td>
<td>10.0</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>15.0</td>
<td></td>
</tr>
<tr>
<td>Missing data</td>
<td>5</td>
<td>25.0</td>
<td></td>
</tr>
<tr>
<td><strong>Current working</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>capital financing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ploughing back profits</td>
<td>4</td>
<td>20.0</td>
<td></td>
</tr>
<tr>
<td>From long term loans</td>
<td>6</td>
<td>30.0</td>
<td></td>
</tr>
<tr>
<td>From bank borrowings/short-term loans</td>
<td>2</td>
<td>10.0</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>15.0</td>
<td></td>
</tr>
<tr>
<td>Missing data</td>
<td>5</td>
<td>25.0</td>
<td></td>
</tr>
<tr>
<td><strong>% of financing</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>through borrowings</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>3</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>1</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>1</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>3</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>4</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>1</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

Table 6: Profile of the Supplier Side Survey Respondents

5.4 Descriptive Statistics

Table 7 summarises the descriptive statistics of the various measurement items for the customer side survey. The lowest average was for the *Perceived Usefulness* (3.88 ± 0.32) and the highest was for *Perceived Ease of use* (4.29 ± 0.96). The responses for *Attitude* were widely distributed from the mean than any other constructs and those for the *Perceived Usefulness* were closer to the mean than any other constructs.
<table>
<thead>
<tr>
<th>Construct</th>
<th>Item</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Ease of use</td>
<td>PE1</td>
<td>4.45</td>
<td>1.017</td>
</tr>
<tr>
<td></td>
<td>PE2</td>
<td>3.89</td>
<td>1.187</td>
</tr>
<tr>
<td></td>
<td>PE3</td>
<td>4.26</td>
<td>0.99</td>
</tr>
<tr>
<td></td>
<td>PE4</td>
<td>4.32</td>
<td>0.972</td>
</tr>
<tr>
<td></td>
<td>PE5</td>
<td>4.25</td>
<td>0.957</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>4.29</td>
<td>0.96</td>
</tr>
<tr>
<td>Perceived Usefulness</td>
<td>PU1</td>
<td>3.88</td>
<td>0.98</td>
</tr>
<tr>
<td></td>
<td>PU2</td>
<td>3.88</td>
<td>1.003</td>
</tr>
<tr>
<td></td>
<td>PU3</td>
<td>3.92</td>
<td>1.091</td>
</tr>
<tr>
<td></td>
<td>PU4</td>
<td>4.01</td>
<td>1.062</td>
</tr>
<tr>
<td></td>
<td>PU5</td>
<td>3.94</td>
<td>1.027</td>
</tr>
<tr>
<td></td>
<td>PU6</td>
<td>4.07</td>
<td>0.96</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>3.88</td>
<td>0.32</td>
</tr>
<tr>
<td>Attitude</td>
<td>ATT1</td>
<td>4.06</td>
<td>1.06</td>
</tr>
<tr>
<td></td>
<td>ATT2</td>
<td>4.14</td>
<td>0.971</td>
</tr>
<tr>
<td></td>
<td>ATT3</td>
<td>3.69</td>
<td>1.146</td>
</tr>
<tr>
<td></td>
<td>ATT4</td>
<td>3.88</td>
<td>0.973</td>
</tr>
<tr>
<td></td>
<td>ATT5</td>
<td>3.84</td>
<td>1.091</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>4.06</td>
<td>1.06</td>
</tr>
<tr>
<td>Intention</td>
<td>INT1</td>
<td>3.96</td>
<td>0.96</td>
</tr>
<tr>
<td></td>
<td>INT2</td>
<td>3.92</td>
<td>0.904</td>
</tr>
<tr>
<td></td>
<td>INT3</td>
<td>4.02</td>
<td>1.019</td>
</tr>
<tr>
<td></td>
<td>INT4</td>
<td>3.71</td>
<td>1.072</td>
</tr>
<tr>
<td></td>
<td>INT5</td>
<td>3.64</td>
<td>1.101</td>
</tr>
<tr>
<td></td>
<td>INT6</td>
<td>3.76</td>
<td>1.043</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>3.96</td>
<td>0.96</td>
</tr>
</tbody>
</table>

Table 7: Descriptive Statistics - Measurement Items

5.5 Measurement Model Analysis

As a precursor to examining the structural model, we tested the reliability and validity of the latent variables for both the customer side and supplier side models.

5.5.1 Customer side – Measurement model

Table 8 highlights the convergent validity and internal consistency assessment of the customer side model as per the Technology Acceptance Model.
<table>
<thead>
<tr>
<th>Latent variable</th>
<th>Indicator</th>
<th>Convergent validity</th>
<th>Internal consistency reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Loadings &gt;0.70</td>
<td>AVE &gt;0.50</td>
</tr>
<tr>
<td>Perceived Ease of use</td>
<td>PE_1</td>
<td>0.737</td>
<td>0.706</td>
</tr>
<tr>
<td></td>
<td>PE_2</td>
<td>0.775</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PE_3</td>
<td>0.879</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PE_4</td>
<td>0.887</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PE_5</td>
<td>0.909</td>
<td></td>
</tr>
<tr>
<td>Perceived Usefulness</td>
<td>PU_1</td>
<td>0.841</td>
<td>0.655</td>
</tr>
<tr>
<td></td>
<td>PU_2</td>
<td>0.813</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PU_3</td>
<td>0.837</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PU_4</td>
<td>0.790</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PU_5</td>
<td>0.785</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PU_6</td>
<td>0.789</td>
<td></td>
</tr>
<tr>
<td>Attitude</td>
<td>ATT_1</td>
<td>0.787</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ATT_2</td>
<td>0.887</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ATT_3</td>
<td>0.844</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ATT_4</td>
<td>0.798</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ATT_5</td>
<td>0.762</td>
<td></td>
</tr>
<tr>
<td>Intention</td>
<td>INT_1</td>
<td>0.868</td>
<td>0.812</td>
</tr>
<tr>
<td></td>
<td>INT_2</td>
<td>0.911</td>
<td></td>
</tr>
<tr>
<td></td>
<td>INT_3</td>
<td>0.917</td>
<td></td>
</tr>
<tr>
<td></td>
<td>INT_4</td>
<td>0.875</td>
<td></td>
</tr>
<tr>
<td></td>
<td>INT_5</td>
<td>0.900</td>
<td></td>
</tr>
<tr>
<td></td>
<td>INT_6</td>
<td>0.934</td>
<td></td>
</tr>
</tbody>
</table>

Table 8: PLS-SEM Assessment Results for Customer Side Measurement Model

All the survey questions have loadings that were above 0.70 and this indicates that all the latent variables explain more than 50% of the indicators’ variance. In addition, all the AVE values were above 0.5. This satisfies the validity criteria, hence we concluded that the survey questions or indicators represent the constructs of interests.

The survey tool also satisfies the reliability criteria because the outer loadings are above 0.70 and the Cronbach's alphas are all above 0.80. We can therefore conclude that the tool can produce the same results consistently, if repeated.
5.5.2 Supplier side – Measurement model

<table>
<thead>
<tr>
<th>Latent variable</th>
<th>Indicator</th>
<th>Convergent validity</th>
<th>Internal consistency reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Loadings</td>
<td>AVE</td>
</tr>
<tr>
<td>Volume Discount</td>
<td>SVD_2</td>
<td>0.728</td>
<td>0.643</td>
</tr>
<tr>
<td></td>
<td>SVD_8</td>
<td>0.686</td>
<td>0.964</td>
</tr>
<tr>
<td></td>
<td>SVD_9</td>
<td>0.443</td>
<td>0.778</td>
</tr>
</tbody>
</table>

Table 9: PLS-SEM Assessment Results for Supplier Side Measurement Model

The Volume discount latent variable had a composite reliability and Cronbach’s alpha which was less that is 0.70, however there was no need to test reliability as it is not a reflective indicator, hence we relied on the validity test only (Sarstedt, Ringle, & Hair, 2017). The validity test criteria however were met as the factor loadings are either close and above 0.7, however SVD_2 has a negative loading indicating that the factor should have been asked in negation. The Crowdfunding latent variable, which is a reflective latent construct, meets both the reliability and validity criteria. The other initial measurement items were excluded because they have factor loadings that were less than 0.70.

5.6 Structural Equation Modelling Results

Once the adequacies of the measurement models were demonstrated, the proposed four hypotheses were tested using the partial least square structural equation modelling. The SmartPLS 3.0 generated the t-statistics for significance for both the customer side and supplier side model using the bootstrapping procedure with 500 resamples approach being applied.
5.6.1 Customer side – Hypotheses testing results

Table 10 shows the results of the bootstrapping procedure for the customer side model. Two out of the three proposed hypotheses were proven to be statistically significant as the t-statistics are greater than 1.96, the corresponding p-values are less than 0.05 and the path coefficients were all over 0.7 indicating a strong positive relationship, hence we therefore adopted H1 and H2. These results showed that the attitude of the South African consumers towards the online platform for the pre-purchase of groceries was significantly affected by its perceived usefulness. They also tell us that the South African consumers’ intention to use the online platform for the pre-purchase of groceries was significantly affected by their attitude. This indicates that the South African consumers are more likely to use the proposed online platform if they show a positive attitude. They are also more likely to have a positive attitude if they perceive the online platform to be useful in their quest to enhance the shopping experience and obtain financial gains through discounts. This is consistent with prior studies conducted in the South African market (Matemba & Li, 2018).

The effect of perceived ease of use on the attitude towards the technology to be adopted was statistically insignificant as the t-value was less than 1.96 and p-value greater than 0.05 (t-value = 0.810 & p-value = 0.41). Therefore, H3 was not supported. This does not mesh with previous studies which highlight that there is a positive relationship between perceived ease of use and the attitude towards the technology to be adopted (Chi, 2018; Matemba & Li, 2018).
<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Path coefficient</th>
<th>t-value</th>
<th>p-value</th>
<th>Statistically significant (p&lt;0.05)?</th>
</tr>
</thead>
<tbody>
<tr>
<td>H3: PE→ATT</td>
<td>0.086</td>
<td>0.810</td>
<td>0.418124269166753</td>
<td>NO</td>
</tr>
<tr>
<td>H2: PU→ATT</td>
<td>0.740</td>
<td>8.008</td>
<td>0.0000000000000057</td>
<td>YES</td>
</tr>
<tr>
<td>H1: ATT→INT</td>
<td>0.789</td>
<td>19.043</td>
<td>0.0000000000000057</td>
<td>YES</td>
</tr>
</tbody>
</table>

**Table 10: Path Coefficients of the Customer Side Structural Model and Significance Testing**

All these results complete the customer side basic analysis of the PLS-SEM in our research. See below PLS-SEM as shown in Figure 7.
5.6.2 Supplier side – Hypotheses testing results and discussion

Hypothesis 4 tested the effects of volume discounting on the adoption of customer crowdfunding as an alternative to working capital finance. The hypothesis was proven to be statistically significant as the t-statistics are greater than 1.96, the corresponding p-value is less than 0.05 and the path coefficient was 0.729, hence was adopted. This indicates that the South African suppliers that already use volume discounting are more likely to engage customers who are willing to purchase groceries in advance as a way of crowdfunding working capital.
### Table 11: Path Coefficients of the Supplier Side Structural Model and Significance Testing

All these results complete the supplier side basic analysis of the PLS-SEM in our research. See below PLS-SEM as shown in Figure 8.

![Figure 8: Supplier Side Model and its PLS-SEM Results](image)
Chapter 6: Conclusion

The purpose of this study was to determine the feasibility of an online platform for the pre-purchase of groceries by understanding the relationships among usefulness, ease of use, attitude to validate the intention of adopting the technology. The theories used in this study were drawn from information systems, social psychology, marketing and finance. These theories were used to propose a model that predicts the feasibility of an online platform for the pre-purchase of groceries. The TAM adoption model was utilised.

To determine feasibility, the results of the study were compared with the theoretical background to validate the customer’s intention to use the online platform. In accordance to the theoretical groundwork, this study found that the perceived usefulness influences the attitude customers have towards the platform. Ultimately, the attitudes would affect the intention which is an estimate of actual use of the online platform. However, the findings failed to support the influence of perceived ease of use to the attitude towards the online platform. The next section discusses the possible explanation for the hypotheses not adopted. It also discusses the implications derived from the findings of the research and suggestions for future research.

6.1 Discussion

The hypothesis not adopted (H3), i.e. the influence of perceived ease of use as an influence of attitude towards the usage of the online platform, may be as a result of the lower internet usage and online shopping rates as compared to developed nations like China (uAfrica.com, 2015). Online shopping still accounts to 1% of all the retail sales and this might indicate that there might be a difficulty in trying to inculcate a new culture whereby people move away from the traditional stokvel practices and norms, as well as shopping in the physical stores. This, as a result, affects the feasibility of the online platform for the pre-purchase of groceries as it is
important that customers’ perception of the ease to switch from the traditional mode of shopping must influence their attitude towards the online platform.

However, the research results do suggest that the consumers perceive the online platform to be useful, their attitude towards it is positive and that they intend using the platform. H1 and H2 confirms that perceived usefulness positively affects attitude and subsequently attitude positively affects the customer intention to participate on the online platform for the pre-purchase of groceries. This model seems to suggest that the intention to use the online platform is strong and has adequately been predicted by the attitude people have towards it. The attitude is also adequately mediated by the customers’ perception of its usefulness. The recommendation below will aid in ensuring that this model addresses the factors affecting the feasibility of this venture.

### 6.2 Future research

Future research should focus on identifying the key drivers that can be used to sway customers from the traditional shopping and stokvel practices towards online shopping. This will provide retailers with adequate data to use in their sales and marketing campaigns to pull customers towards this type of online shopping.
References


Amazon. (2017, April 27). *Business Model Innovation - The secret behind Amazon, Spotify and Tinder success*. Retrieved from Youtube: https://www.youtube.com/watch?v=avWVPaJFgFk


http://www.bevsa.co.za/about-us/history/


http://www.businessdictionary.com/definition/consignment-sale.html


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