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Integrating SMEs into the Manufacturing Value Chain:
An Investigation of the Challenges and Opportunities for Craft Beer Manufacturers in Gauteng, KwaZulu Natal & Botswana

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A Research Project submitted to the Faculty of Engineering and the Built Environment, University of the Witwatersrand, in partial fulfilment of the requirements for the degree of Masters of Science in Engineering

Date

10 February 2020

Declaration

Declaration Regarding Plagiarism

I, Masetshedi M Nkwanyana declare that this research report is my own work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Engineering in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

Signed at 56 Grosvenor, Bryanston, Sandton, Johannesburg
On the 10th day of February 2020

Masetshedi M. Nkwanyana	10 February 2020
Signature	Date

Acknowledgements

I would like to extend my thanks to my mother, Sibongile Jacqueline Nkwanyana, who shared unconditional love and support. No words could adequately express my gratitude. I love you dearly. I would also like to extend my gratitude to my supervisor Mr.Thabani Mudavanhu for the support, encouragement and advise that he has provided throughout my time as his student

Abstract

The contribution of small and medium enterprises (SME's) and craft beer craft SME's towards the economic development is well documented. Statistics have shown that craft beer SME's contribute significantly towards employment in developed and developing countries the world over. In contrast, craft brewery SME's in South Africa contribute marginally towards the economic development.

One factor that has been identified as a solution is the integration of Craft Beer SME's into the value chain. The purpose of the research study was to investigate the challenges and opportunities that craft beer SME's encounter when attempting to integrate into the beer manufacturing value chain and how they strategically position themselves in order to entrench their sustainability.

This research employed semi-structured interviews as the primary data collection tool. Purposeful sampling was used to select the participants and the data was organized into themes using the thematic analysis technique and analysed through a framework analysis method.

The results of the research indicate that the main challenges of craft beer SME's include shortage of funding to recapitalise and expand on operations which results in shortage on draught taps, lack of appropriate and consistent marketing strategies to drive beer sales sustainably and lack of economy of scales to produce beer with extended shelf life. The study established that several opportunities arise when craft breweries form strategic alliances with large commercial corporates. The alliance extend to having contracts with pubs and bars and being the supplier of beer at corporates such as events.

The report recommends that it is imperative that craft breweries analyse and fully apprehend with their market specific value chain in order to understand how the key activities and key players affect their ability of integrating into the beer manufacturing value chain. The study concludes by proposing a conceptual business model framework that encompasses the integration of craft breweries into the beer manufacturing value chain.

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List of Abbreviations

BMCV	Beer Manufacturing Value Chain
CB	Craft Beer
CBI	Craft Beer Industry
CT	Cape Town
ECD	Local Economic Development
GVC	Global Value Chain
IBM	Institute of business management
KZN	Kwa-Zulu Natal
LSM	Living Standard Measure
NLA	National Liquor Authority
Owner-Manager	A person who owns and manages a business
QDA	Qualitative Data Analysis
RSA	Republic of South Africa
SA	South Africa
SAB- ABInBev	South African Breweries- Anheuser-Busch InBev
SADC	Southern African Development Community
SME	Small Medium Enterprise
SMME	Small Micro & Medium Enterprise
V- Small	Very Small
USA	United States of America

VC	Value Chain
VCD	Value Chain Development

Chapter 1 : Introduction

1.1. Background

Small medium enterprises (SME's hereafter) are an important business sector as they are the vehicle to the alleviation of unemployment, poverty and economic growth (Allan et al., 2004; Amra et al., 2013; Beck & Demirguc-Kunt, 2006; Olawale & Garwe, 2010; Roodman & Morduch, 2009). Beck and Demirguc-Kunt, (2006) added that SMEs constitute over 60% of total employment in the manufacturing industry in most developing countries. SME's have been acknowledged to have been an important tool for sustainable development (Eniolaa & Entebang, 2015). It has been proven in developing countries that SME's not only contribute to unemployment alleviation but also contribute to the value chain of the manufacturing sector which in turn is a driver of economic growth (Abe , et al., 2015). A value chain is a series of phases from conception of product development to consumption (Thompson, et al., 2017). An entry point into the value chain can be defined as a market gap that is currently not being met and can be leveraged on to enter a specific industry or market and provide a unique need (Martin & Lopex, 2018). The higher the number of the entry points in the value chain for SME's, the more likely are the chances of sustained economic growth for that country (ibid).

The craft beer Industry is an SME sector within the beer industry which has a reach of 0.001% in annual volume production in the total liquor industry in South Africa (Corne & Reyneke, 2013). The liquor industry in South Africa (RSA hereafter) has been contributing 4.4% to the GDP (IOL, 2010) of which, SAB-ABInBev has a total reach of 3.1% and the rest of the liquor industry is effectively 1.3% (ibid). In Europe, the beer industry has a total contribution of 5.0% to the GDP (Berkhout, et al., 2013) of which the CBI contributes a total of 3% and there is projected growth for the upcoming years in total beer sales (ibid). The difference between the two statistics from the two locations (RSA and Europe) can be argued to be linked to the poor performance of SME's in South Africa compared to Europe (Corne & Reyneke, 2013).

This research investigates the challenges and opportunities that Craft Brewing SME's have in the beer manufacturing value chain. This will also explore opportunities that can be harnessed in the BMVC specifically with SME's and how these can be a tool for unemployment alleviation amongst many initiatives. The poor visibility of the CBI in South Africa indicates

that there are gaps in the CBI environment that can be further investigated. This therefore mandates research to explore the challenges and opportunities for CB SME's and low visibility of Craft Beer in South Africa.

1.2. Problem Statement

The positive contribution of SME's to the economic growth of developing countries is well researched and acknowledged (Allan et al., 2004; Amra et al., 2013; Beck & Demirguc-Kunt 2006; Olawale & Garwe, 2010; Roodman & Morduch, 2009). A critical factor that has also been highlighted by global forums is that SME's are more likely to survive the business environment when they break into new markets with existing value chains and supplier networks (Mosai, 2017). It is estimated that the craft beer industry contributes a negligible 0.001% in annual volume production (Corne & Reyneke, 2013) yet SAB-ABInBev (a major brewery in Africa) contributes 3.1% (ZAR 62 Billion) alone to the South African GDP (IOL, 2010).

In light of the importance of SME's explained above, it can be argued that there is potential for the CBI to also contribute significantly to the manufacturing sector and the economic development of South Africa. Given the marginal contribution of CBI in the Beer Manufacturing Value Chain, it can be hypothesised that there are underlying challenges which are restricting their growth.

This research aims to uncover the underlying challenges and opportunities inherent in the BMVC in developing countries, in this case it is South Africa and Botswana. This should provide the basis for practical recommendations that can be highlighted to Craft Brewery policy-makers and interested stakeholders in those countries.

1.3. Critical Research Question

> *What are the challenges and opportunities of integrating SME's into the Beer Manufacturing Value Chain in South Africa and Botswana?*

1.4. Research Objectives

- To identify the challenges that craft brewery SME's encounter in their quest to integrate into the beer manufacturing value chain
- To establish the opportunities and market gaps that craft brewery SMEs in South Africa and Botswana can employ to integrate in the beer manufacturing value chain
- To analyse the challenges and opportunities and highlight the significance of craft brewery SME's to the beer manufacturing value chain
- To develop a conceptual model that will be useful to the Craft Beer Industry and therefore contribute a towards framework that integrates craft breweries into the Beer Manufacturing Chain

1.5. Rationale of Study

The SME sector is being fully supported by the government through financial means and this is from the recent commitment made by the government to increase the allocation of the fiscus dedicated to SME development (Smith, 2019). South Africa acknowledges that there are a number of start-ups of SME's but there is a failure rate estimated at 75% (Olawale & Garwe, 2010). This sentiment was echoed by the Small Enterprise Development Agency in 2017 whereby they stated that less than 3% of SME's survive beyond 3 years in South Africa (Leshou, 2017). Compared with other developing countries where the survival rate beyond 3 years is 8.5% in Chile, 15% in Brazil and 28% in Thailand (Leshou, 2017). There is a need to investigate the challenges and opportunities in the CBI context in South Africa and Botswana, due to the low visibility.

1.6. Assumptions

- It is assumed that all craft breweries have the same objectives in terms of aiming for sustainability in the beer manufacturing value chain
- It is assumed that the craft breweries of similar size all have similar challenges and similar opportunities

- It is assumed that challenges and opportunities underlined in literature also applies to the South African and Botswana market
- It is assumed that the number of craft breweries interviewed in the research is enough for data collection purposes and to extrapolate for similar purposes
- It is assumed that the exchange rate was 1$ = ZAR 14 at the time the research study was conducted in 2019

1.7. Limitations

The study focuses at developing a high level theme-specific theoretical framework that can be employed by craft brewers in South Africa and Botswana

- The reason that the research is limited within these two regions is because the time frame in which to complete the research would not be sufficient. The data collected was limited to the Gauteng and Botswana craft breweries. The Data Collection was limited to six Craft Breweries and one beer blogger
- Distance was a limiting factor as not all craft breweries in South Africa could be interviewed, some cancelled, some were not able to use platforms like Skype

1.8. Ethical Consideration

It is expected that craft brewers will be in competition with each other. It is therefore important that the information obtained from each brewer is kept confidential in order not to divulge any private information.

This research study involves human participants and this requires that the participant information of each participant is protected and is kept confidential.

The intent of the research was shared with each of the participants. Signed consent letters and permission letters were received from each participant prior to data collection. All required Ethics Application forms were submitted to the Wits Ethics Committee and Ethics Clearance was granted and approved prior to data collection. The ethical clearance requirement was consistent with Protection of Personal Information Act 4 of 2013.

The Ethics Clearance number for this study is MIAEC121/18.

1.9. Outline of the Research Structure

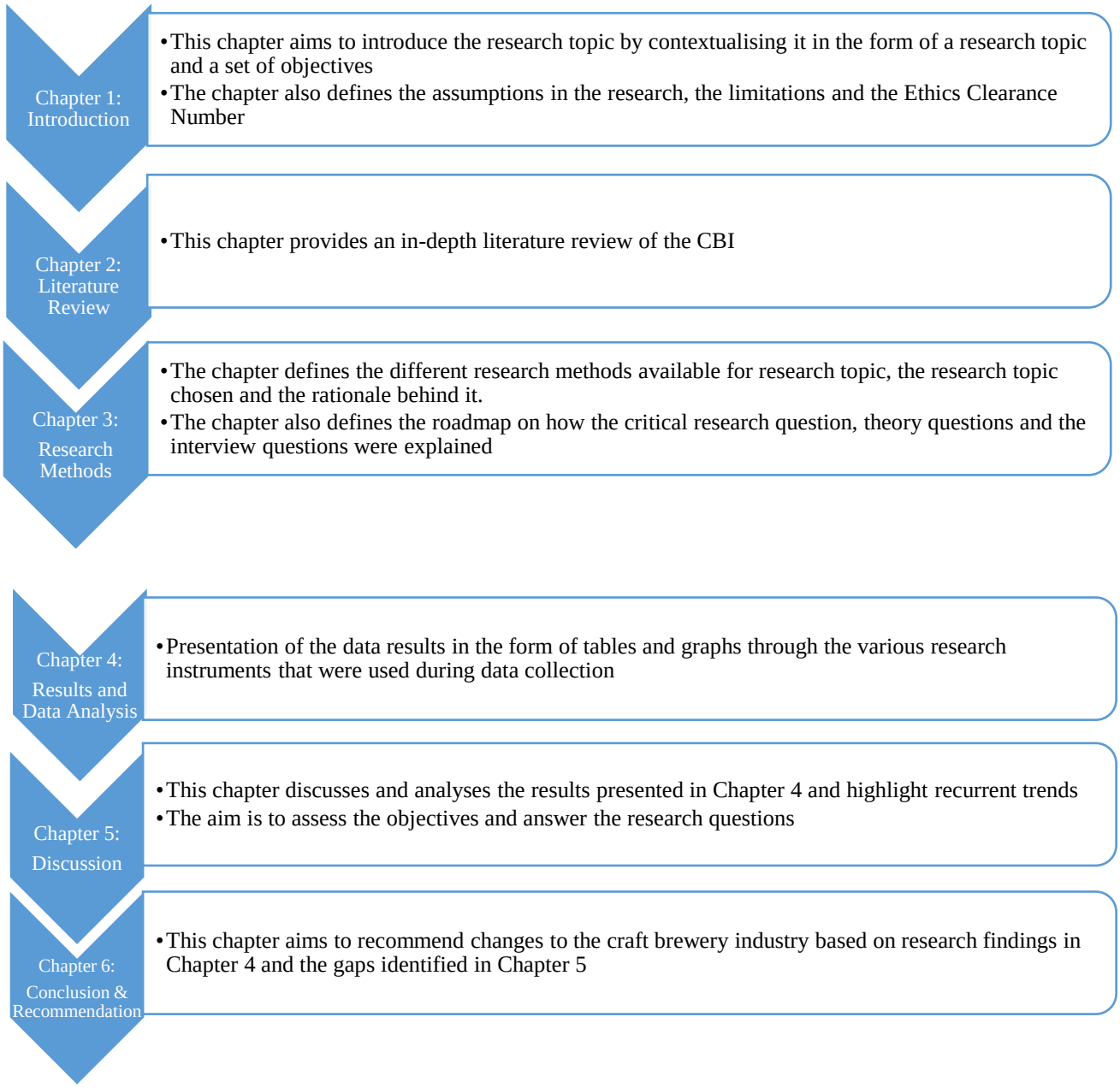

Figure 1.1: Summary of the chapters of the research (Authors own illustration)

Chapter 2 : Literature Review

"*Beer is proof that God loves us and wants us to be happy*"

~Benjamin Franklin

2.1.Introduction

The purpose of the chapter is to provide insight into the Craft Beer Industry in order to identify the types of challenges that are encountered by Craft Brewers and the possibilities available in the beer manufacturing value chain for these small players. The chapter is divided into the following sub-sections:

- Overview of the Beer Manufacturing Industry
- Beer Value Chain Analysis
- Status of Craft Beer SME's in today's business environment
- Business Models for the Craft Beer Industry
- Literature review key findings

The emphasis of the literature review is to give insight into the current status of the craft beer industry in developing countries in Africa with a two-fold aim of:

i. Identifying the underlying gaps that restrict CB from contributing to the manufacturing value chain
ii. Practical application of business models or theoretical frameworks that can address these gaps



Figure 2.1: Literature Review Roadmap (Authors own illustration)

2.2.Overview of the Beer Industry

2.2.1. History cycles of change in Craft Beer

The beer industry can be traced back to the Mesopotamian civilization times when beer was used as a medium of exchange in the monasteries and Christian times (Warner & Penn, 2010). Small craft breweries started to evolve over time across Europe, thereafter large mechanical breweries developed during the Industrial Revolution (Warner & Penn, 2010). The technological advancement through the years saw the beer industry evolve and becoming more automated and less time consuming (Warner & Penn, 2010).

According to the American Brewers Association (BrewersAssociation, 2019), the brewing environment saw a change in the 1970's whereby only light lagers were available in trade

retailers and bars. The limited variety of beer options resulted in a decline in the taste and consumption from the consumers which in turn reduced the visibility of brewing companies to only 44 (BrewersAssociation, 2019). In the midst of these commercial beer changes, the home brewing culture emerged and the home brewing culture excelled immediately because the brewer was able to produce a unique beer with a style and taste of their choice and in accordance to the needs of the consumer (Guido, 2019) .The Craft Beer Industry (CBI) initially started as a hobby for beer enthusiasts who wanted to brew a unique beer for their local community but this culture inspired more brewers to start their own craft beer companies driven by the need to introduce beer with more flavour with different styles (Warner & Penn, 2010). This strategy provided a platform for craft brewers to take more pride in producing unique quality beer and the popularity of craft beer in the mid -1800's enabled craft brewers to form distribution networks to send beer to other regions including Central and Southern America (Warner & Penn, 2010). By the late-1890's,the brewing industry was dominated by a number of small, independent and middle-tier breweries and to what we now call Craft Brewing (ibid)

"Craft Brewers are succeeded in establishing high levels of quality, consistency and innovation, expanding the minds of the beer consumers and creating the most diverse brewing culture in the world. While craft brewers only encompassed 4% percent of the U.S. beer sales in 2008, there is a tremendous upside for beer drinkers and craft brewers. The number of craft brewers has gone from eight in 1980, to 537 in 1994, to over 6,000 in 2018 in the USA. The number of breweries in planning is skyrocketing" (BrewersAssociation, 2019)

In the African context, beer has 2 influences namely traditional African beer and European influence (Lincoln, 2019). The Europeans distributed different beer techniques and styles to the different African countries where they settled in the 15th and 16th century (Lincoln, 2019). The Egyptians brewed beer throughout Africa; through tribal brewing methods; long before the European influence and this is still widely practised today (ibid).

Traditional beer culture is an important part of the African history and a key role in the rural economy as it is mainly produced for the local rural community and local festivities (Lincoln, 2019). There are different flavours and styles of traditional beer that are available and this is dependent on the type of raw material available in a specific area (Lincoln, 2019). The conventional name of African traditional beer is "sorghum beer". In Southern Africa, the local name is *chibuku*, *umqombothi*, *doro*; in East Africa it is referred to as *chang'aa*; in Central Africa it is referred to as *hydrome*l and as *shakparo* in Western Africa (ibid). Thus, one can

infer that traditional African beer is the craft beer of the African culture. In the South African context, the CBI constitutes the traditional African sorghum beer as well as beer influenced by the European craft beer technology, namely categorized as modern craft beer (Lincoln, 2019).

The first modern craft brewery in South Africa started operation in 1983 under the name of Mitchell's Brewing (Corne & Reyneke, 2013) and was soon followed by Nottingham Brewery in 1996 (Corne & Reyneke, 2013). The CBI excelled and only started gaining popularity in South Africa in the early 2000's with a total number of craft breweries at 40 in early 2013, 80-90 in 2014 and 220 in 2018 (Corne, 2018).

Please see Figure 2.2 for the South African CBI statistics over the past 3 decades

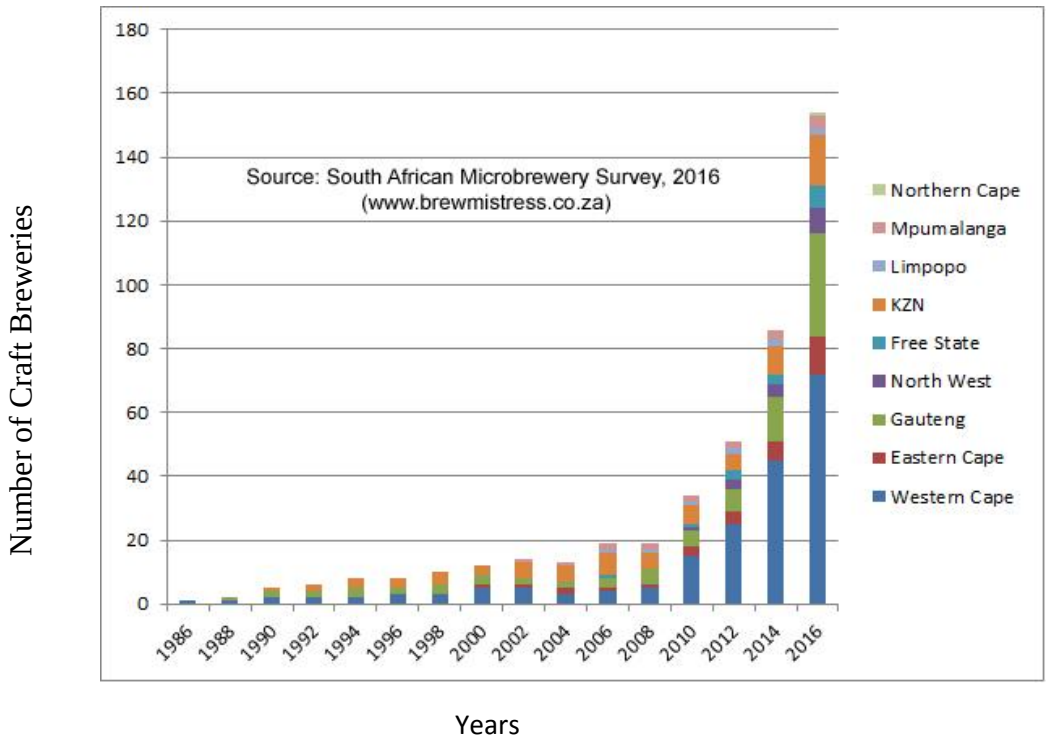

Figure 2.2: The number of craft breweries in South Africa by province 1986 – 2016 *(Corne, 2018)*

To date, the beer industry is the 3rd most sought after drink in the world after water and tea and contributes a total of $295 billion of the total global business revenue, of which Africa contributes $13 billion (Feng, 2017). The beer industry is one of the most important sectors for the GDP of many countries with 9178 jobs created in 2015 (Miller, et al., 2019). In South Africa, the beer industry contributed a total of 4.4% to the GDP of South Africa (Fin24, 2010). The alcohol preferences of South Africans in 2015 are depicted in Figure 2.3.

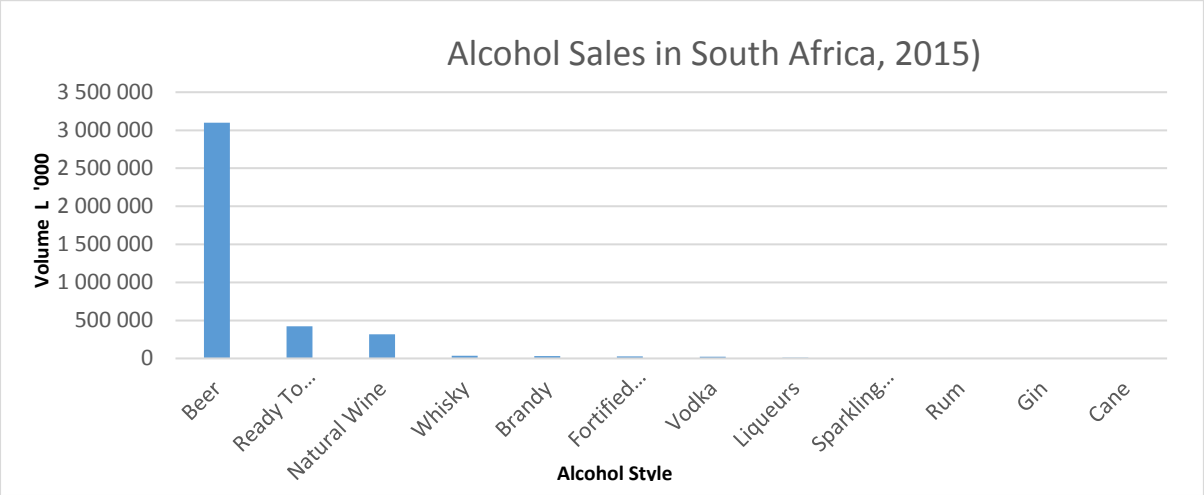

Figure 2.3: South African drinking preference in 2015

(Writer, 2016)

2.3. SME Overview and Value Chain Analysis

2.3.1. Definition of a Craft Brewery SME

A Small and Medium Enterprise, within the South African context, is defined as an organization that employs fewer than 200 people, has an annual turnover of less than R64 Million, has capital assets of less than R 10 Million and management is comprised of the owners (Bank, 2015). Please refer to the table in Appendix M for a more comprehensive definition.

The CBI defines Craft Beer SME's differently to the conventional corporate SME definitions and these definitions are derived from the American Brewers Association, as the South African CBI has not defined craft beer to the same extent. The CBI defines SME sizes according to the volume of beer that is produced on an annual basis (BrewersAssociation, 2019). The definition of the CBI is as follows:

Table 2.1: Craft Brewery Definition

(BrewersAssociation, 2019) (Elzinga, et al., 2015)

Size	**Type**	**Volume HL/yr.**
Micro or Small	Home/local brewer	< 17 600
Medium or Regional (Independent)	Independent/regional	17 600< HL/yr. < 7 040 000
Contract Brewery	Regional or a micro-brewery with excess capacity to rent out	17 600 < HL/yr. < 7 040 000
Large	Large scale national	7 040 000Hl/yr
Brewpubs	Restaurants that sell less than 75% of its beer on its own premises	

Micro or Small: this is a brewery that produces less than 17.6kHL on an annual basis and mainly produces for the local community due to the complex logistical networks that are available. They sell mainly to the local wholesaler or distributor (Elzinga, et al., 2015)

Medium or Regional: a medium sized craft brewery produces between 17.6kHL and 7 040kHL per annum. Typically, the craft brewer is in a partnership with another more mature brewery and the craft brewer has at least 75% ownership of the beer company. The beer is sold mainly to the regional area within the province (Elzinga, et al., 2015)

Contract Brewery: a regional or a micro size brewery that rents out excess beer. An example is Hazeldean Brewing Company that is based in Johannesburg and has partnered with Brewhogs (ibid)

Large (Traditional): large scale sized craft breweries that produce larger than 7mHL and are often the well-known established organizations (ibid)

SME's have been identified as the key source that will increase the economy of South Africa (Miller, et al., 2019). The craft industry in particular "is one of the few entry points available to South Africans presently excluded from the formal economy. Such opportunities are both essential and limited for rural communities" (The South African Craft Industry, 1998). The

department of Trade and Industry has marked SME's to contribute to the South African GDP by a total 34% (Beck & Demirguc-Kunt, 2006) with a total formal employment contribution of 60% (Beck & Demirguc-Kunt, 2006). In addition, the official unemployment rate in South Africa is 27.5% and has continued to rise over the decades (ibid) Looking at the statistics of SME's in South Africa in relation to the unemployment rate, it can be argued that SME's need to be sustained and supported in South Africa in order to assist in alleviating the unemployment rate.

2.3.2. Definition of a Value chain

A value chain is described as a range of activities that take place in series in order to produce and deliver a product or service to a customer and consumer (Thompson, et al., 2017). According to Thompson, et al (2017) it is imperative that a value chain is understood for the following reasons:

- The growth of labour and distribution of products across different locations is important as these drive the economy
- Efficient production is important in penetrating global markets
- Entry into global markets will enable other countries to have a sustained growth. This will require a deep understanding of the transient factors along the whole value chain

A schematic diagram describing a beer value chain can be seen in Figure 2.4

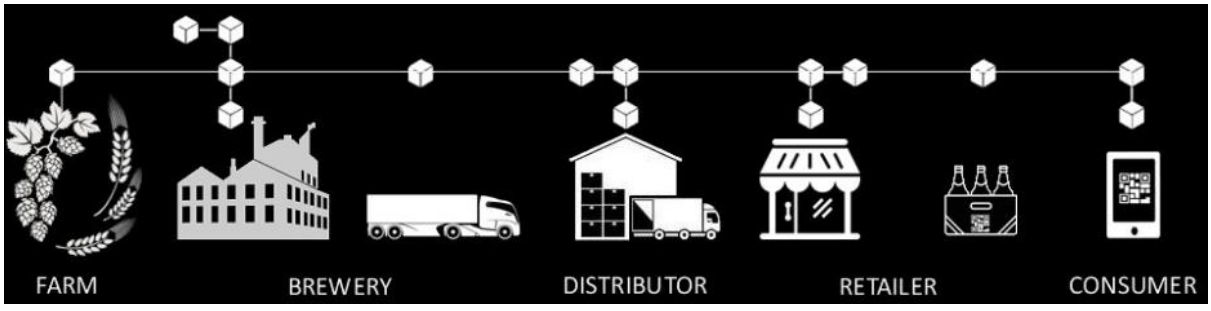

Figure 2.4: Craft Beer value chain (Farn, 2006)

Whereby the value chain consists of the following stages

- *Sourcing of raw material (Farm)*: farming and production of raw material products which includes the use of pesticides, fertilizers and chemical ripening. The raw material will then be sourced via ship or road to the different breweries (Farn, 2006)
- *Production (Brewery)*: production of beer via the various process units at the brewery, research and development of the beer, production of the beer and packaging of the beer (ibid)
- *Distribution*: receiving of the final packaged beer from the brewery and distribute to the various distribution centres for temporary storage. The purpose of the distribution centre or depots is to enable the customer to buy in bulk (ibid)
- *Retailer (Customer)*: beer product distribution to different customers i.e. retail markets stores or wholesalers (ibid)
- *Consumer:* consumer will be the final stage whereby the product will be bought by the consumer from the retail stores for consumption (ibid)
- *Recycling*: this process entails the consumer returning some recyclable bottles back to the value chain through recycling i.e. plastics or recyclable glass (ibid)

For the beer industry, it is imperative that their supply chain is balanced throughout in order for the owner/managers to able to respond to risks, market shifts, maintain low costs and high product integrity in a proactive manner (Guido, 2019). In order to have an effective supply chain management strategy, you will need the right tools to track, analyse and interpret relevant data (ibid).

Globalisation is defined as "a process of interaction and integration amongst people, companies and governments of different nations; a process driven by international trade and investment and aided by information technology" (Savrul & Incekara, 2015). This process has a direct effect on the economy, environment as well as the well-being of society. The greatest contribution of globalization is an integrated value chain network across many different industries across the globe (ibid). Globalisation has improved economies of developed as well as developing countries and it has seen local organizations increase in profits, secure long-term lucrative contracts internationally which has in turn has improved the livelihood of millions across the globe(ibid). The manufacturing industry in particular has been the major contributor to globalization dating as far back as the 18th century (Savrul & Incekara, 2015).

Value Chain Development (VCD hereafter) can support the economies of developing countries and create employment through strengthened enterprises, business relationships, improving market structures and the business environment (Saarelainen & Sieve, 2011). It can also assist in the development of local micro and small enterprises and help in overcoming challenges such as poor access to the market and limited bargaining power (ibid). In order to enable micro and small businesses to overcome the abovementioned challenges, a dialogue between the local community and the government is required in order to enable VCD with the aim to build Local Economic Development (LED hereafter).

On a micro level, the participation of SME's in the Value Chain locally and internationally is beneficial in the following manner (Zhang & Bayhaqi, 2013):

- Enhances technical capability for production of goods (Zhang & Bayhaqi, 2013)
- An SME that is in partnership with a large corporate (on the supply or distribution side) means that there will be demand for their product or service and this can be satisfied and will in turn build credibility for the SME (ibid)
- A strong SME sector is positively linked to economic growth as it is considered as one of the characteristics of fast growing economies (ibid)
- SME participation in the value chain is a tool for job creation for local economies(ibid)
- Strong value chain networks can allow SME's to export together and will in turn allow a sustainable way of internationalizing SME's(ibid)

It is imperative that the activities of the value chain of a particular industry are well understood in order for a business owner to be successful in their business. Ultimately, a buyer wants to buy the best product, at the best price with short delivery times (Saarelainen & Sieve, 2011).This requires that the business owners create effective dialogues with the key stakeholders that operate within the value chain which will in turn allow the knowledge to flow across the product chain and make value chains more inclusive for the SME (Saarelainen & Sieve).

Figure 2.5 depicts the different factors that affect the value chain of any industry and the factors that need to be considered by SME's. As can be seen, there are various stakeholders that are involved along the chain and it is to the benefit of the SME owner/manager to familiarize

themselves and better understand the local context of their industry specific value chain in order to avoid pitfalls and failures.

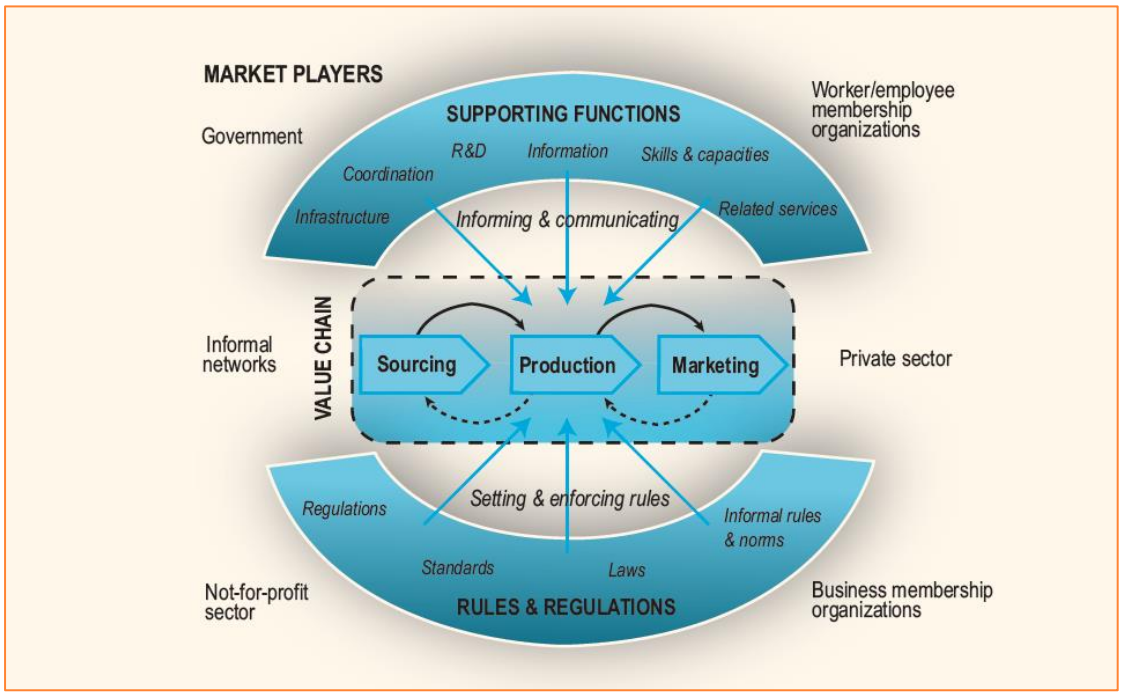

Figure 2.5: Factors within a value chain *(Saarelainen & Sieve, 2011)*

VCD and LED complement each other as they are inter-dependent on each other. Businesses do not operate in isolation and it is imperative that businesses take into consideration the local markets, the economic frameworks and the social factors that encompass these markets and vice versa (Saarelainen & Sieve, 2011). Figure 2.6 shows that there are arrows between the nodes that run in the vertical direction. These nodes represent the different phases of a value chain and the arrows represent the activities that link up the different phases of the chain in order to deliver the products and services that are traded. The figure is a representation of the factors that influence the delivery of a product or service and the factors that need to be considered by the different parties that are involved in that sector (Saarelainen & Sieve). All the arrows that point into the nodes from the outside are a representative of the local factors that are a player in the specific chain such as regulatory compliance, excise duties and new SME's. An inter-dependent relationship analyses needs to be conducted in order to understand the impact on both the main players in the node and the external factors that are outside the nodes (Saarelainen & Sieve). For example, in the craft beer context, the new SME owner would

need to understand their potential raw material supplier and their pricing context given SAB-ABInBev procures 84% of the beer raw material (Herald, 2017) to support their large volumes vs volumes of a new Craft brewery. This would require that new craft SME owner opens conversations with the potential supplier to negotiate the prices down. Thus, the LED of a local community can be established through a new craft brewery and this will potentially drive the participation into the value chain. As can be seen in Figure 2.6, the "chain actors" represent a craft SME and is a depiction that SME's are able to have a direct effect on the local value chain if they align their business models such that they are active players in the market.

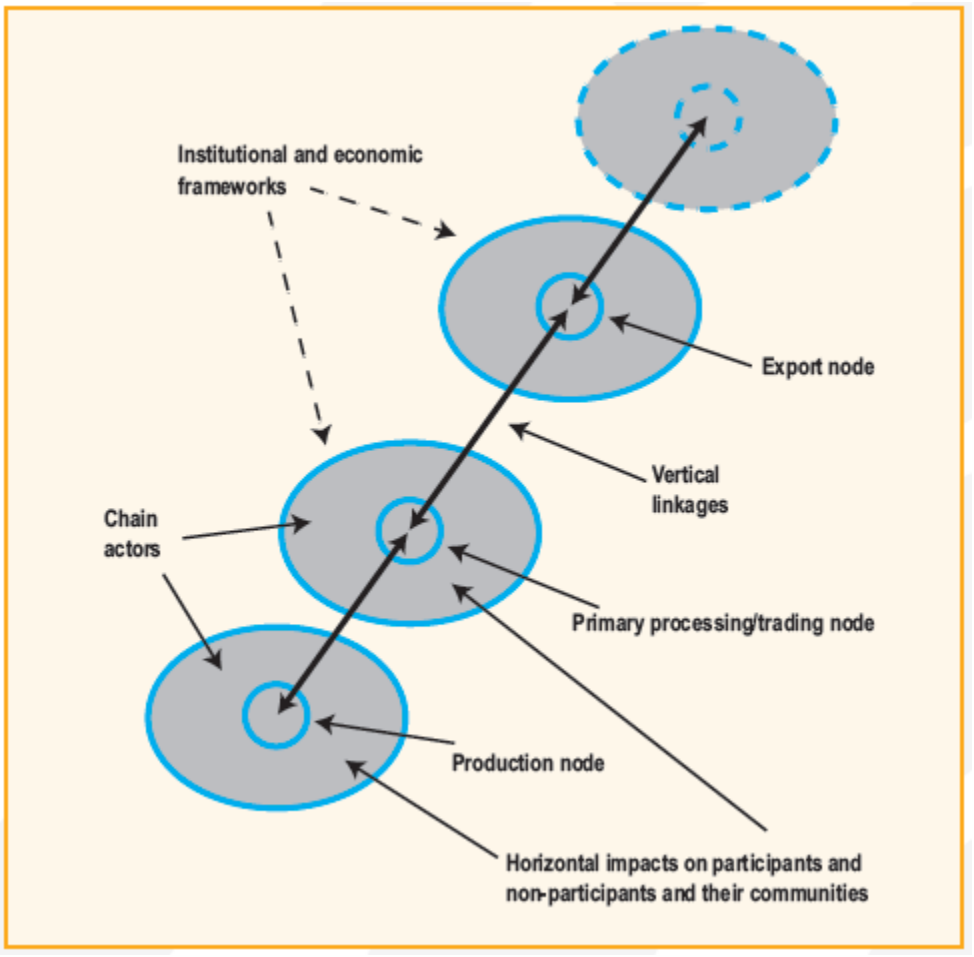

Figure 2.6: Value Chain Analysis for a local community *(Saarelainen & Sieve, 2011)*

Figure 2.7 depicts how a local value chain can then contribute to the global value chain through a combination of exports and imports. This means that once an SME is an active player in the local value chain, then there is high probability that they can also contribute to exports and ultimately contribute to the Global Value Chain. The analyses of a business specific value chain will uncover activities that over-lap within the chain and the impact that this will have on their

business. Often times, value chains are rarely limited to one area and often cross into local and national borders (Saarelainen & Sieve, 2011).

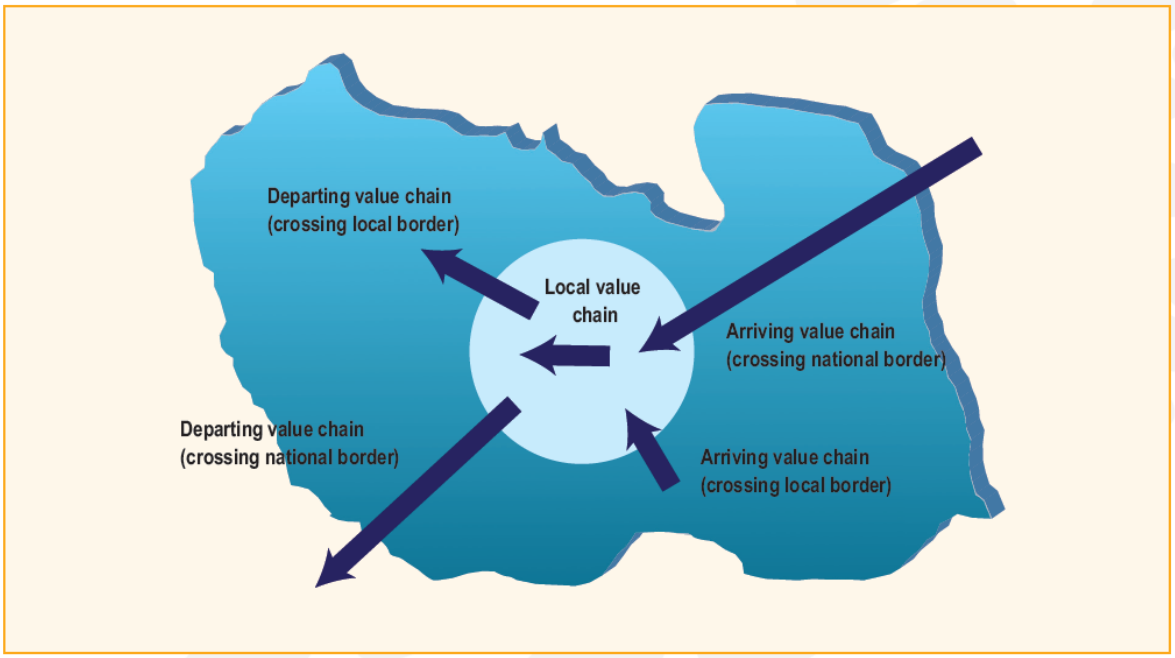

Figure 2.7: How to contribute into the Global Value Chain

2.4.Status of SME's in today's business environment

2.4.1. Craft Brewery Challenges

The status of SME's refers to the current involvement of SME's within the value chain. According to the Organisation for Economic Co-operation and Development , the South African manufacturing sector contributed a maximum of 11% to the Global Value Chain in 2009 (Gregory, et al., 2013). Similarly, the SA manufacturing sector contributed a maximum 11% in 1997 (ibid). The low and stagnant contribution of the manufacturing sector to the Global Value Chain means that manufacturing SME's are playing an even smaller role in the GVC, if any. Data has shown that the contribution of South African SME's to the global value chain remains a challenge and is estimated at a maximum of 2% to date (Leshou, 2017), which is relatively low compared to other developing countries who have a contribution of up to 22% (Ulaanbaatar, 2013).

Research has shown that the low contribution to the value chain is largely related to the fact that SME's have a high failure rate of up to 60% within the first 2 years of start-up (Cant, 2012)and this failure rate is connected to the types of challenges that SME's encounter in operations (Belinskaja & Velickiene, 2015) which are external and internal:

2.4.1.1.External challenges

These are factors that are external to the organization and not within the control of the owner-manager such as stringent regulations, governmental politics, disruptive Innovation, corruption as well as the macro-economic environment to name a few.

i. **Access to raw material ingredients**

The key raw material ingredient for beer are malt or barley, yeast, hops and water and the quality of these ingredients is imperative to the final product beer. South Africa Breweries – ABInBev Hops division; one of the largest Hops produced in the Southern Africa (Herald, 2017) with a few private farmers; produce a total of 855 tonnes annually of hops, of which 715 tonnes is for SAB-ABInBev. Craft breweries leverage on SAB volumes for economy of scales and cheaper unit costs at 20 tonnes annually (ibid). Economists, however, have raised concerns that a market that has an SME procuring from a "vertically integrated competitor" and that the competitor (in this case SAB-ABInBev) may raise the competitors (in this case the craft brewer) supply costs (Banda, et al., 2015). Should the abovementioned occur, the craft brewer may have to import their raw material and they will be subjected to import taxes as well as other additional import complexities which can in turn pose an operational risk from a raw material supply perspective.

ii. **Access to Capital**

Capital expenditure investment is a key driver for a new entrepreneur to enter into a new market, mainly to invest in equipment and labour force as well as logistical costs (Beck & Demirguc-Kunt, 2006). SME's need financial assistance for the first few years post start-up until the business starts to generate revenue. The options for financial assistance are the following:

Overdraft:

This is a cost-effective financial assistance method because it has low interest rates. However, the down side is that it requires full surety from the requestor even on a personal capacity, which in often instances the SME owner does not have the capability of signing this surety (Beck & Demirguc-Kunt, 2006).

Invoice discount:

This form of a loan means that the business must receive cash-on-delivery of service/goods (instead of waiting on a 30-60 day payment term) and the SME will sell individual invoices to the financial service provider and in turn discount the client. The disadvantage of this form of credit is that the interest rate can be as high as 36% per annum which can in turn affect the cash-flow of the SMME (Beck & Demirguc-Kunt, 2006).

Factoring:

The factoring facility involves the business selling all of its accounts receivable to the bank or the factoring company for which the seller will receive 75% to 80% of the invoices once the service or goods are sold at a service interest rate of 2% - 6%. The balance of the 25%-20% will be paid to the factor or balance once the full invoice has been received or paid to the seller i.e. SME over the payment term. The disadvantage of this form of the credit finance is because the size of the factoring service and audit compliance costs drives up the overall operational costs of the business (Beck & Demirguc-Kunt, 2006).

Even though there is a variety of funding options that are available for SME's, there is still a high rate ofresistance from lenders to assist new SME's. This is primarily driven by the fact that lenders are not confident in providing credit to business proposals presented by SME's and generally view SME's as high risk (Maye, 2014). The high risk usually pertains to the business proposal being perceived as an industry that is over-saturated, a business idea that is unknown or even a proposal that is associated with high commercial and technical risks (Love & Roper, 2013). Lack of access to funding is one of the key drivers for the lack of SME growth as well as failure of SME's in South Africa (Love & Roper, 2013).

In the CBI context, the total cost of setting up a new craft brewery can range from R1.5Million for procuring used equipment for a small brewery capacity of 117L system all the way up to R14Million for a brand new brewery equipment with brewing capacity of 35HL (Nicastro, 2016).

iii. Innovation

The growth of technology has seen the improvement of the livelihoods of the ordinary citizen as well as increasing business's efficiency for conducting business. However, over time, more organizations would eventually use the same technology trend which in turn gave the customer/consumer options in choosing their product or service (King & Baatartogtokh, 2015). The availability of options for the customer/consumer is not ideal for competitors and this poses as an operational risk. Over time, organizations have learnt to realise that using the latest technology is not the sole method for winning over a greater market share, but it is to actually analyse the market gap, understand the needs of the market and gain equity through innovation, particularly, disruptive innovation (King & Baatartogtokh, 2015).

Innovation can be classified into two categories, namely sustaining innovation and disruptive innovation (King & Baatartogtokh, 2015)

Sustaining Innovation is the introduction of a new product/service that serves the need to sustain the current product/service, but a better and improved model (King & Baatartogtokh, 2015). The purpose of Sustaining Innovation is to attract the same target market with the aim to win a share the competitors' market base. A classic example would be Nivea Deodorant products that conquered Shield deodorant products. Nivea managed to analyse the needs of the African deodorant consumer and filled that gap by producing African specific Deodorant products hence they are the best deodorant brand in Africa.

Disruptive Innovation, on the other hand, aims to create a product or service that will make the current ones obsolete, less favourable and at a competitive price (King & Baatartogtokh, 2015). The primary purpose of disruptive innovation is to create aggressive products and services that will not only increase the organizations profit but will also attract a whole new market over

and above the existing market base whilst increasing the equity share. Clayton Christensen, author and creator of disruption theory defines a disruptive innovation as: “a product or service designed for a new set of customers”. (Christensen, C. Key Concepts, 2015). An example of disruptive innovation is the creation of the Uber rides versus the meter taxi. The Uber business created a platform where a passenger can have access to a taxi ride, anywhere in the country, anytime and at a lower taxi fare through an Application on a mobile phone. Whereas, the traditional meter taxi business required one to know meter taxi contacts for that area before using their taxi service. The Uber business disrupted the public transport taxi business by making meter taxi’s less favourable which ultimately translated to the meter taxi market migrating to Uber. These 2 types of Innovation models is proven to be a great tool for an organization that is focused on growth and development.

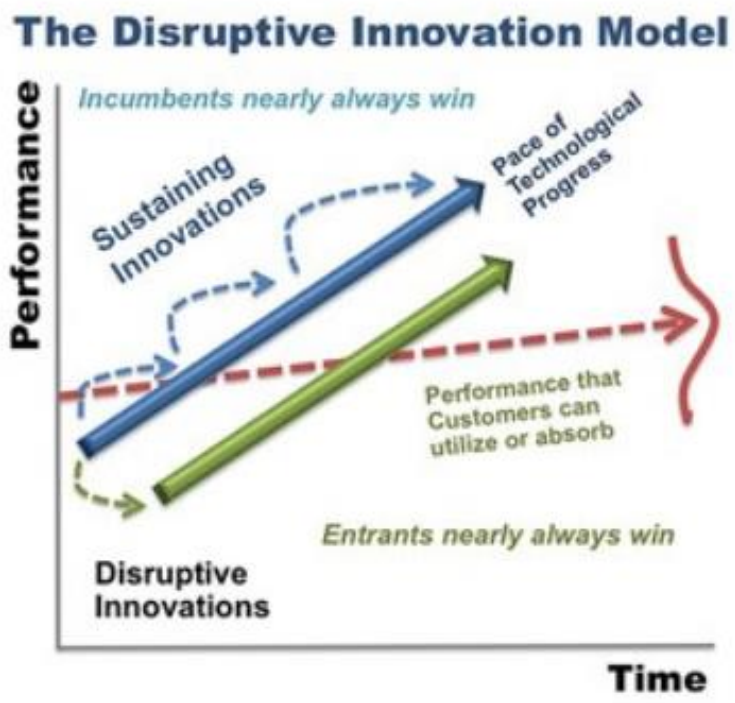

Figure 2.8: The Disruptive Innovation Model

(King & Baatartogtokh, 2015)

The Disruptive Innovation Model is a high risk for both large and small organizations because it will re-shape how a business will operate in comparison to their competitors (Isomäki). For example, the organizational

structure might be composed of a lower head-count as there is better technology methods that can perform the job of 10 people and this in turn relates to lower operational costs. An example is the Palletizer machine that can replace 42 human heads down to 2. According to (King & Baatartogtokh, 2015)**,** reactive methods for managing disruptive behaviour for the markets are the following:

i. SME's to " Chase the Market"

ii. "Find new markets based on experience and research"

iii. Assess business performance continuously and Perform a risk assessment by asking these questions

a. "What actions might our competitors take tomorrow that would keep me awake at night (in fear)?"
b. "What new technology could potentially destroy our business model?"
c. "What new legislation could potentially destroy our business model?"

The key idea is for disruptive innovation is for SME organizations to fully understand the market's needs and areas of improvement, better known as "low-end disruption" and for them to partner with larger firms to better affirm and penetrate the idea into the market. A thorough study of the market can even be conducted through surveys in order fully understand the market trends. In this manner, SME's will not be caught off-guard by larger firms, or even similar sized firms and they can stand a chance to be on the competitive edge (King & Baatartogtokh, 2015).

Within the CBI in South Africa context, the number of craft beer manufacturers has grown from 30 in 2013 to 215 in 2018. This in turn means that the competition is much steeper and therefore will require each microbrewer to be more Innovative (Corne & Reyneke, 2013).

iv. Regulatory Compliance

The National Small Business Chamber is a national non-profit organization that is aimed at supporting the growth and sustainability of SME's in South Africa. The organization offers services such as advice on how to start up a SME business

successfully. One important advice it reinforces to new SME owner/managers is the importance of complying with the different legislatures. The main regulations that are required to be complied to are the following:

- *Municipal Laws*: new business owners have to adhere to any municipal laws that are present. Any business that will affect the community in any type of way will have to gain permission from the relevant municipality to carry out their services in a manner that will be respectful to the community. A brewery can't be within certain parameter of a church or school (Pillay, et al., 2019)
- *Tax*: New businesses must ensure that their business are registered with SARS as well as their employees. Registration with SARS ensures that the business is taxed as well as the employees. This is an additional cost to the business and can be a costly to an SME, which is not ideal for growth (Pillay, et al., 2019)
- *BBBEE Compliance*: B-BBEE is a framework that ensures that there is diversity and equality in the workplace. B-BBEE is measured on the business as well as its customer and/or clientele base. Likewise, both the client and service provider need to be compliant with B-BBEE regulations. A healthy B-BBEE scorecard ensures that your business is at the forefront in the market, and formally trades within the market; able to bid for Government tenders as well as have tax incentives and financial grants. The disadvantage of attaining a low B-BBEE score card is the risk of losing credibility and potential clients not doing business with you as they would rather not be associated with a non-compliant service provider. Thus, new business need to ensure that they attain high B-BBEE scores in order to ensure growth after start-up and sustainability in the market (Dr.Davies, 2018).

  Please refer to Appendix O and Appendix P for more comprehensive B-BBEE Compliance Levels
- *Labour Law*: Business owners need to familiarise themselves with the Labour Law and ensure that they are enlightened about working hours, leave, payment terms and exploitation between employee and employer. Companies also need to ensure that their companies are registered with the Department of Labour as this body ensures correct governance between employer and employee. In addition, employers are also penalised if their employees are not formally trained to carry out the work and it lies on the employer if their staff is not duly equipped with the correct training. This ultimately relates to additional costs for the employer (Pillay, et al., 2019)

- *Consumer Protection Act*: the Consumer Protection Act is a regulatory body that ensures that there is fairness between the service provider and the consumer. The owner/manager needs to be aware of the clauses that pertain to this regulation so that the expectations from either part is clear (Pillay, et al., 2019).

- Beer Manufacturing Legislation Compliance costs

    i. Excise tax:

In America, excise tax was charged at $9/barrel in 1978 and those craft brewers that produced more than 2Million barrel/year would be charged $7/barrel, which was an advantage to craft brewers (Williams, 2017). However, over the years, the exponential growth of the beer market saw an increase in excise tax costs to 18$/barrel for volumes up to 2mllion barrel/year in 2017 (Williams, 2017). This has since caused the craft beer market to be stagnant due to the increased tax burden. On average, the American beer drinker contributes more than 40% to towards tax and this has in turn caused the average craft brewer to incur increased operational costs (Williams, 2017). The high excise tax is applied the same way to every state and they in turn affect the cash-flow of the craft brewer as they are now constrained with less money for equipment, marketing and sales activations that would otherwise assist in brand awareness to the consumer and revenue generation (Williams, 2017). SARS has also issued the payment terms for breweries that produce certain volumes and this can be seen in Appendix Q.

ii. Manufacturing license:

In order "to operate a microbrewery and manufacture liquor and sell it for retail purpose, a standard "micro-brewery manufacturing liquor licence" is required from a National Liquor Authority (NLA hereafter) Act no 59 of 2003 (Dr.Davies, 2018). This authority issues registration certificates for the sale and supply of liquor, which can be split into two main categories namely on-consumption licences (restaurant//tavern) and off-consumption licences (micro-brewery/liquor store/wine grocer)".

A Liquor license can be requested by a company or an individual from the NLA whereby the location and building plans will need to appropriate and is least 500 metres away from places of worship, educational institutions, schools and/or other similar facilities (Dr.Davies, 2018). Should the brewery wish to host guests, then the parking area will be assessed for space. Also, the brewing equipment will also be assessed as

appropriate for brewing according to the Health and Safety standards (Dr.Davies, 2018).. Each application will be thoroughly screened for compliance before it can be approved and any non-compliance will reduce the chances for a successful liquor license from the NLA (ibid). Please refer to Table 2.2 for comprehensive details.

The total costs of setting up a new craft brewery from used equipment is R2.8Million (Nicastro, 2016) for a small brewery of capacity of 117L (1 barrel) system. A completely new brewery with new equipment can cost up to R14Million of 3 500L (30 barrels) as can be seen in Figure 2.9 (Nicastro, 2016). The regulatory costs that pertain to the liquor license are tabled below. A liquor license is granted to a beer manufacturer that produces malt beer and sorghum (Dr.Davies, 2018). Refer to Appendix N for the influential factors pertaining to opening a new Craft Brewery and the associated costs.



Figure 2.9: Cost of a new brewery for different sizes

(BrewersAssociation, 2019)

Table 2.2: Liquor Licence fees for beer manufacturing at different volumes *(Dr.Davies, 2018)*

Annual Turn-over ZAR / annum	**< 5Million**	**< 5-15 Million**	**< 15-250Million**	**< 250-1000Million**	**> 1000Million**
Application	R500	R 1 000	R 7 500	R 10 000	R 25 000
Initial registration	R2 000	R 4 000	R 5 000	R 7 500	R 15 000
Notice to review	R500	R 1 000	R 7 500	R 10 000	R 25 000
Annual renewal of registration	R2 000	R 4 000	R 5 000	R 7 500	R 15 000
Variation to initial registration	R1 500	R 3 000	R 5 000	R 7 500	R 15 000

v. Distribution to retailers

A craft brewer needs to ensure that their beer reaches the consumer and this is often the challenge for many brewers, especially for the lesser known craft brewery brands. A forum held for Craft Brewers in London in November 2017 noted that the unique "branding and shelf appeal" are the key to attracting a new consumer along with quality and unique taste of the beer (Thorburn, 2017). The fact is that "pubs, bars, and distributors want to know what makes a beer stand out from the rest – and they need to know that consumers will like it" (Thorburn, 2017). Thus in order for a craft brewer to break into the market, they need to ensure that they build reliable networks with distributors and national chain owners in order to drive their product into the market. The distributor and the national retail owners must also ensure that there is reliable storage facilities that can house the craft beer so that it does not spoil before the shelf-

life (ibid). A good network with the distributor and the national retail owners retailers can in turn be a great platform for Craft Beer SME's to enter the value chain via the retailer. The craft brewers in South Africa often do not have the means to form these networks due to the excess costs involved and they would rather deliver from their own independent logistical means or private trucks (ibid).

In addition to reliable networks, an alternative route-to-market are restaurants, pubs and bars. Beer distribution in restaurants and bars is sold from draught taps and contributes a total of 20% of total distribution for large beer companies whereas for micro beer draught this number is 80%. The balance is distributed in taverns and large retailers. In order for a brewer to set up a draught tap with a restaurant, an estimated ZAR20k per tap is required for installation excluding the maintenance of the tap (ibid). In order to drive growth and be on the competitors' advantage, a few taps will be required per restaurant. An option of renting a tap is also available, however, the restaurant will bank in 50% of the revenue from the sales of their beer sales[1], which puts their cash-flow at a disadvantage (Thorburn, 2017) .

vi. Brand awareness

Brand awareness is a key factor for new start-up craft SME's. The only way for your product and or service to grow amongst the target market is for the target market to be aware of the product or service that the SME owner/manager has to offer (Green, 2015). While the traditional beer festivals and social gatherings were the major platform for one to introduce their beer, however, these platforms are increasingly becoming more saturated and limited for new Craft beer SME's. The digital marketing space is increasingly becoming the platform that is being utilised for brand awareness (ibid). The various digital marketing platforms have proven to be a success for some craft SME's. A survey that was conducted in London revealed that new consumers "search online for pubs that stock a specific craft beer and have digitally shared a picture of craft beer with their online network. A third of craft drinkers are influenced by a design of a brewery's website and visit the sites to find out more about the brand (ibid). This is supported by other studies that have found 74% of craft beer drinkers' research on mobile first before buying. A third of craft drinkers are influenced by a design of a brewery's website and visit the sites to find out more about the brand. This

is supported by other studies that have found 74% of craft beer drinker's research on social media platforms first before buying. (Green, 2015).

vii. Technology Advance

The growth of technology over the past years has made it virtually impossible to exist without it as this is the key medium that connects us to the world instantaneously. The adaptation to technology is therefore key to the success of any business and competes internationally (Zulkiffli, 2009). However, most SME's are unable to incorporate technological developments into their business due to the lack of technological knowledge; high cost of technology maintenance and the complex nature of Information Technology (ibid). The lack of technological development is a contributing factor to a low contribution to the vale chain (ibid)

The tendering system has evolved over the years and this has had great benefit to many business owners (Atkinson, et al., 2012). However, most SME's have regarded the public-sector tendering system as inaccessible and too complicated (ibid). As such, this is a limiting factor for SME's to be visible to potential buyers (mainly large corporates) and therefore to contribute to the value chain (Atkinson, et al., 2012)

2.4.1.2. Internal challenges

Challenges that are within the control of the owner-manager such as geographical factors, lack of managerial skills, lack of functional skills (finance, planning, people etc.), to name but a few

i. Quality Control

Quality control and consistency is imperative in the Food industry across the globe as it is a gate-keeper of the health and safety of food for consumers. Quality control requires laboratory equipment to test the cell content of the food at micro level (Green, 2015). Quality control is often a challenge for craft brewers due to the lack of affordability for laboratory equipment to conduct quality control tests. Some of the craft brewers do not have the funds to even send their beer samples to accredited laboratories to perform the tests[1]. On some occasions, beer is incorrectly marked or not marked at all for the expiry dates (Green, 2015) . On other instances the bar

staff is not equipped with knowledge on how to store beer in a proper manner (ibid). This is a challenge for the small scale brewers as the lack of quality controlled is often a threat to the success to their business

a. Financial Management Skills

It is of paramount importance that financial management is fully understood when operating any type of business. The financial statement and cash-flow of an organization is the key determinant of a successful business; if there is more debt than profits, then a business is headed for liquidation (The South African Institute of Chartered Accountant, 2016) . Business owners not only have to execute their idea in the market and drive growth and volume, but will also need to understand the financials of the business, especially in SMME's because the owner/manager is most times the financial manager also. A study was recently conducted by the South Africa Institute of Chartered Accountants (SAICA) to gain better insight of SMME's in South Africa and the complexity of owning an SMME. From the study, it was established that the predominant factor pertaining to SMME failure is the lack of financial management. Please refer to Figure 2.10. The figure shows the lack of cash-flow management is the leading reason that relates to SMME's to fail. This means that financial skills gap is a risk to the sustainability of a business (SAICA). SME's need to be equipped with financial methodologies and tools that can assist them with managing financial risks SAICA).

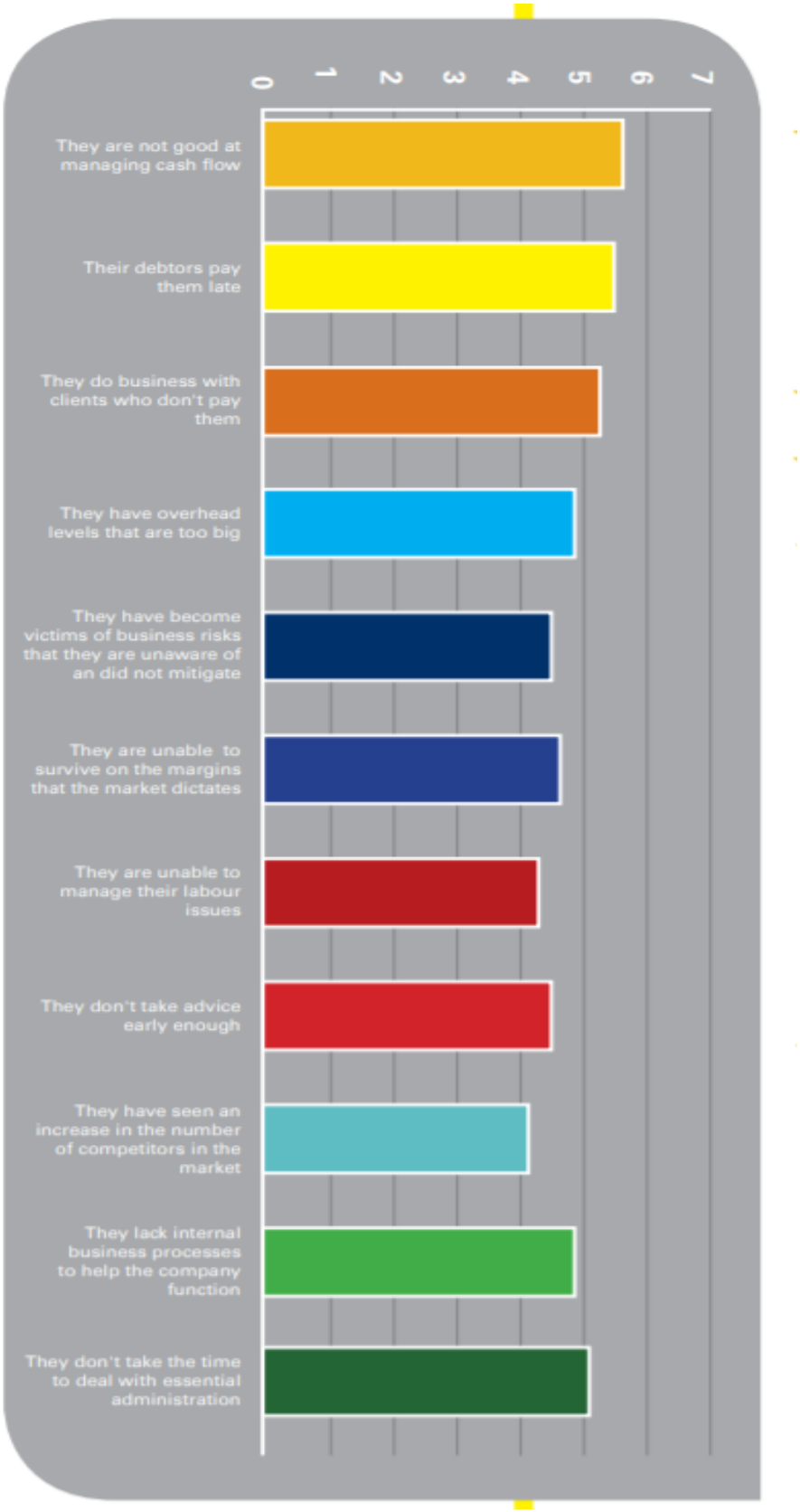

Figure 2.10: Financial Challenges that causes SMME's to fail

(The South African Institute of Chartered Accountant, 2016)

b. Geography

Geographical factors play a major role in the success of a business. A new business owner has to ensure that they have chosen the correct location to conduct business. For example, if a supplier is too far from the operating site, then there will be additional logistical costs incurred which means that there will be higher operational costs that will affect the income statement of the business (Williams, 2017). Likewise, if the service or product that you are offering to the customer or consumer is too much of a distance to travel, then the less likely that customer/consumer will invest in your business. Thus, it is important that one chooses the ideal location for their business (Williams, 2017).

c. Crime and corruption

Research has shown the importance of SME's, particularly in developing countries, as they are the main source of improving the socio-economic climate and reducing unemployment (Industry, 1995). In addition, Globalisation has bridged the distance gap so that business is conducted much more efficiently. The combination of SME's and globalisation is a platform for SME'S to expand their business to foreign land (ibid). Over time, developing markets is an attractive hub for foreign investors for business. However, business operations between international investors and SME's in developing countries have often been associated with illegal bureaucratic operations between state agents and businesses (ibid). This type of behaviour is a growth barrier to SME's because there will be limited fair competition in the market as wells as lack of economic freedom (Industry, 1995). The other disadvantage is that SME's might feel the pressure to be involved in corruption and illegal practices in order to stay afloat. With the increase of controls such as the Strengthening World Bank Group Engagement on Governance and Anticorruption (GAC) strategy as well as the Foreign Corrupt Practices Action. 1 under US Department of Justice and Security and Exchange Commission, SME's will now run the risk of losing their credibility and business license if they are caught by officials (Industry, 1995).

2.4.2. Craft Brewery Opportunities

There are opportunities that have been identified for SME's to succeed and in turn contribute to the value chain of South Africa. These include the following:

2.4.2.1.Competition

The existence of competition can be seen as a key driver for SME's to deliver the best product or service which can in turn can be a platform for them to penetrate into the wider value chain. According to Balkytė & Tvaronavičienė, a competitive advantage pertains to "the ability to produce beer and services of the right quality at the right price, at the right time" (Balkytė & Tvaronavičienė, 2010).

If a certain sector is saturated with business of the same nature or product, then these businesses are likely to form a close-knit supply chain network whereby they have the same supplier base in order to reduce competition amongst them (Caspari, 2003). However, some large corporates will break out of this network and seek SME's. The strategy of seeking SME's to partner with will reduce supply chain and overhead costs which will in turn reduce the price mark of their products (ibid). A lower price is more likely to attract a higher customer base, which increases revenue and thus a sustainable channel for SME's within the value chain. Thus, competition within large firms is an opportunity for SME's to penetrate into the market and be sustainable (Caspari, 2003).

The story of Soweto Gold has proven that SME's have the potential to be competitive against giant corporates if their products or services are unique enough to fulfil a market that has gaps. In addition, the partnering of SME's with large corporates is an example that large corporates are willing to support SME's with business growth and wider recognition with a mutually beneficial relationship for both parties (Caspari, 2003). This partnership has the potential of catapulting Soweto Gold beer into the global markets and therefore the increasing the potential of Craft Beer SME's contributing into the value chain and ultimately economic growth for South Africa.

2.4.2.2.Nature of the product value chain

The nature of a value chain for a specific product is another determinant of SME inclusion. If a product is well-known and has a high customer base, then this means that the firm that

distributes or sells this product cannot afford an out-of stock event. Most large firms are most likely to have a same-source supplier due to reliability of the supplier and lower supply chain risks (Caspari, 2003). Within developing countries, lower supply chain costs are key to efficient distribution. Buyers or large corporates from developing countries are willing to invest in SME's with the necessary skills to enable them to supply them at a lower cost and meet their demand (Caspari, 2003). Thus, if more SME's are given a platform to supply, then they stand a greater chance of survival in the business environment.

2.4.2.3.The involvement of large manufacturing companies with SME's

In contrast to the above mentioned factors, some corporates are willingly investing in SME's and these are not for price-related reasons (Caspari, 2003). These investments are in the form of strategic business opportunities in order to drive the agenda of commitment to the local business economy upliftment and share their knowledge and products with the wider value chain; participation of public-private enterprise relationship; support in-house education and to train workers with technical skills and demand of new market input and innovative creations (ibid).

Within the South African context, there are platforms whereby large corporates strive to assist SME's such as Incubator programmes (Small Business Connect, 2018), SME workshops that are hosted across the country as well as funding programmes (ibid). These programmes are mainly providing support for SME's to gain more knowledge about the business environment (ibid). Even though there are support programmes for SMEs', it can be inferred that there is still a demand for SME's to gain entry into the value chain across the various sectors as the contribution is still very low.

2.4.2.4.Impact in the development of other industries

The craft sector has been identified as the link between a number of industries such as the tourist industry and the formal manufacturing industries. These industries have a direct impact on the craft industry and they are conversely impacted, through the following ways

i. Supply and distribution chains: the provision of cheaper raw materials or finished products for sale (The South African Craft Industry, 1998)
ii. Joint products: combined industrial and handicraft products e.g. Soweto Gold Beer or Carol Boyes or a "tourist experience" (The South African Craft Industry, 1998)

iii. The shaping of demand patterns: Products introduced by the informal sector and taken on later by the formal sector when the market becomes visible and the volumes viable (The South African Craft Industry, 1998)

There is great potential for stakeholders across the brewing value chain. However, this will be continually limited if there is no involvement of large corporates for integration into the global value chain (Corne, 2018).

It is evident from literature that the small business sector plays a pivotal role but their growth is clouded by challenges that prevent them from contributing to the value chain.

2.4.3. The Impact of Challenges & Opportunities in the Manufacturing Value Chain

Further studies have attributed the low contribution of SME's in the value chain to the lack of SME's understanding the value chain of their product (Saarelainen & Sieve, 2011). The problem relates to the fact that SME's fail to analyse and assess their value chain in order to identify key entry points into it (ibid). They need to adopt the value chain business model approach and "address all stages in the value chain delivery process to identify factors that can hinder or can enhance competitiveness" (Wholesale and Retail Leadership Chair, 2014).

Research has shown the importance of SME's, particularly in developing countries, as the main source of improving the socio-economic climate and reducing unemployment. As far back as 1995, the White Paper of National Strategy for the Development and Promotion of Small Business in South Africa (1995) highlighted the fact that "Small, medium and micro enterprises represent an important vehicle to address the challenges of job creation, economic growth and equity in our country" (Industry, 1995). Since the publishing of this paper in 1995, South Africa has become an attractive hub for foreign investors for business (Atkinson, et al., 2012)

In the CBI context, the growth rate of craft breweries has gained momentum over recent years in South Africa. According to BrewMistress' beer blog for South Africa, the number of craft breweries has exploded from 5 craft breweries in 1986 to more than 200 by the end of 2018. (Corne, 2018). In the past 5 years alone, there has been more than 150 new craft breweries that were formed in South Africa alone and about 4 in Africa, namely in Namibia and Botswana (SA Craft Breweries, 2019). The Director of Canadean's Beer Service, Kevin Baker, states "Africa offers huge potential for new brewers. Although the market is already dominated by

four brewing groups, and it may appear difficult for other brewers to gain a foothold in the region, the growth potential could offer opportunities for new players to enter the market". Even though there has been a massive growth rate of craft brewers in South Africa, there has been major failures within the same time frame as well and this is driven by the lack of knowledge of craft beer to the consumer, cheaper pricing compared to larger commercial beer organizations, resistance from retail stores to sell craft beer, to name a few (Corne, 2018). The presence of the commercial breweries compounds the growth rate of the CBI and this will in turn will require great market influence and revolution in order for the CBI to not only survive but actually succeed (Miller, et al., 2019).

The Homebru.net has a blog that updates the footprint of Craft Brewers in Africa. Please see Figure 2.11

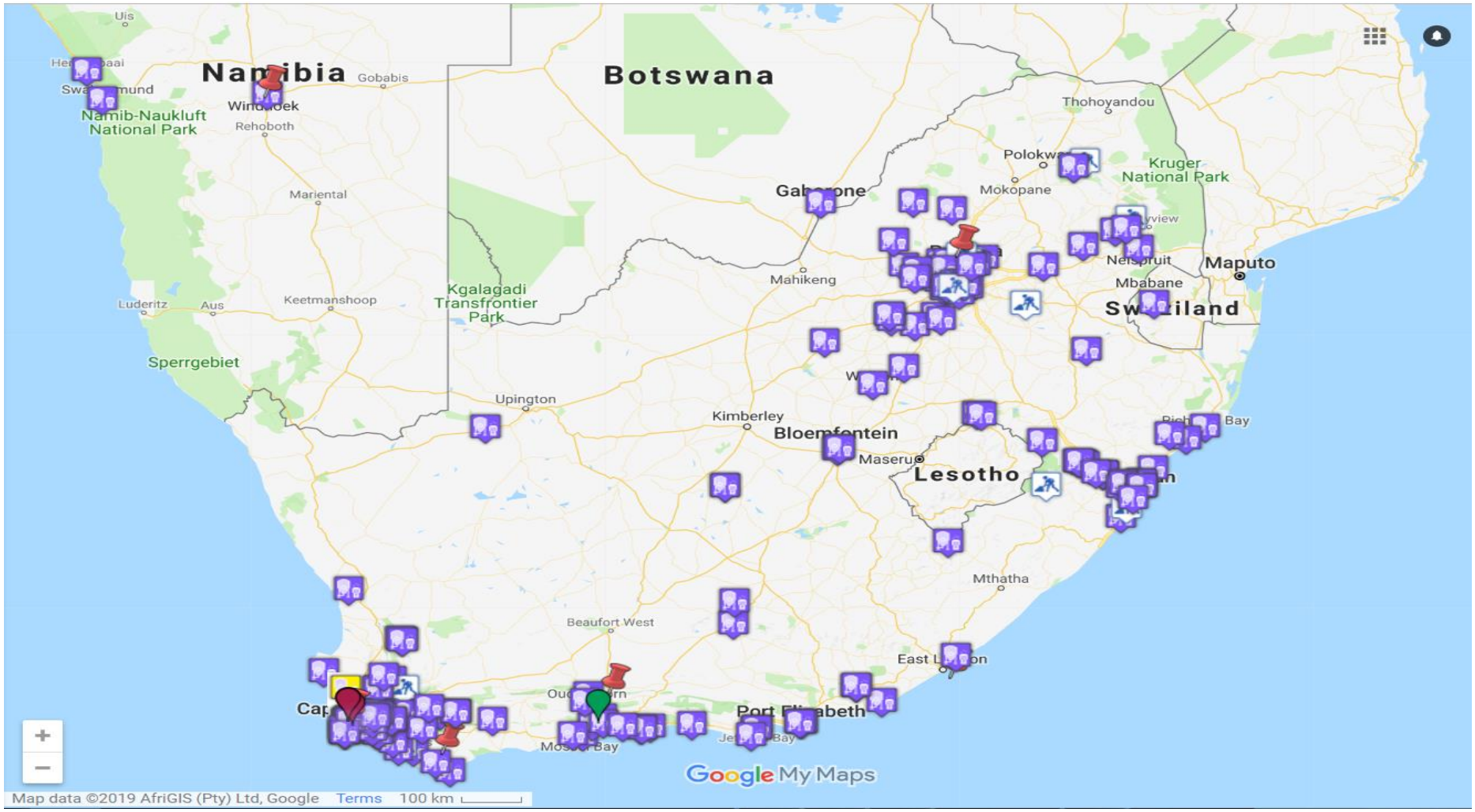

Figure 2.11: Craft Brewery footprint in Africa *(SA Craft Breweries, 2019)*

2.5.Towards Craft Beer Business Model

There is limited information sources that have business models that are followed by SME's within the craft beer industry. This could be attributed to that fact that the craft beer industry is fairly new to South Africa and is therefore not well-known and has only gained momentum in the past decade. Be as it may, every business has the objective to not only start-up but remain relevant and sustainable to its target market. Businesses involved in various studies suggested a number of ways to improve relationships and encourage future growth in order to increase and improve performance (Miller, et al., 2019). Organizational behaviour is therefore firm specific and will determine the performance of the SME. According to International Business Machines Corporation (IBM), performance is defined as "the accomplishment of a given task measured against present known standards of accuracy, completeness, cost, and speed". In order to meet the needs of the highly competitive markets, organizations must continually increase performance. (Arslan, 2013)

There are four performance measures used to assess the success of value chains in a firm. These are

- Efficiency: Efficiency is the utilization of resources in the value chain. It is measured in terms of production costs, profit, return on investment and level of inventory (Lusine.H Aramyan, 2006)
- Degree of responsiveness: Degree of responsiveness is the time spent in the fulfilment of a request. It is measured through fill rate, product lateness, customer response time, lead-time, shipping errors and customer complaints (Lusine.H Aramyan, 2006)
- Flexibility: Flexibility is the degree of responsiveness of the value chain to a changing environment. It is measured through customer satisfaction and the flexibility in volume and lost sales (Lusine.H Aramyan, 2006)
- Quality. Quality consists of product and process quality. Product quality includes product safety and health, shelf-life, product reliability and convenience while process quality consists of the characteristics of production and marketing systems (Lusine.H Aramyan, 2006)

In addition, mainstream beer embodies Porter's 4P's:

1. Right product
2. Right place
3. Right price
4. Consumer promotion (Melville, 2018)

Porters Five Forces is a tool that can assist to uncover industry structure, depict how industries evolve and assist organizations in finding a unique business model through simplifying the macro-economy theory in just five forces (Porter, 1980)

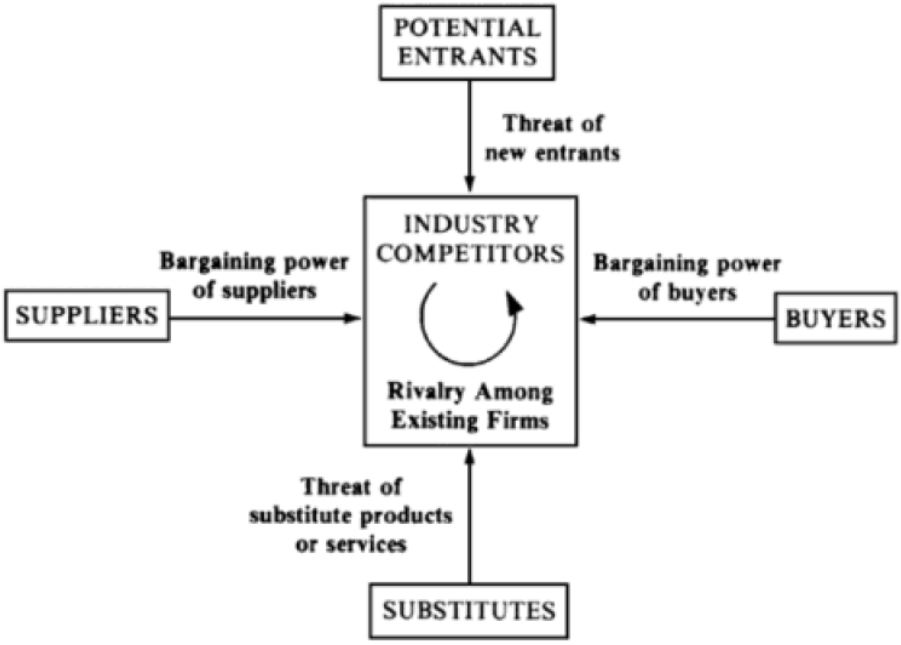

Figure 2.12: Porter's Five Forces *(Porter, 1980)*

These 5P's can also be the basis business model that a craft brewery follows for business operation. The Porters forces are as follows (Thompson, et al., 2017):

i. *Threat of new entrants: barriers to entry*

These are all barriers that pertain to economies of scale, product differentiation Capex requirement, switching costs, access to distribution channels and cost advantage of scale

ii. *Bargaining power of suppliers*

Extent to which the buyer is a priority to the supplier

iii. *Bargaining power of suppliers*

Concentration and size of buyer

Possibility of vertical integration

iv. *Product substitution*

The likelihood of your product or service to be substituted for something else or cheaper

v. *Rivalry amongst competitors*

Number of competitors in the industry

Rate of growth of the industry

Degree of product differentiation

Price strategy and cost structure

To add, Table 2.3 is a depiction is a business model developed by Beth Jenkins that can serve as a business model creation tool for a new craft business owner/manager

Table 2.3: Business Model for Enterprises *(Beth Jenkins, et al., 2007)*

SMALL-MEDIUM ENTERPRISES	LOCAL COMMUNITIES	LARGE FIRMS
Increased employment and wealth creation by local firms	Stimulation of economic activity and enhanced local economic development	Reduced procurement, production and distribution costs I
Acceleration of knowledge transfer and technology upgrading	Increased employment and production	improved productivity
Enhanced skills, standards and capacity	Long-term increase in local or regional competitiveness	Increased opportunities for corporate responsibility combined with profitability
Access to new domestic and/or foreign markets	Added local purchasing power	Enhanced reputation and local license to operate
Attraction of additional foreign direct investment in "cluster" effects	Access to more affordable, reliable, or better quality products and services	Improved integration in new overseas markets I
More diversified client and market structures	Increased participation of large-scale companies in local business and community development	increased ability to reach consumers at the base of the economic pyramid
More stable relationships to buyer or producer organizations	Balance of payment benefits when products are exported and/or substituted for imports	Proactively deal with downsizing
Risk-sharing through joint funding and/or operations	Development of local business service providers catering to SMEs	Reduction of foreign exchange needs through import substitution
Facilitation of access to finance		Increase in flexibility in making design and production changes due to proximity of local suppliers
Opportunities to innovate, upgrade and increase competitiveness		Reduced environmental impacts from long-distance shipping
		Compliance with government local content requirements

2.6.Large corporates in the Beer Industry

2.6.1. Overview of large corporates in the beer industry

Africa is dominated by 4 major beer companies, namely, ABInBev, Diageo, Castel and Heineken and accounts for 90% of consumption (The British Guild of Beer Writers, 2018) and still has great potential for new brewers to enter the market (The British Guild of Beer Writers, 2018). Most African countries still brew traditional sorghum beer from sorghum or banana and traditional beer is the major competitor to the major beer companies because their beer is sold at a much cheaper cost with no regulatory boundaries (ibid).. However, the concern is that the unregulated beer market poses a health risk to the consumer and due to this concern, the major corporate beer companies are striving to produce cheaper beer that can be afforded by the African market (The British Guild of Beer Writers, 2018). Studies by the African Development Bank has found Africa to have grown and transformed at exponential rates since the 20th century (The British Guild of Beer Writers, 2018). The African Development Bank has forecasted the continent's working age population to surpass that of China and India (The British Guild of Beer Writers, 2018) which in turn makes the continent an economic powerhouse that is viable for investment (The British Guild of Beer Writers, 2018).

Globalisation has been the key to success to the numerous industries. However, the operational costs linked to expanding business across continents and sustaining a business has become more expensive due to the rise in competition as well as the numerous political instabilities (Beth Jenkins, et al., 2007). There is constant pressure to reduce operational costs, shorten lead times as well as optimize efficiencies (ibid). This has in turn forced corporates to change their supply chain management and increase their revenues by optimizing through flexible mix of goods and services from other firms (Beth Jenkins, et al). "More than ever, companies realize that it is good business to share benefits with the communities in developing countries in which they operate. Enabling small, local firms to supply goods and services to larger enterprises creates more efficient supply chains. At the same time it maximizes development benefits by helping local companies to grow and create jobs" Lars H. Thunell IFC Head.

Most large corporates of developing countries are partnering with local small medium enterprises in the procurement, distribution and sales as an option to not only reduce the operational costs but to also drive the ability of SME's to contribute to the value chain. This partnership allows large corporates to reduce input cost and allows the local firms to gain greater knowledge about business and improving the socio-economic of the larger community.

2.6.2. Business model that is being followed by big corporates for operations

2.6.2.1.Consumer trends

It is imperative that the needs of the consumer are met by the brewery. Often times, craft breweries are linked to the local pubs and their distribution network is limited (Procurement, 2015). The consumer trends change constantly and this means that the brewer needs to keep up to meet these demands. It is important that the brewer has line of sight of the market trends and shifts (ibid).

2.6.2.2.Customer pressure

There is constant pressure on the supplier to ensure that the needs of the consumer are met and this requires the supply chain to be operating efficiently and effectively at all times i.e. no out-of-stock issues. The majority of the large retailers are now leveraging on their technical expertise and buying power in order to improve and implement changes in warehousing, logistics and systems. Some to the key changes have been the following (Procurement, 2015):

- Shorter lead times whereby these have been shortened from 48hour to same-day-deliver (Procurement, 2015)
- Increasing expectation of service. The craft brewers are not just benchmarked against each other by the supermarket groups, but also against all leading FMCG suppliers (Procurement, 2015)
- Electronic transfer of orders and confirmation of order details in advance of shipping (Procurement, 2015)

2.6.2.3.Industry consolidation and restructuring

Brewers have developed a strategy to better manage their logistical networks through 3rd party management for warehousing and transport. "Whether this is built on the transactional or relational model described above will depend upon the strategic position a business adopts. Many brewing companies simply no longer see the day-to-day management of these supply chain tasks as part of their core activities. In summary the brewing logistics is likely to remain highly contingent upon the specific route to market chosen, this in turn will be driven by the types of product and markets in which a brewer wishes to operate." (Procurement, 2015)

2.6.3. Business models that incorporate beer manufacturing SMÉ's into the value chain

2.6.3.1. Talent Upliftment

Large manufacturing corporates have a social responsibility to assist and improve the needs of the community. Even though this is a social responsibility, there is also a benefit for the business in terms of cheaper production costs (Procurement, 2015).

2.7.Literature Review Key Findings

2.7.1. Best Practice: Case Studies
2.7.1.1.Soweto Gold

Table 2.4: Soweto Gold Success through being competitive

Case Study 1 **Craft Brewery Integration** A successful story of a Craft Beer SME merging with a large corporate is that of Soweto Gold. Soweto Gold beer is the brainchild of two local entrepreneurs who owned MadMead Brewing. MadMead Brewing is a majority black-owned craft brewery company based in Orlando West, Soweto, which aims to create unique township beer brands with the aim of catapulting their brands locally and internationally. Townships in South Africa generally carry the largest beer-loving target market (Pillay, 2014) and the lack of township operational microbreweries in

Soweto drove these entrepreneurs to close this gap in the form of the Soweto Gold beer. MadMead brewery birthed Soweto Gold beer in 2013 and it was sold out on the first day that it was put on shelf in Johannesburg retailers (Pillay, 2014), which was indicative that the beer was well received by the market due to its unique taste. The introduction of Soweto Gold fast became the "bestselling craft beer in Gauteng, and the market continues to expand, due to the growing trends around authenticity and originality in the food and beverage space" (Nedbank Business Accelerator, n.d.). The great success of Soweto Gold has since attracted giant Dutch company Heineken into the Craft Beer market and the 2 companies have partnered to expand the Soweto Gold beer brand into the various bottle sizes (500ml and 750ml bottles) and broader markets. (Dlomo, 2018)

The story of Soweto Gold has proven that SME's have the potential to be competitive against giant corporates if their products or services are unique enough to fulfil a market that has gaps. In addition, the partnering of SME's with large corporates is an example that large corporates are willing to support SME's with business growth and wider recognition with a mutually beneficial relationship for both parties. This partnership has the potential of catapulting Soweto Gold beer into the global markets and therefore the increasing the potential of Craft Beer SME's contributing into the value chain and ultimately economic growth for South Africa.

2.7.1.2.Business models that incorporate SMÉ's into the BMVC

Table 2.5: Integration of SME's into the value chain

Case Study 2

Uganda Nile Breweries

A successful story that encompasses large corporates uplifting SME's is that of SABMiller with small scale farmers in Uganda. "Nile Breweries Limited (NBL) was founded in 1951 by a group of business men associated with Construction of Own Falls Dam" and Eagle Lager was one of their beer brands. Nile Breweries Limited (NBL) was then acquired by SABMiller in 2001 (Nile Breweries, 2018) .Eagle Lager is a beer brand that was launched with imported barley as the source of starch which

in turn accounted for more than 15% in the beer price. SABMiller strategy was to reduce the price of beer and attract new customers and increase market share. In order to achieve this goal, SABMiller's response was to substitute the imported barley with locally produced sorghum from small scale local farmers. Sorghum is a "drought and flood resistant ingredient, higher yielding and has more stable prices compared to other local crops.' This allowed the retail price of Eagle Lager to be a third less in value. Eagle Lager with a sorghum ingredient source was then launched in Uganda and Zambia in 2002 and 2005 respectively. As of 2007, the company traded sorghum from 8000 and 2500 small scale farmers in Uganda and Zambia respectively. The total cost of sorghum was approximately $ 1.4M in each country of which 75% belonged to the SME farmers. In addition, SABMiller ensured that the local farmers are not affected by exchange rate appreciations which became a smooth business operation for the farmers (Beth Jenkins, et al., 2007). To date, more than 10 000 farmers are part of the Eagle Lager value chain in Zambia and Uganda. With the assumption that there are 5 dependents in a family, this means more than 50 000 people are positively impacted by this programme.

2.7.2. Literature Review Key Findings

Upon review of the literature review, the following can be deduced from literature:

i. SME's, of any sector, have a great impact on the economic growth of a community
ii. There is direct relationship between the local economic and value chain development of a community
iii. The CBI industry in South Africa is growing at a rapid rate
iv. The failure of SME's are driven by internal and external factors
v. The CBI does not have a formal business model that they follow however the business model principles from larger corporates can be practised

Table 2.6: Key Findings from Literature Review

Key Finding	Challenge	Opportunity
Sustained potential growth	• Craft Brewery production equipment is capital intensive and there is lack of support from financial institutions • Lack of financial management skill set • Advancement of technologies that can harness economy of scale	• More inclusivity of financial support being provided to all various types of SME's from finance service providers. Private companies providing financial support to SME's through Incubator Programmes • Adapt best practises from commercial breweries and bargain to utilize technology or equipment that has reached their book value
Regulatory Compliance	: • Beer manufacturing excise tax regimes • Beer manufacturing liquor license	• Tax thresholds are paid in accordance to the beer volume production
Market Expansion	• Beer festivals are becoming increasingly saturated for promotion • Lack of resources and knowledge to utilize marketing communication channels	• Social media platform need to be used as a means to increase brand awareness and marketing strategy as this immediate and reaches a wider audience
Quality of Beer	• Quality control is often a challenge for craft brewers due to the lack of affordability for laboratory equipment to conduct quality control tests	• Request commercial breweries to assist with in-house laboratory testing • Request commercial breweries to share laboratory equipment that are due for replacement instead of writing them off and disposing them •
Innovation	• Innovative ideas from other craft breweries that will be disruptive to the industry	• Study the market trends and the trends of the consumer • Launch different kinds of Innovative products that are growth-related and those that are sustainability related. This will

		drive craft breweries to not be complacent and be on the competitive edge
Geography	• Craft breweries can't be within a certain radius from schools and churches • Breweries need to be within close proximity to retailers in order to reduce logistics costs and have well sustained distribution networks	• Brewery must be situated in a location that is in an industrial area • Form good relationships with retailers and customers in order to ensure reliability in service provision
Value Chain Visibility	• Access to raw material • Value chain is saturated for the commercial breweries	• Same raw material supplier as SAB therefore the cost/unit is very affordable • If a certain sector is saturated with business of the same nature or product, then these businesses are likely to form a close-knit supply chain network whereby they have the same supplier base in order to reduce competition amongst them (Caspari, 2003). However, some large corporates will break out of this network and seek SME's. The strategy of seeking SME's to partner with will reduce supply chain and overhead costs which will in turn reduce the price mark of their products (Caspari). A lower price is more likely to attract a higher customer base, which increases revenue and thus a sustainable channel for SME's within the value chain. Thus, competition within large firms is an opportunity for SME's to penetrate into the market and be sustainable

2.7.3. Summary of Literature Review

The literature has covered a considerable number of key findings related to the craft brewing industry.

A critical analysis of the literature review reveals that the contribution to the value chain and survival rate of SME's can be inter-linked with each other and there is limited research effort to date. The low contribution to the value chain as well as the high failure rate of SME's in South Africa is a clear indication there is a gap between the two and this gap needs further investigation.

It is evident from literature that the SME's play a pivotal role but their growth is clouded by challenges that prevent them from contributing to the value chain. The next section will cover the research methods that will be employed in this study.

Chapter 3 : Research Method

"Anyone can drink beer, but it takes intelligence to enjoy beer"

~Stephen Beaumont

The purpose of the study is to analyse the challenges and opportunities in the craft beer industry in order to contribute towards a framework that will integrate craft beer SME's into the beer manufacturing value chain. There are multiple methods available for consolidating information and this chapter will discuss the research methods for data collection and analysis.
The purpose of this chapter is to:

- describe the research method that will be used and the roadmap followed to achieve the objectives presented in Chapter 1
- introduce the research instruments (semi-structured interviews)
- discuss the chosen data analysis techniques; and
- outline the ethical issues that were considered in the study

3.1. Research Design

A qualitative research method was adopted due to its efficiency in data collection, flexibility and cost effectiveness given that the aim of the research is to produce a set of results that answer a specific question through human participants (Ormord & Leedy, 2005). A qualitative research approach consists of an investigation that; seeks answers to a specific question; systematically uses a predefined set of procedures to answer the question; collects evidence; produces findings that are not determined in advance; produces findings that are applicable beyond the immediate boundaries of the study (Mason, 2002). Semi-structured interviews are advantageous for qualitative research because one can "explore the texture and weave of everyday life; incorporate understandings, experiences and imaginings of research participants; how social processes, institutions, discourses or relationships work; and the significance of the meanings that they generate" (ibid). In addition, a qualitative research aims to answer the research question from the perspective of the local population by obtaining specific information, values, opinions and behaviours of that particular population (ibid).

3.2. Data Collection Technique

There are various types of qualitative research data collection methods which include but not limited to (Ormord & Leedy, 2005);

- Structured interview (writings, stories, survey comments, news articles, books etc.)
- Semi-structured interview (transcription, interviews, conversation etc.)
- Audio recordings and music
- Video recordings
- Content analysis (books, newspapers, legal documents etc.)

The study followed the Yin approach (Yin, 2009);

- Semi-structured interviews
- Participant-observations
- Direct participant observations
- Physical artefacts
- Documentation Review
- Archival records

3.1.1. Semi-structured interview

A semi-structured interview approach was chosen for the purpose of collecting the data. The interview was organised in the form of approaching SME's owner/managers through requesting time and permission to conduct the interview, on the basis of anonymity (Mack, et al., 2005). The information that was collected was used to critically analyse and answer the research question. The interviews were treated as a platform to engage with the CB SME owner/managers in order to gain an end-to-end perspective of the CBI. The end goal is to reconstruct the information into themes and create a business model that may be followed to integrate into the BMVC.

According to Leedy and Ormord (2005), a semi-structured interview is advantageous for a research instrument method because it allows the researcher to collect data that relates to analysing data for a specific sample size. Mason (2002), noted that "most qualitative research operates from the perspective that knowledge is situated and contextual, and therefore the job of the interview is to ensure that the relevant contexts are brought into focus so that situated knowledge can be produced. For some, that extends into the assumption that data and

knowledge are constructed through dialogic (and other) interaction during the interview (ibid). Qualitative interviewing therefore tends to be seen as involving the construction or reconstruction of knowledge more than the excavation of it (Mason, 2002).

The interview questions were developed and tailored using the Wengraf (2001) Pyramid model wherein, CRQ – TQ- IQ. CRQ = Critical Research Question, TQ= theory questions and IQ= interview questions (Wengraf, 2001). Figure 3.1 shows the research design map and Figure 3.2 depicts the CRQ-TQ-IQ pyramid model that was applied in this study.

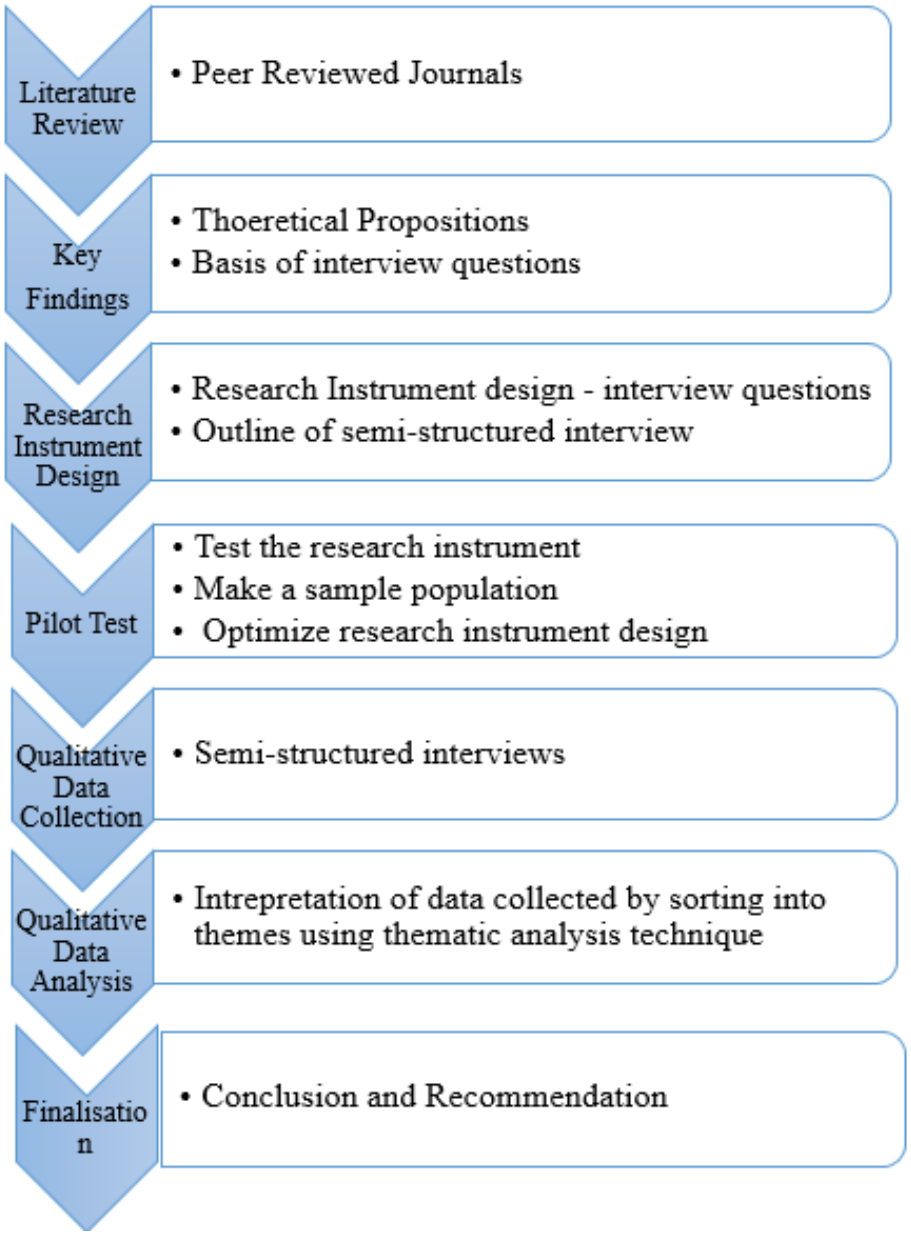

Figure 3.1: Overview of the Research Design

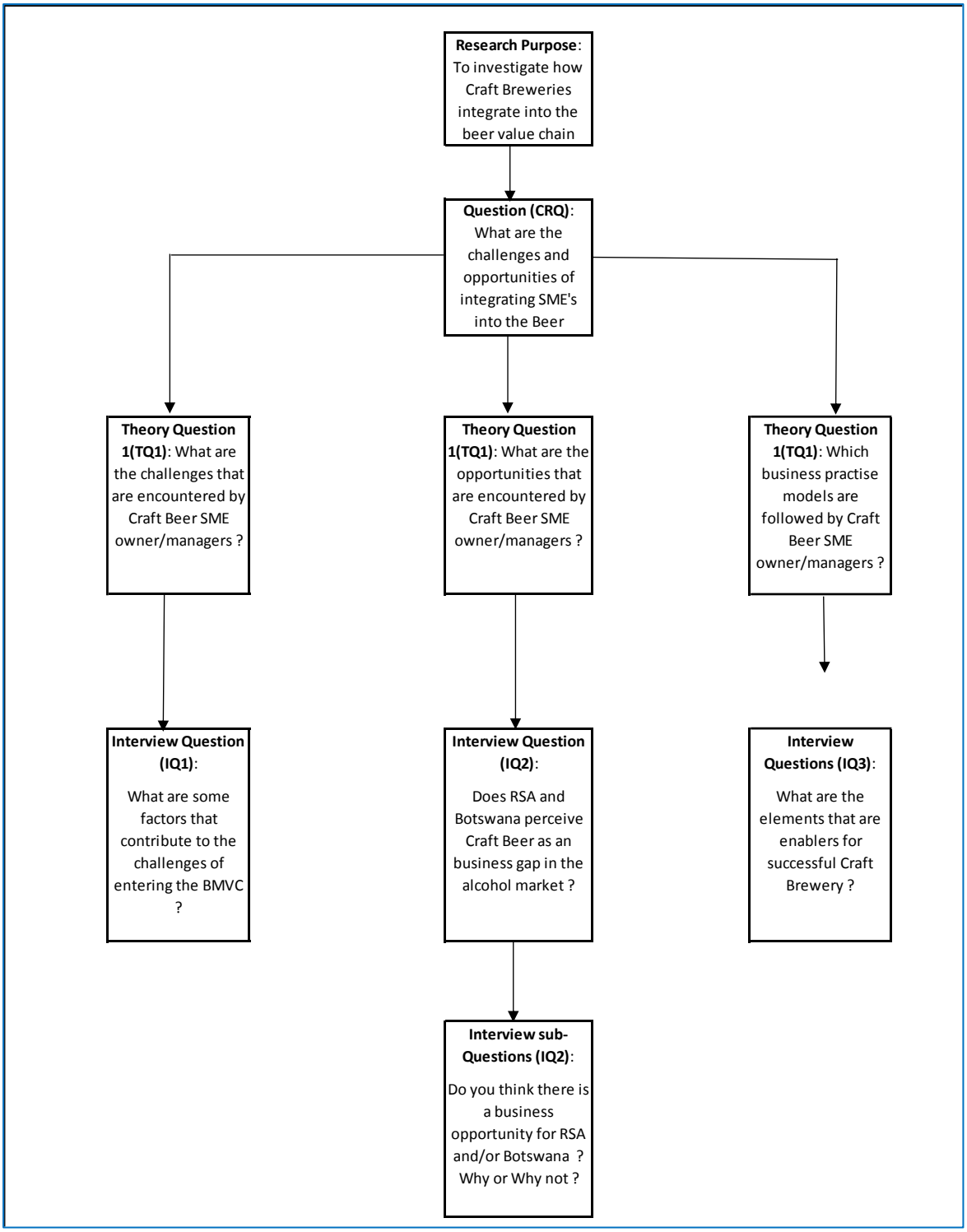

Figure 3.2: CRQ-TQ-IQ: Elements adopted from the Wengraf Pyramid Model *(Wengraf, 2001)*

The researcher followed the approach depicted in Figure 3.3 in conducting interviews

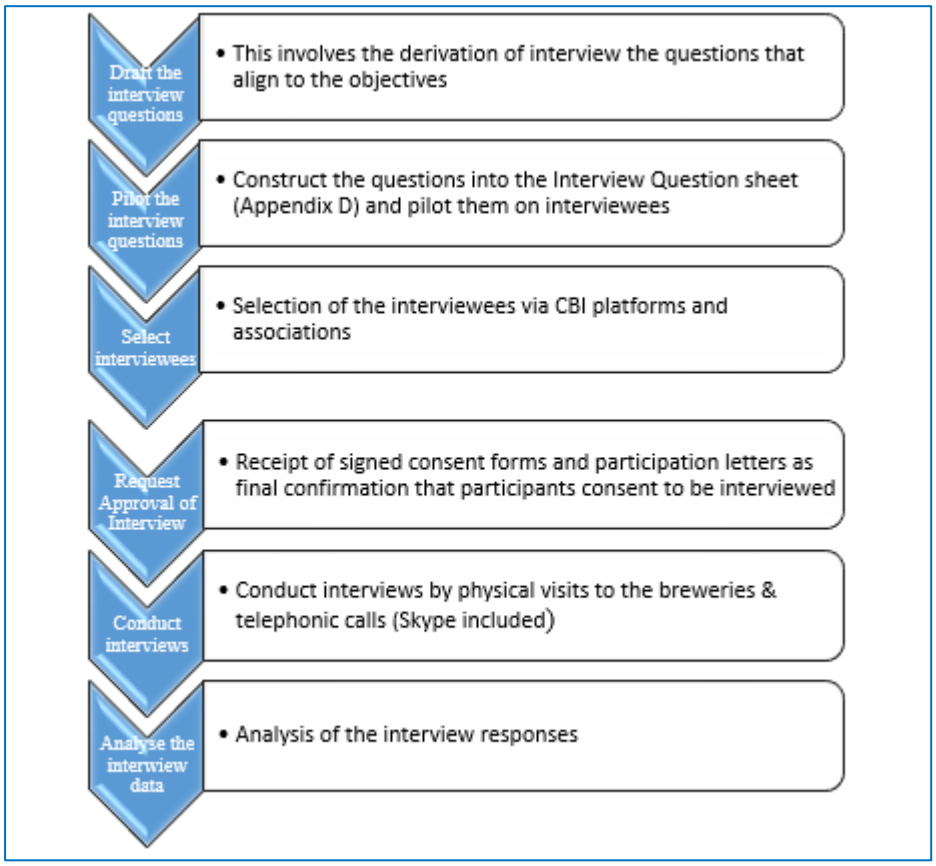

Figure 3.3: Elements adopted from the Wengraf Pyramid Model: Interview Approach *(Wilkinson & Birmingham, 2003)*

Step one: Draft the interview questions

According to Wilkinson and Birmingham (2003), it is imperative that the researcher formulates a list of key questions to be covered so that important themes are not overlooked and the interview follows a logical progression for a structured and semi-structured interviews (ibid). The researcher ensured that the interview questions were split into different themes so that they relate to the different aspects of the interview. Refer to Appendix D for the research questions.

Step two: Pilot the interview questions

Wilkinson and Birmingham (2003) state that piloting interview questions is important because it "assists in eliminating ambiguous questions as well as generating useful feedback on the structure and flow of your intended interview. As with other research instruments, interview questions should be easy to understand". The interview questions were consolidated into a formal format and piloted on two participants who own a Craft Brewery. The responses were then analysed to determine whether sufficient information would be obtained from the interviewees.

Step three: Selection of interviewees

Wilkinson and Birmingham(2003) state that a large amount of time and effort can be spent in conducting interviews and therefore suggest that a sample group must be selected for data collection and this can form a sensible and representative data of the broader population involved in the specific research (ibid). There are two main sampling methods namely random probability and purposeful selection. Patton (Patton, 1990) describes random selection as sufficient data to generalise the population which it represents. Whereas, purposeful sampling focuses on extracting data from specific participants that will enable an in-depth study regarding certain topics and based on the aim of the research (ibid)

This research used a purposeful selection of the interviewees whereby Craft Brewers were the preferred choice as they would able to answer the research questions given the limited literature available.

1. Selected craft breweries that are based in South Africa (mainly Gauteng) and Botswana
2. Contacted all craft breweries via telephonic calls and email and explained the intent of the research, the ethics clearance that would be considered and the data collection process
3. Fourteen breweries in Gauteng, one brewery in KZN and one in Botswana and one Beer blogger (who has written books about Craft Beer in RSA) were approached and asked to be part of the research
4. Four craft breweries in Gauteng, one Craft Brewery in KZN, one Craft Brewery in Botswana and the Beer Blogger agreed to be part of the research

5. The rest of the craft breweries in Gauteng (ten in total) did not respond to emails; some of the emails addresses and contact numbers no longer existed and some were not comfortable or interested to be part of the study

Step four: Request approval of interview

This process involved requesting formal approval and consent in the form of signed documents from the interviewees. The documents that were signed and returned by all the interviewees were the following: (Refer to Appendix A, Appendix B and Appendix C)

1. **Appendix A - Participant Information Sheet**
2. **Appendix B - Letter of Consent** (to participate in the study)
3. **Appendix C - Letter of Permission Template**

3.3. Data Analysis

Qualitative data analysis (QDA hereafter) is a process of analysing data that has been collected and forming an explanation and understanding of behaviours, situations and people of a particular context (Mason, 2002). An inductive approach was adopted whereby an investigative framework was used to group the data and identify a pattern or a relationship. The framework analysis method was used for the management and analysis of qualitative data because it allows the inclusion of "prior concepts in addition to emergent concepts" and the ability to fully analyse research objectives (Ritchie & Liz, 1994). There are various types of qualitative data analysis techniques which are content analysis, narrative analysis, discourse analysis and framework analysis (Mason, 2002).

The data was collected and critically analysed by the researcher through the responses gathered from the participants using voice and video recordings as a primary source of data collection. Refer to Appendix L for the data analysis process map. In addition to primary data analysis, the research employed secondary data analysis by reviewing electronic sources and journals to explore any similar trends and concepts.

Once data is collected, a sorting mechanism is required to technically index and categorize the data into themes in order for the researcher to be able to analyse, make sense and interpret the data and build explanations (Mason, 2002). The use of computer aided qualitative data analysis (CAQDAS hereafter) facilitates and enhances the thematic sorting of data in a more efficient

manner (ibid). This allows enables the researcher to index a large amount of categories into more direct themes. In summary, the Wengraf (2001) method was used to formulate the interview questions from the critical research question and objectives. See Figure 3.2. Thereafter, the CAQDAS method used each objective to sort the responses into themes through the first order and second order analysis, create the themes from recurring responses and finally create a conceptual framework (i.e objective four). Refer to Figure 3.3.

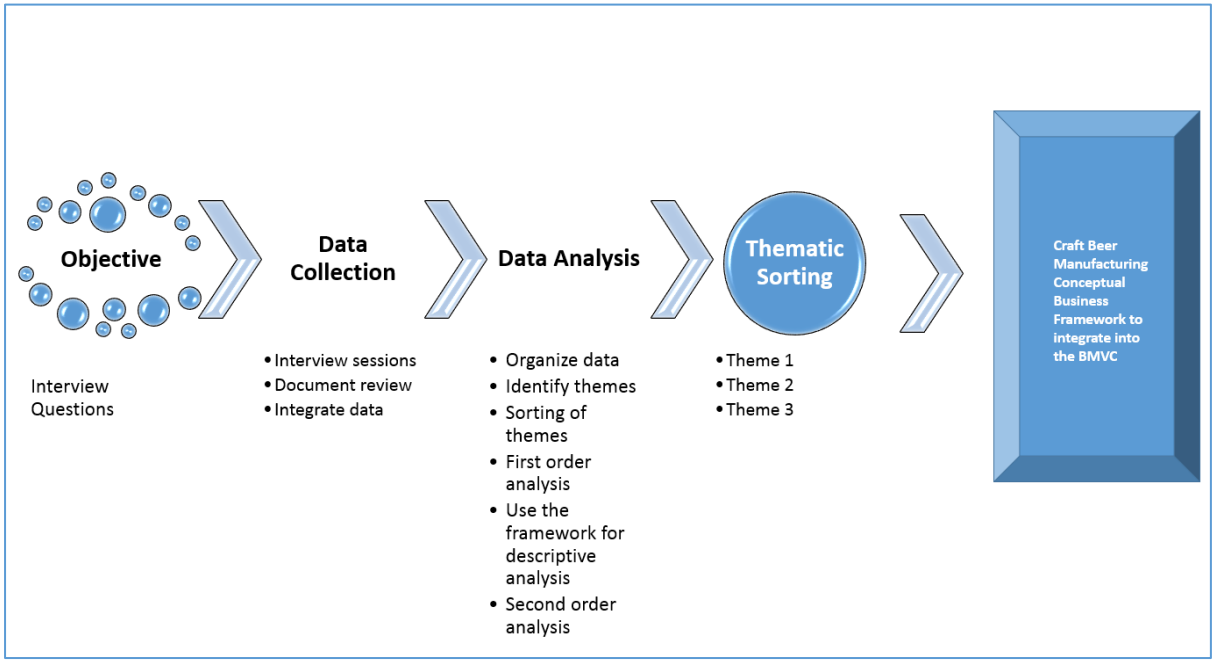

Figure 3.4: Thematic Sorting of the data using the CAQDAS method

(Authors own elaboration)

Participant observations

Observation of the participants is a useful way for a researcher to analyse the body-language of the interviewees, observe feelings that are expressed non-verbally, study how participants interact with each other and check for the time spent on various activities (Mason, 2002). The researcher observed the body-language of the participants for any type of information that would be useful to the research study and ensure maximum engagement from the interviewees (ibid).

Documentation Review

Document review entails the process of reviewing, evaluating and analysing various forms of documentation that would be beneficial to the research topic. This is an intense process that would require the researcher to have a holistic understanding of the topic in order to refer to the relevant documentation sources (Mason, 2002). The information from the documents is then interpreted into themes that will provide sound and reliable information that would fully explain certain phenomena. The three types of documentation that is available in qualitative research are public records, personal documents and physical evidence (ibid). The researcher employed namely peer reviewed journals, public records and physical evidence for the purpose of this study due to the reliability of the source of information (ibid).

3.4 Validity and Reliability

Validity is related to the accuracy and truthfulness of scientific findings and the findings should prove what was being tested and valid instruments that measure should serve their purpose (LeCompte & Goetz, 1982). Reliability is concerned "with the consistency, stability and repeatability of the informant's accounts as well as the investigators' ability to collect and record information accurately" (Sellitz, et al., 1976). That is the research being able to produce the same set of results over repeated tests (ibid). It also requires that the " researcher has developed consistent responses or habits in using the method and scoring or rating its results and that factors related to subjects and testing procedures have been managed to reduce measurement error. " (Sellitz, et al., 1976) (ibid)

In order to ensure validity of the research, a triangulation approach was employed by the researcher. Triangulation is a form of data collection whereby the researcher refers to multiple references in order to cross-validate the data and to capture more than one perspective of the same phenomenon (Guion, et al., 2002). Figure 3.5 illustrates the triangulation applied in this study

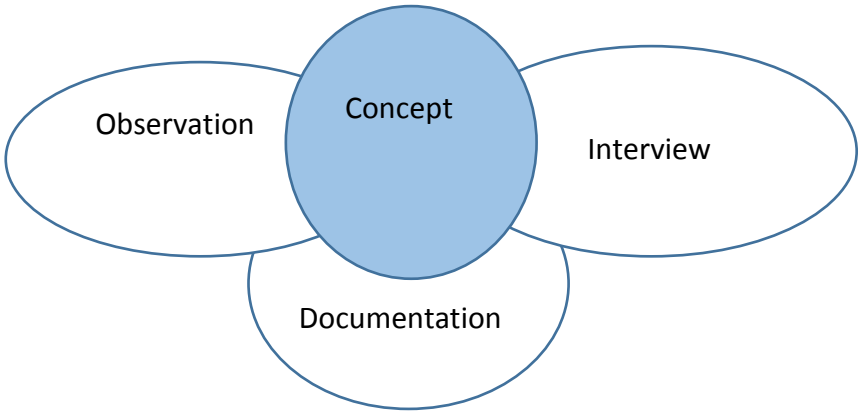

Figure 3.5: Triangulation Data Analysis

In addition, it has been recommended by Guba and Lincoln (2014) that in order to validate and prove reliability of a qualitative research study, one has to employ trustworthiness (Guba & Lincoln, 1994). Trustworthiness consists of four different types of considerations, namely: credibility (internal validity), transferability (external validity), dependability (reliability) and confirmability (objectivity) (Bell, et al., 2007). Credibility refers to the consistency of the data being analysed which requires that research be conducted in good practice (ibid). Dependability refers to reliable data that can be referred to in the future (ibid). It also allows the participant, to confirm their participation should the need arise for an audit to be conducted from the research institution (ibid). Transferability refers to data that can be transferred to be used by other researchers for reference (ibid). Lastly, confirmability ensures that the data can be confirmed to be from the participants and not from the researcher (ibid).

In order to minimize research bias and ensure truthfulness and accuracy of the data, a triangulation approach (Guion, et al., 2002) (at minimum) was employed for data analysis and critique.

3.5 Ethical Consideration

The nature of the research study involves human participants and this requires that the information of each participant to be protected and kept confidential (Simelane-Mnisi, 2018).

As such, Ethical considerations were taken into account when collecting data. The following ethical issues were shared with the Ethics Committee for clearance and before data collection:

- Consent forms for the participants were signed to ensure that the participant is comfortable with being part of the interviews
- Confidentiality of participants were signed-off for those that preferred to remain anonymous
- Due to the nature of some of the participants, declaration forms were signed confirming that the company does not have a company stamp

All required Ethics Application forms were submitted to the University of the Witswatersrsnd Ethics Committee and Ethics Clearance was granted and approved prior to data collection.

The Ethics Clearance number is MIAEC121/18

Chapter 4 : Results Analysis & Discussion

"When I read about the evils of drinking, I gave up reading"

~Henry Youngman

The central research question as stated in Chapter 1 is:

What are the challenges and opportunities of integrating SME's into the Beer Manufacturing Value Chain?

The following secondary questions were also derived in order to support the central research question:

i. What are the challenges that are encountered by Craft Beer SME owner/managers in the beer manufacturing value chain?
ii. What unique proposition can Craft Breweries offer in the BMVC?
iii. Which business practice models are followed by Craft Beer SME owner/managers?
iv. Does RSA and Botswana perceive Craft Beer as a business gap and therefore a business opportunity? Why or Why not?
v. What are the elements that are enablers for successful Craft Brewery?

Chapter 3 further presented the research methodology which aimed to answer the research questions through establishing the following:

1. Reviewing peer reviewed literature journals in order to gain an in depth insight of the research topic
2. Presentation of the end-to-end operation (challenges and opportunities) of the craft beer industry through interviews
3. Recording and documenting the information obtained from the interviewees
4. Collecting collating and mapped the information into themes.
5. Organizing the data into a comparative analysis between the different craft brewers interviewed
6. Analysing for gaps, opportunities and business models employed for growth that exist in the CBI as per literature and from the interviewees.

7. Carrying out a comparative analysis between the current status of the CBI compared to best practice guided by literature
8. Assessing the results for fundamental learnings and organise the results into themes
9. Providing recommendations, in the form of a theoretical business model framework, on how to mitigate the challenges that currently exist in the CBI.

This chapter will aim to present the results and analyse the data that was collected and collated from the interviewees. There will also be a comparative analysis between the current gaps that were outlined by the participants and those highlighted in literature in Chapter 2. The results presentation will be shown as per the approach outlined in Figure 4.1.

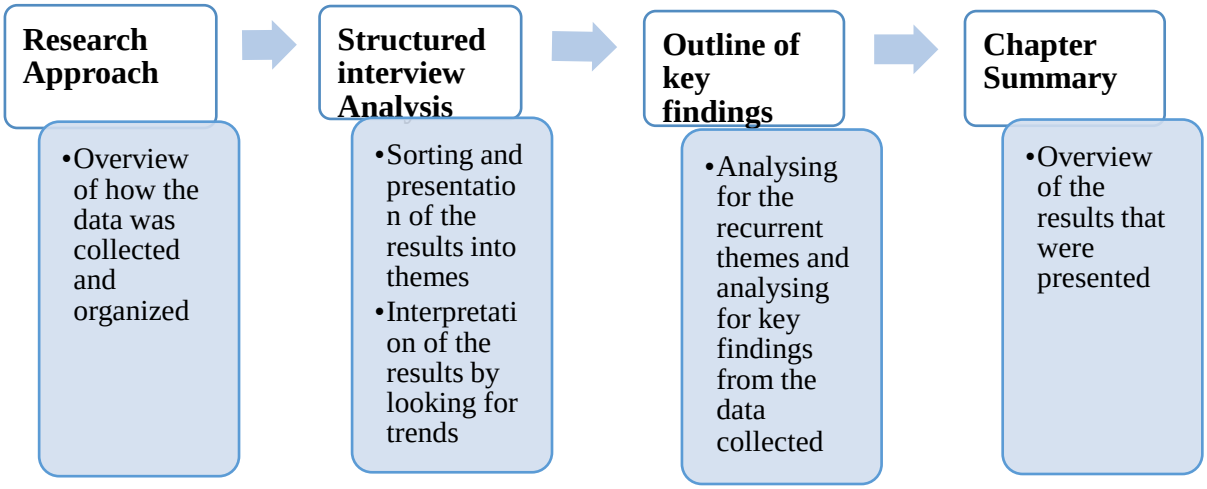

Figure 4.1: Results presentation workflow

4.1. Questionnaire responses and Implementation Overview

A total of seventeen (17) craft breweries were contacted from the BeerMag portal to participate in the study. Seven (7) representing 41% responded positively and participated in the study responded and ten (10), 69% did not respond. Refer to Figure 4.2

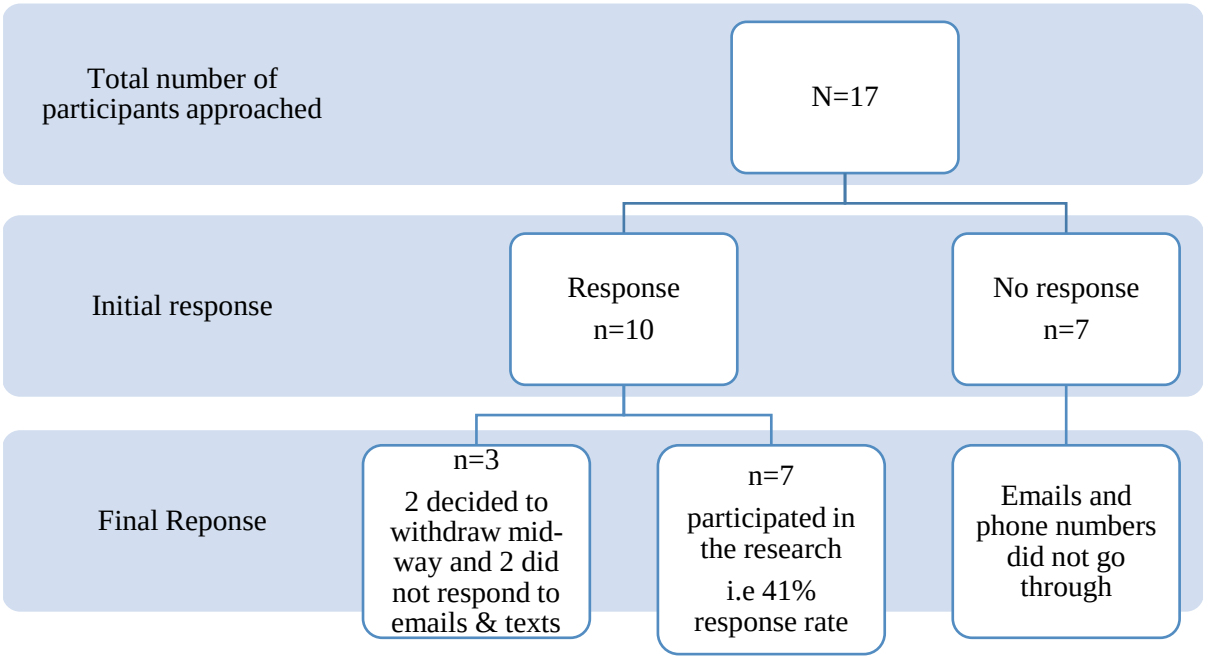

Figure 4.2: Response Rate of participants

Most of the participants came from various corporate backgrounds spanning years of experience prior to them venturing into the CBI. The respondents were considered to be subject matter experts in the craft beer space based on their experience with beer making, level of involvement in the industry throughout the years as well as the number craft brewing awards that they won for craft brewing. The survey population constituted the following characteristics:

- Craft brewers with a level of maturity of the business environment
- The brewers were mainly owner/managers of the craft brewery
- Most of the breweries had a life-span of 5 years and more
- Almost all of the participants had a formal qualification (a diploma or higher)
- All of the participants had sole or 50% ownership of the craft brewery

Table 4.1 summarizes the background of the participants

Table 4.1: Participants Background: Years of experience

Craft Beer Background	Number of Experts	Number of years in the industry *0 > yr<10*	Number of years in the industry *10 > yr<20*	Number of years in the industry *20 > yr<30*
Business/Corporate background	**5**	3	2	
Entrepreneurial background	**2**	1	-	1

The below figure outlines how the interview was structured (Aligned to the different themes as per the interview structure in Appendix L)

Part 1 Questions **"Ice-Breaker"**

- To break the ice between the researcher and the interviewee and get an overview of the business

Part 2 Questions **Overview of the daily operation**

- To understand how the SME owner operates their daily routines with regard to challenges and opportunities that they have ecnountered
- To understand if there was a Beer Manufacturing Value Chain Development analyses conducted from the perspective of the craft brewer

Part 3 Questions **Business model structure**

- To understand the business model
- To better understand growth aspirations

Part 4 Questions **Lessons Learnt**

- To understand the lessons that the craft brewers have learned over time
- To extract any additional issues of interest

Figure 4.3: Overview of the structure of the interviews

A side-by-side comparative analysis of the participant's background and roles is presented in Table 4.2

Table 4.2: Craft Brewery side-by-side comparative analysis (Author's own illustration)

Comparison View of Craft Brewers SME owners	**Brewery 1**	**Brewery 2**	**Brewery 3**	**Brewery 4**	**Brewery 5**	**Brewery 6**	**Interviewee 7**
Brewery	Craft Brewery A	Craft Brewery B	Craft Brewery C	Craft Brewery D	Craft Brewery E	Craft Brewery F	RSA Beer blogger
Country	South Africa	South Africa	South Africa	South Africa	Botswana	South Africa	South Africa
Province	Gauteng	Gauteng	Gauteng	KwaZulu Natal	Gaborone	Gauteng	Western Cape
Location	Johannesburg	Vanderbijlpark	Johannesburg	Midlands	Gaborone	Johannesburg	Cape Town
Role in Brewery	Owner/Sales and Operations Head	Owner/Manager	Sales and Operations Head	Brewing Manager	Owner & Managing Director	Owner & Managing Director	Beer Blogger
Age of Craft Brewery business	2014	1981	2013	1996	2013	2015	
Ownership	Family owned with 1 one partner	Family owned with one non-partner	Family owned with one non-partner	Family owned with one non-partner	Owner & Managing Director	Owner & Managing Director	Owner & Managing Director
Size Classification	Medium	Small	Medium	Small	Small	Medium	-
Volume L/month[1]	15 000	700	25 000	13 000	1 500	533 333	-
Employees	4	3	5		3		-
Product Base	Lager & Ale's & Gin & Tonic	Lager & Ale's	Lager & Ale's & Gin & Tonic	Lager & Ale's & Gin & Tonic	Lager & Ale's	Lager & Ale's & Pilsner Gin & Tonic	-
Experience in Craft Beer	>6years	>30years	>6 years	>23years	>3 years	>6 years	>6years
Brewery Location[2]	Designated industrial area with Liquor license for the area	Home	Designated industrial area with Liquor license for the area	Designated industrial area with Liquor license for the area	Private location	Designated industrial area with Liquor license for the area	
Clientele Base[3]	Pubs & Bars	Local Community	Pubs & Bars	Pubs & Bars and Large Retailers	Local Community	Pubs & Bars, Restaurants and Large Retailers, Events	Craft Breweries
Growth Projection[4]	Yes	No	Yes	Yes	Yes	Yes	-
Export[5] **(national or international)**	No	No	No	No	No	No	-
Reason for above answer	Beer is not pasteurized therefore there is a 7day capability that it can stay fresh without cold temperatures	Brewery capability is small	National only	Volume constraints	Volume constraints	Prefer to keep the beer locally	-
Unionized[6]	No	No	No	No	No	No	-
CBI specific Organization/Body[7]	Yes	Yes	Yes	Yes	No	No	Yes
Innovative[8]	Yes	Yes	Yes	Yes	Yes	Yes	-
If Yes, why?	Added Gin & Tonic to respond to market needs	Different styles and flavours developed over the years. Won a National Craft	Added Gin & Tonic to respond to market needs	Added Gin & Tonic to respond to market needs	Planning to expand in C19 by triple	Planning to expand in C19 by triple	

		Beer award for " Most Innovative Beer"					
Reason for Craft Beer business[9]	Industry gap	Hobby	Industry gap	Industry gap	Hobby	Industry gap	Share information about Craft Beer in RSA
Interview Recorded	Yes	Yes	Yes	Yes	Yes	No	Yes
How	Face-to Face	Face-to Face	Skype	Telephone	Telephone	Documents and journals sent through to research by owner/Director	Skype

Footnotes on Table 4.2

1: Volume per Month is required for the interviewer to put into perspective the size of the craft brewery in order to categorize it appropriately

2: Brewery location is important to locate and reflect on the geographical span of the study

3: Clientele Base is important in order to contextualise the type of market that drink craft beer

4: Growth projection is critical for the researcher to be able to answer the research Objective 1 as outlined in section 1.4 (challenges) and to understand the basis for opening a craft brewery

5: Export of beer to regional (SADC) and international markets

7: Unionized: This information is required to understand if they are covered by any legal bodies that can be considered key stakeholders in any dispute

8: Innovative: This is to understand the ability to respond to market shifts through innovation implementation that will allow the owner/manager to grow substantially in business

9: Reason for Craft Beer business: This is to understand the basis motivation that drives the brewery to establish this industry

The questionnaire was repeated to the interviewees in order to gather the data in Table 4.2 and it was recorded and stored in the researcher's personal hard drive. Interview transcripts are presented in Appendix F – J.

As can be seen in Table 4.2, five of the six (83%) of the craft brewers have more than 6 years' experience in this industry and can be considered to be experts in this field.

4.2. Results Analysis

4.2.1. Background of Craft Brewers

As can be seen in Figure 4.4., there are four (4) craft breweries in Gauteng; one (1) in KZN; one (1)Gaborone and the beer blogger resides in the Western Cape.

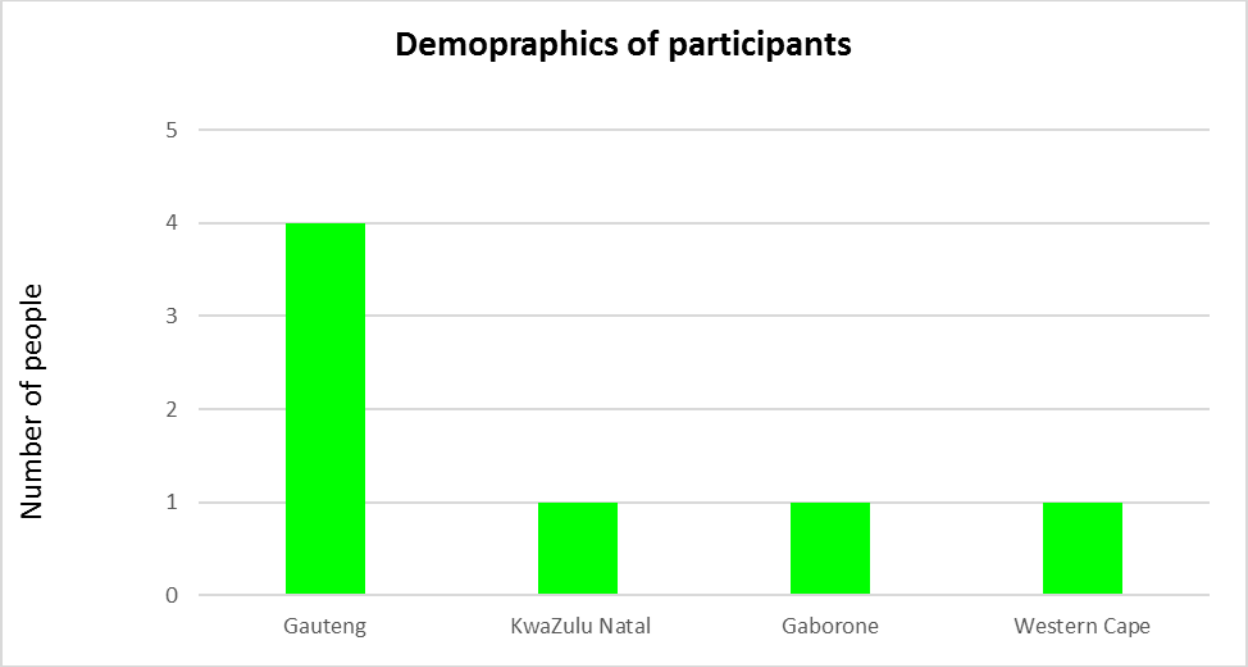

Figure 4.4: Demographics of Craft Breweries

Figure 4.5. is a depiction of the experience of the craft breweries and it can be seen that most of the craft breweries have considerable years of experience (> 6 years)

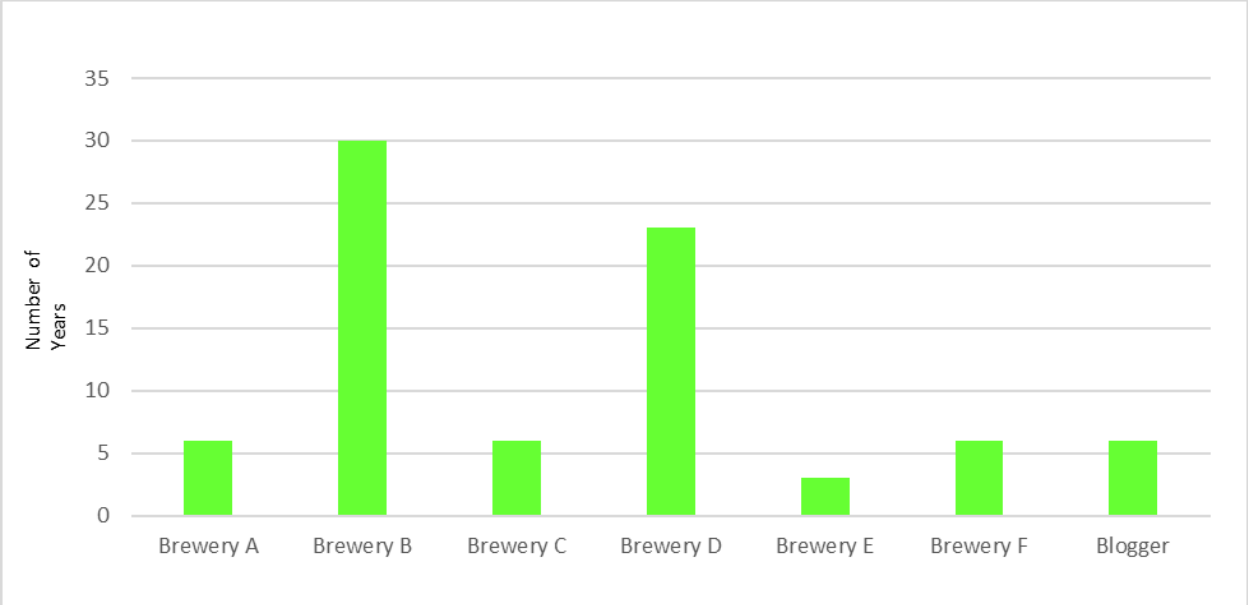

Figure 4.5: Experience of Craft Breweries

Figure 4.6. depicts the volume of the craft breweries in an annual basis and there is balance between Small and Medium craft breweries, with the exception of Craft Brewery 6, whereby the annual production is >6000kL/yr.

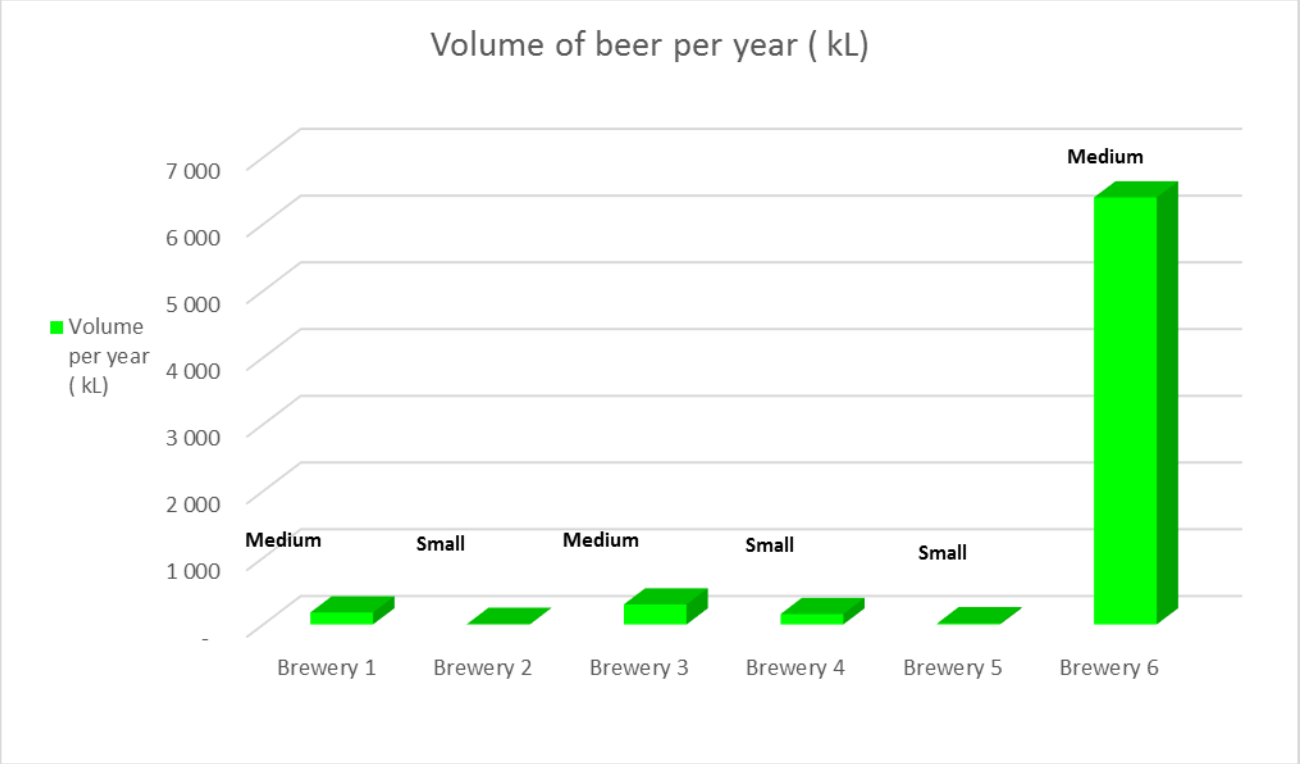

Figure 4.6: Volume of craft beer production per year Craft Breweries (kL/Year)

Reminder on the definition of craft breweries based on different volumes as per Table 2.1

Size	**Type**	**Volume HL/yr.**
Micro or Small	Home/local brewer	< 17 600
Medium or Regional (Independent)	Independent/regional	17 600< HL/yr. < 7 040 000
Contract Brewery	Regional or a micro-brewery with excess capacity to rent out	17 600 < HL/yr. < 7 040 000
Large	Large scale national	7 040 000Hl/yr
Brewpubs	Restaurants that sell less than 75% of its beer on its own premises	

As per Table 4.2 the annual production of beer is translated in Table 4.3

1hL = 100L

Table 4.3: Annual Volume production

Item	Brewery A	Brewery B	Brewery C	Brewery D	Brewery E	Brewery F	Blogger
Volume L /month	15 000	700	25 000	13 000	1 500	533 333	n/a
Volume L/yr	180 000	8 400	300 000	156 000	18 000	6 399 996	n/a
Volume hL/yr	1 800	84	3 000	1 560	180	64 000	n/a
Brewery Size	Small	Small	Small	Small	Small	Medium	n/a

4.2.2. Financial Challenge

As shown in Figure 4.7, 80% of the craft brewers have self-funded their capital investment. The craft breweries indicated that this was due to the lack of financial support from financial institutions. The cost of brand new equipment and setting up the infrastructure that has production capacity of 3 500L is estimated at $ 1Million (ZAR 14 Million) (Section 2.4.1.1, Figure 2.9) and the break-down is given in Figure 4.8.

In addition, the beer industry is very bureaucratic and the high tax and excise costs involved are very high (Pillay, et al., 2019) and this in turn has a negative impact on their cash-flow.

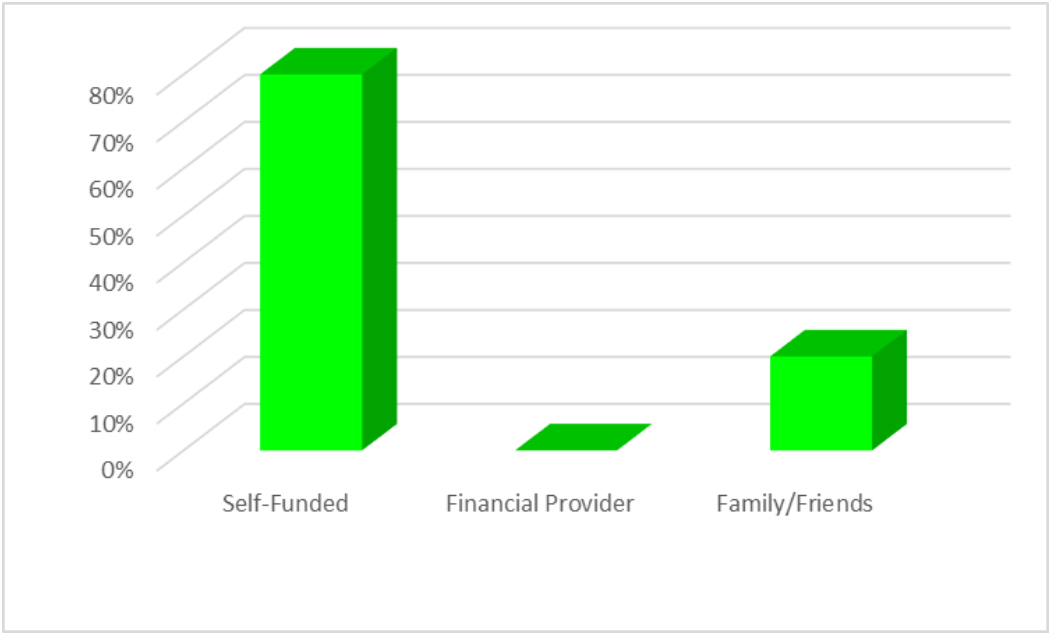

Figure 4.7: Source of capital investment

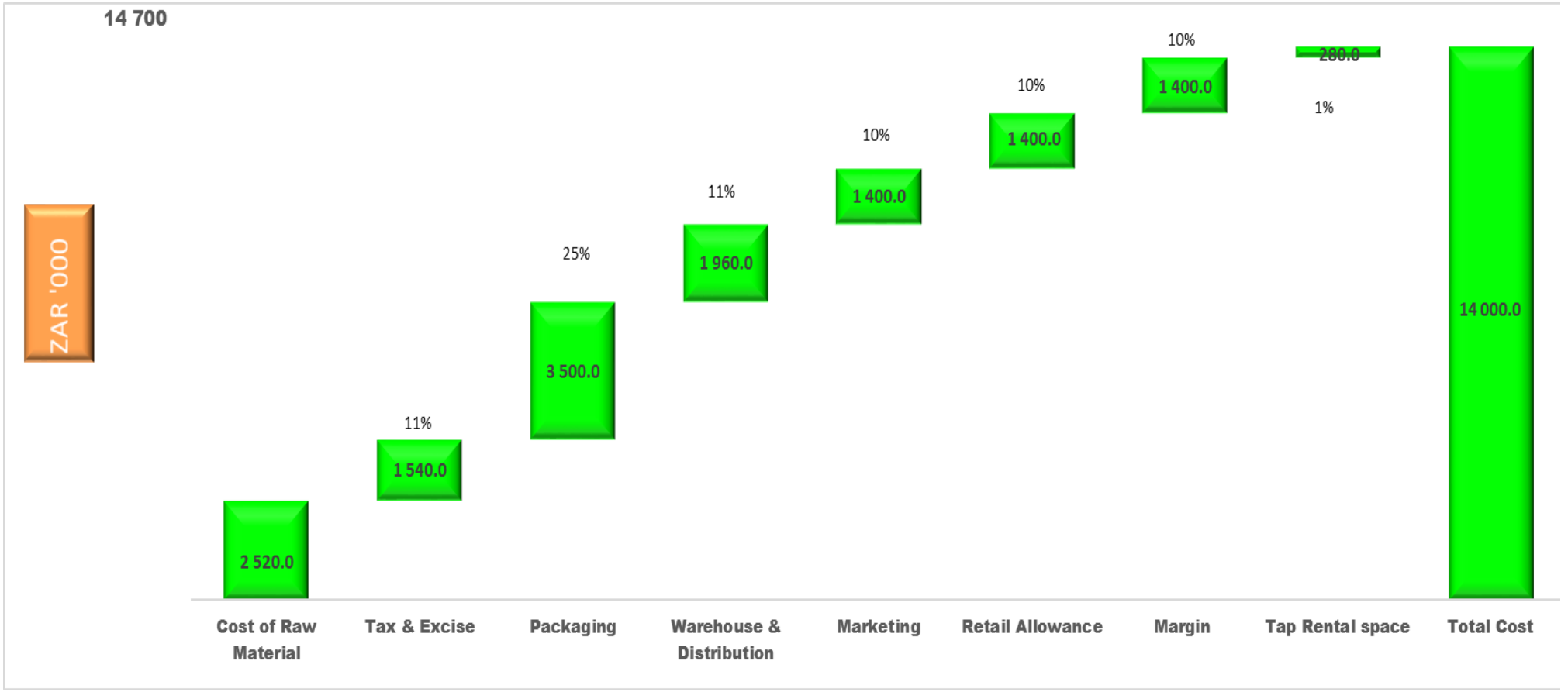

Figure 4.8: Cost of a New Brewery *(Banda, et al., 2015)*

The cost of a new craft brewery can cost up to $1Million. When this is converted to Rands, under the assumption that the $ 1= ZAR 14, then the cost of a new brewery is R14Million. Previous research have uncovered that the cost of a new brewery is broken down as follows: (Banda, et al., 2015):

Table 4.4.4: Cost of new brewery breakdown *(Banda, et al., 2015)*:

Item	**Cost Contribution**
Cost of Raw Material	18.00%
Tax & Excise	11.00%
Packaging	25.00%
Warehouse & Distribution	14.00%
Marketing	10.00%
Retail Allowance	10.00%
Margin	10.00%
Tap Price **	2.00%
Total Cost	**100.00%**

**Researcher own information from Interviews. Assumption is that one tap costs R20 000 and a new craft brewery will invest in 14 draught taps as a start

Some craft brewers buy used equipment from obsolete or non-operational breweries and this can cost up to R2.8Million with production capacity of 117L (Nicastro, 2016)

4.2.3. Brand Awareness

Figure 4.9 is a depiction of how the craft brewers market their beer to the consumer. 50% of the respondents noted that they rely on word-of-mouth for marketing their products as the digital marketing mediums are more expensive. 40% and 10% rely on billboards and FaceBook respectively as marketing mediums.

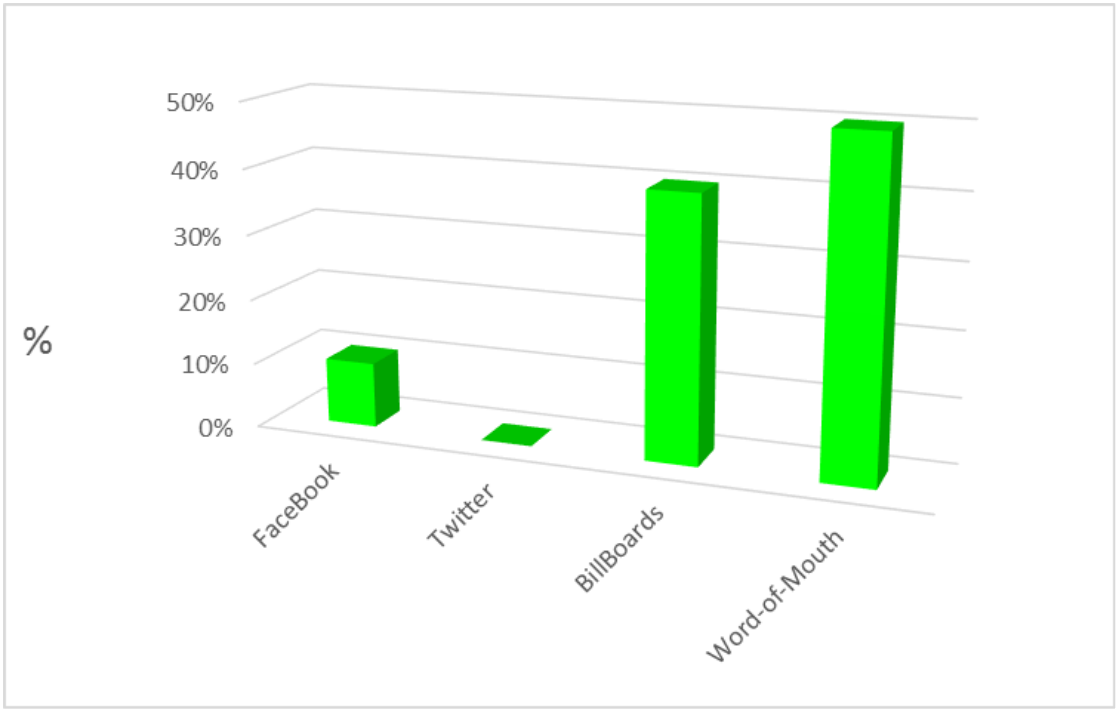

Figure 4.9: Marketing as a Brand Awareness Strategy

As can be seen in Figure 4.10, the use of bottles and cans is preferred as a medium of selling beer followed by kegs and lastly draught taps.

4.2.4. Visibility in Outlets

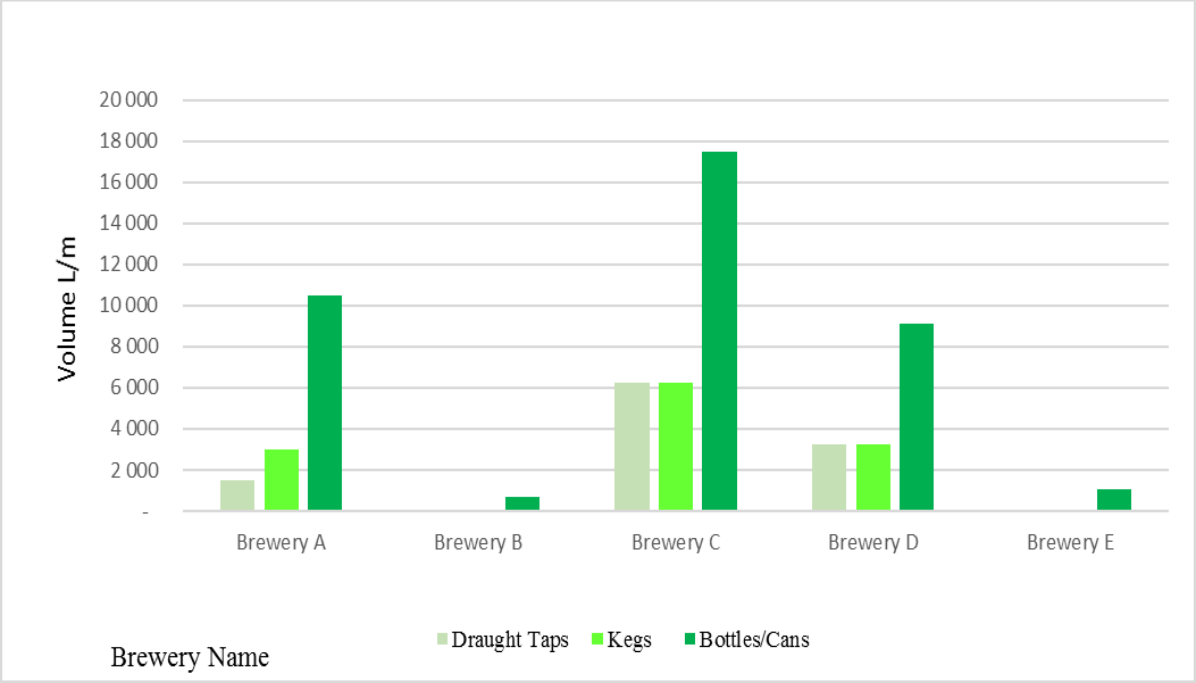

Figure 4.10: Visibility of Craft Breweries in Outlets

*no data available for Craft Brewery F

4.2.5. Innovation & Growth aspirations

Figure 4.11 shows the estimated growth projection for the craft breweries over the next 10 years. The performance from the previous years was used to project future growth up to the year 2034.

The shelf-life of beer is 4 months and in order to extend the shelf-life of beer, a pasteurization step is to be conducted at the end of the bottling phase (Interview with all Craft Breweries). Pasteurization involves heating the bottles up to a certain temperature in order to "kill" the last set of germs or micro-organisms before sending the packaged bottles to trade (Interview with Craft Brewery A and Craft Brewery C). Only Craft Brewery A and Craft Brewery C have the pasteurization step as part of their production phase. If there is no pasteurization, then the shelf-life is less than 4-months and thus delivery has to be to the local community. Given the average lead time to transport to the SADEC region is 6 weeks (Interview with Craft Brewery A and Craft Brewery C), only Craft Brewery A and Craft Brewery C are able to expand to Africa, should they wish to.

The down-side is that a pasteurizer equipment is expensive and most of the craft breweries have chosen to omit this step from the main production step. Thus, the lack of a pasteurizer is a growth-limiting step if they want to expand to rest of Africa.

Table 4.5: Beer Volume Production Projection kL/year (Interviews with Craft Brewery A – E)

Brewery Name	**2014**	**2018**	**2022**	**2026**	**2030**	**2034**	**2038**
Brewery A	5	15	25	30	40	50	50
Brewery B	0.2	2	0.2	0.7	0.7	0.7	0.7
Brewery C	10	25	40	55	70	85	85
Brewery D	7	13	26	39	52	65	78
Brewery E	1.4	14.8	24.8	38.8	52.8	66.8	66.8

**Craft Brewery F projection growth data exceeds the axes as they are the highest volume producers. No data available for interviewee G as this is a beer blogger.

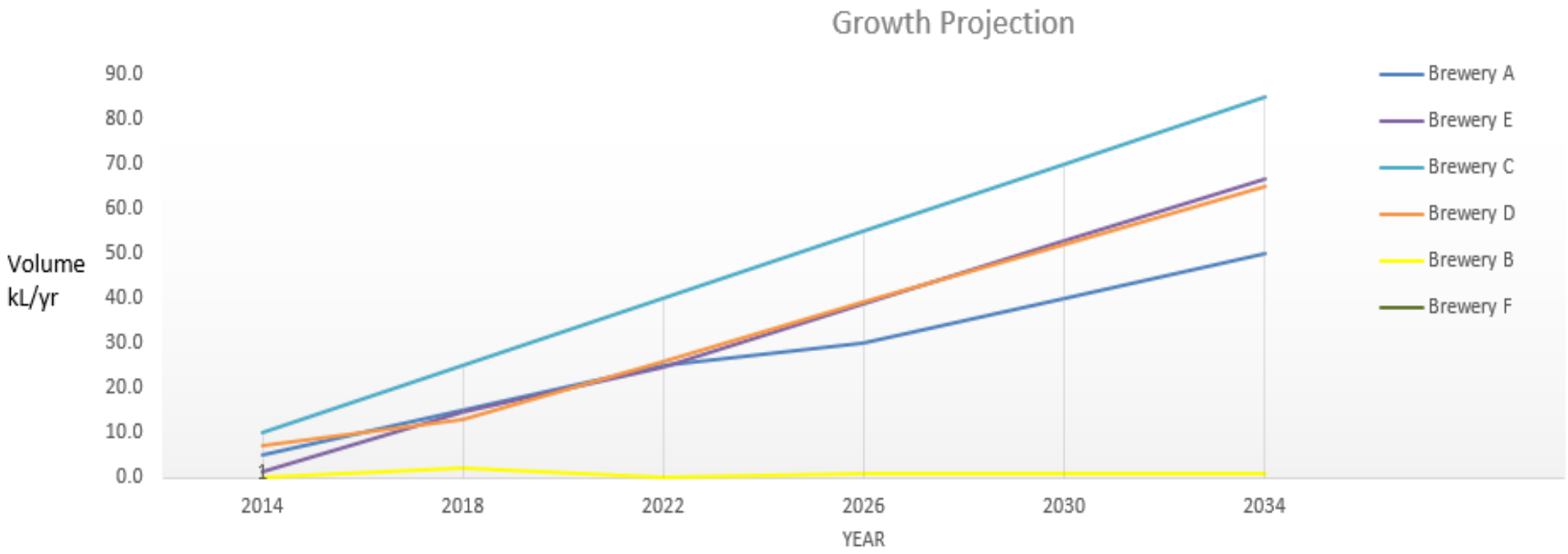

Figure 4.11: Growth Projection of Production Volume (Author's own elaboration, based on growth over the previous years and demand plan

4.3. Key Findings

Table 4.6: Key Findings from Interviewees

Key Finding	Challenge	Opportunity
Shortage of funding to expand production	Intensive capital for production equipment. High-Overhead costs due to limited number of customers	Potential structures that could provide more financial support for brewery expansion: • Regulatory bodies • Taxation regimes • Financial institutions
Lack of appropriate market strategies	Lack of aspiration to expand to regional and cross-border regions due to lack of resources	• Collaboration with craft breweries in regional and cross-border regions • Promotion beer on each other's behalf in order to increase beer brands to wider markets
Lack of capacity to produce beer with extended shelf-life	A pasteurizer extends the shelf-life of beer which makes it favourable to send to SADEC regions. However, a pasteurizer is capital expensive and most craft breweries can't afford it. Hence they only cater to the local community	• Suppliers to cap pasteurizer costs for craft breweries. • Craft breweries from different regions can amalgamate and produce beer on each other's behalf in order to extend customer to other regions
Innovation	Gin and tonic are on the increase	• Introducing different alcoholic drinks such as gin and tonic within their business operating model
Marketing	Lack of resources and knowledge to utilize marketing communication channels	Unique marketing channels can be utilized for promotion. Investment in resources and skills to further drive marketing
Value Chain Visibility	Occurrence of partnerships or mergers is not likely as commercial beer companies are already dominating	• Mergers and strategic alliances formation with similar sized breweries in order to share supply chain costs and expand their value chain
Value Chain Outlets	Low visibility due to high logistics costs, high costs of installation and maintaining draught taps	• Outlets such as bars and pubs should reduce the installation and maintenance fee for craft breweries as the economies of scale are significantly lower than commercial breweries

Support Structures	Highly bureaucratic industry with tax and high excise rates	Tax and excise rate is based on volume production per year. Opportunity is to cap the tax rate for certain thresholds

4.4. Chapter Summary

The primary purpose of chapter 4 was to

- Present the results data collected from the interviews and uncover the challenges that each craft brewery encounters
- Explore the measures that can be used to mitigate these challenges in terms of cost, performance and planning.

The chapter also aimed to recommend the improvement strategies that can assist SME's in their quest for growth.

This chapter presented a detailed comparative analysis of each craft brewer and the extent of their knowledge in the industry, their innovative projections as well as the principles that constitute to their success.

The next section will aim to discuss in depth these findings in relation to the research objectives and research question.

Chapter 5 : Discussion

"Life is too short to drink cheap beer"

5.1. Discussion Overview

5.1.1. Introduction

This chapter will focus on analysing and discussing the findings from Chapter 4 relative to the research objectives that were outlined in Chapter 1

Central Research Question

What are the challenges and opportunities of integrating SME's into the Beer Manufacturing Value Chain?

5.1.2. Horizontal Comparative Analysis

In order to fully understand the status of the CBI and the impact, the data was collected from craft breweries in Gauteng, Western Cape, Kwa-Zulu Natal and Botswana. The study was conducted across different cities namely Johannesburg, Cape Town, Midlands, Vanderbijlpark and Gaborone. The data was collected via semi-structured interviews. On the day of the interviews, the full research topic and objectives were clearly explained again to the interviewees and they all gave full consent that a recording could be taken. With the exception of the blogger, all the interviewees were part-owners and founders of the brewery. The blogger has extensive knowledge about the craft beer industry and has published a book about Craft Breweries in South Africa, one being *African Brew: Exploring the Craft of South African Beer*. The average time of each interview was about 45minute to an hour. All the interview questions were conducted as per the Interview questionnaire Structure (Appendix E) that was submitted for Ethics Clearance and the results were recorded in-line with the research design.

As can be seen in Table 4.2 (Chapter 4), most of the craft beer owners have a corporate background which they simulated into their business start-ups. Sound knowledge of corporate and finance is beneficial as this has been a contributing factor to the failure of SME's (Guido, 2019). Studies have shown that more than 97% of new SME start-ups do not survive beyond the 3-year mark in South Africa (Leshou, 2017). South Africa is ranked as the lowest in SME's that survive beyond 3-years

compared with other developing countries having a survival rate of (beyond three years) 8.5% ,15%, and 28% in Chile, Brazil and Thailand respectively (Leshou, 2017).

5.1.3. Background of Craft Brewers

5.1.3.2. Experience of Craft Breweries

As can be seen in Figure 4.4, most craft breweries are located in Gauteng. As Gauteng is the hub of the economy of South Africa, most companies are located in Gauteng in order to form vertically and horizontally integrated business networks (Hanusch , et al., 2018)..

Figure 4.5. is a depiction of the experience of the craft breweries and it can be seen that most of the craft breweries are well-experienced with more than 5 years of experience in the Craft Brewing Industry

Experience is the ability for human to be modified "profoundly in a way that after having crossed, endured, traversed it, we will never be the same again: undergo an illness, mourning, joy, loving, traveling, writing a book, painting are "experiences" in the first philosophical sense, surely simple, but nevertheless trivial" (Jornet & Roth, 2014). Thus, it can be inferred that the craft brewers that have experience of greater than six years can be classified as experienced due to being fully traversed and are not at the same platform as new craft breweries.

Figure 4.6. is a depiction of the beer volume production per annum of the craft breweries and there is balance between Small and Medium craft breweries, with the exception of Craft Brewery 6 whereby they have had exponential growth in the recent years and their beer production has exceeded their peers.

5.2. Achievement of Objectives

5.2.1. Challenges in Craft Brewery Industry

5.2.1.1. Financial Challenge

All of the craft brewers noted that they encounter financial challenges in their business. The primary challenge they encounter is capital investment from financial institutions to invest into their business. This is followed by the high over-head costs that tend to impact their revenue negatively. Common feedback from financial providers was that the craft beer industry is immature in RSA and that theyperceived craft breweries as high risk (Maye, 2014). Love and Roper(2013) noted that

the common reasons that business proposals are not granted credit is because the business idea is perceived as an industry that is over-saturated, a business idea that is unknown or even a proposal that is associated with high commercial and technical risks. In the case of craft breweries, this can be linked to the fact that there are "high commercial and technical risks" (ibid) because financial service providers do not have knowledge of such businesses in the context of South Africa and are sceptical to provide credit, even though most of them have survived beyond the three(3) year mark. The high over-head costs are at their highest when a brewery is at start-up phase and the return on investment has not been achieved as yet due to low revenue[1]. This can cause immense pressure on the cash-flow and financial management[1].

In addition to the above, more than 80% of the brewers had to self-fund their own start-up capital for a new brewery as per Figure 4.7. The cost of starting up a brewery starts from ZAR2.8Million for simple second hand system that can produce beer volumes up to 117L/batch (Nicastro, 2016). The cost of brand new equipment with capacity of 3 500L/batch system can cost up to ZAR 14Million for the equipment (Banda, et al., 2015). Added to this, there are marketing costs for awareness activations, employees' salaries, raw material ingredients as well logistical costs. This is depicted in Figure 4.8, all of the craft brewers imported their equipment because of the low availability of craft beer equipment suppliers in South Africa. Given that the equipment is imported, there are clearance and duty costs that are incurred at the airport which are additional costs.

The key message that was common from the respondents was that the start-up of a new brewery is not easy and does not have instant pay-back (Researcher's source drawn from interviews). It was highly recommended that a potential craft brewer save up as much as possible and to consider this type of business as an additional revenue stream (Researcher's source drawn from interviews)..

The lack of awareness of craft breweries in the South African manufacturing and banking sectors is very high and this is at the detriment of craft brewers. There is a need for a new type of beer style for entertainment amongst consumers and this is evident in Figure 2.2 whereby the growth rate of craft breweries was 10 fold between 2008 and 2018 *(Corne, 2018)*

In light of this high growth, it is evident the South African craft breweries will be in need of capital investment in the near future to fund new brewery start-ups craft breweries in order to support consumer's needs which will in turn support (Industry, 1995) employment growth (Miller, et al., 2019) sector. However, if there is continued lack of knowledge within financial institutions , then it can be argued that the lack of funding will be a contributing factor to the challenges faced

[1] Interview with Craft Brewery E

by craft breweries and thus have an indirect impact to employment (Amra, et al., 2013; Allan, et al., 2004; Beck & Demirguc-Kunt, 2006; Olawale & Garwe, 2010; Roodman & Morduch, 2009.

5.2.1.2. Brand Awareness

The majority of the respondents, 90%, noted that there is a lack of brand awareness of craft beer in the market due to the fact their target market is limited to higher LSM groups, namely the middle-class, due to the high cost of a single unit of beer. The average cost of a craft beer in South Africa starts from ZAR45per 500ml bottle (Slater, 2015) vs ZAR 17 per 500ml from a commercial brewery like SAB-ABInBev or Heineken (ibid). The only way for your product and or service to grow amongst the target market is for the target market to be aware of the product or service that the SME owner/manager has to offer (Green, 2015). The lack of marketing to the wider spectrum of markets, negatively influences their businesses to a certain extent (ibid). In order to drive marketing, there needs to be more event shows that will be open to a wider target market (Green, 2015). The CBI industries usually leverage on beer festivals in order to market and drive their product to the customer and consumer (Interview with Craft Brewery A, Craft Brewery B, thereafter C, Craft Brewery D, Craft Brewery E and Craft Brewery F)

According to a study conducted by Lauren Green (2015), craft breweries that attempted the use of social media as a marketing platform, namely Twitter & Facebook, saw a 67% spike in interest from the potential consumers. The Craft Brewers perceived it as a useful platform for them to share information about upcoming events, engage with consumers and better understand their needs (Green, 2015). Thus, the use of social media has the potential to uplift the consumer base for the craft brewery.

Only two of the respondents noted that they use advertising mediums, such as billboards, to share information and raise brand awareness of their beers, as depicted in Figure 4.9. Craft Brewery C noted that they placed a billboard on the off-ramp of a well-known highway and confirmed that this had been a successful strategy because often times there is an influx of visitors and tourists that visit their brewery as soon as they off-ramp (the customers often shared this information with the craft brewery). As per Figure 4.9, only one respondent Craft Brewery makes use of Facebook as a marketing strategy and this has been an effective way of communication as they often receive messages and information requests on FaceBook from interested customers. The 50% balance of the breweries only rely on word-of-mouth for marketing because they primarily prefer to support the local community.

5.2.1.3. Visibility in Outlets

Based on the interviews as presented in Figure 4.10, growth prospects of a craft brewery requires that their beer to be well-known and well-received by the consumer (Thompson, et al., 2017). One of the strategies that has proven to be a great success is the partnering with pubs, bars or restaurants that will sell their beer from a draught tap or from the outlet fridges with a service fee (Interview with Craft Brewery A, C and F). This was highlighted as an effective business strategy as bars, pubs and restaurants often have numerous events that are hosted by their clientele base and the presence of craft beer in-trade (pubs, bars or restaurants) is an opportunity for visibility(Interview with Craft Brewery A, C & F). However, the down-side of this form of strategy, is that is requires large injection of investment in the region of R20k per tap for permanent residency of beer and this cost excludes the maintenance costs which could be as high as 10% of the tap cost (Interview with Craft Brewery A, C & F). The second disadvantage is that if the beer does not sell, then the outlet owner is at the discretion to rent out to a different brewer. This in turn creates a gap for the craft brewery and thus can be a contributing factor to the failures of craft brewers.

In other instances, a local brewery that has excess volumes of beer can hire a 3rd party company to package and market their beer to different outlets in order to drive volumes (Olivier, 2018). This excess beer will be endorsed and sold to multiple outlets on a contract basis owned by the parent company being the actual brewery that produces the beer (ibid). This form of marketing tool has been long practised in the USA and there are a few Craft Breweries that practise this in RSA (Olivier, 2018), with the exception of the blogger, none of interviewees conducts business as a contract brewery as they are all owner owner/managers.

As shown in Figure 4.10), 40% of the brewers (Brewery B and Brewery E) do not have the financial capability to install permanent draught taps at the different outlets and therefore rent a tap for a fixed period. These breweries sell their beer only in bottles and it has been a viable medium for their beer to enter the market. Brewery A, Brewery C and Brewery D generate their revenue from draught taps at outlets, kegs as well as bottles but bottles being the dominant form of sales. As seen from the interviews in Figure 4.10, the craft breweries that have exercised all the platforms of selling beer (kegs, bottles and taps) are brewing more beer and thus generating more revenue than those that only have one form of selling beer. The additional volumes can be attributed to the fact that they have more visibility in the market, consumers are more aware of their product and are therefore more likely to buy their product (Interview with Craft Brewery A, C and D). The effect of visibility in outlets is evident in the volumes sales for Brewery A, Brewery C and Brewery D as compared to Brewery B and Brewery E, where there is minimal visibility.

5.2.1.4. Innovation & Growth aspirations

As presented in Chapter 4 (Figure 4.11), five of the six breweries project a growth rate of >50% between 2018 and 2027 and this is driven by the current demand plan.

According to Jeffrey Baumgartner (2018), an Innovation Management expert, the best way for an SME to deal with up and coming competitors that have a competitive advantage is to ensure that they keep up with the market trends and the consumer and customers' interests. An innovative business refers to a business that responds to the needs of the market as and when required (Isomäki, 2017). As explained in Chapter 2 (section 2.4.1.1, iii), an innovative organization may be a potential threat to similar businesses and these businesses might need to respond to the market changes at the earliest (Isomäki, 2017).

As previously noted in Chapter 4 (Table 4.2), all the craft brewers noted that they are innovative and respond to the needs of the market (Interview with Craft Brewery A – D). During the interview sessions, all the Craft Brewers noted that they had noticed a shift in the alcohol drinking environment, whereby more consumers were requesting Gin & Vodka upon visiting their breweries. Therefore, the craft brewers have now added Gin & Vodka as an additional Stock Keeping Unit to their breweries and these have been successful in satisfying their consumer base and ensuring that they return to their brewery (Interview with Craft Brewery A – D)..

There was a common response with regards to the aspirations of growth and penetrating the market in a stable manner (Interview with Craft Brewery A – D). Table 4.2 noted that 66% of the interviewees have penetrated into the gin and vodka, over and above beer as their core product (ibid). When craft brewery A Sales & Operational Head was asked on why they had added gin and vodka to their liquor brands, they responded that "*it's very important to understand your consumer's needs and how the market is shifting. Often times a beer lover will also need gin or vodka as an additional drink so it only made sense we responded fast and incorporate this drink into our brand and it has attributed to our success over and a*bove *our core beers"*.

The remaining 34% did not see the need to brew additional liquors as they were content with the beer as their core beer that would quench the thirst of the locals, nothing more, and nothing less (Interview with Craft Brewery E and F – F).

5.2.1.5. Other Challenges

5.2.1.5.1. Crime

The response to crime was mainly for the local breweries that brewed beer in their home (Interview with Craft Brewery A and B). Craft Brewery B noted that they do not advertise their business in the form of billboards due to their brewery being in close proximity to a township and the risks of theft thereof. This specific brewer mainly advertises their beer in the form of word-of-mouth with family, close friends and former colleagues (Interview with Craft Brewery B). The majority of the brewers did not raise any concerns with regards to crime in their business unit due to security systems they have installed for the safety of their business.

5.2.2. Opportunities for craft breweries

5.2.2.1. Competition in the Craft Beer Industry

Literature shows that companies can enter the value chain through a variety of activities along the product chain and the company need not to acquire the full range of activities across the full value chain (Ljungkvist, 2013). An example is some well-known companies that can have cars produced in China, IT services for the cars are produced in India and the rest of the car parts in Samoa (ibid). In the case of craft breweries, this was evident in the Soweto Gold case where the brand was acquired by Heineken from a research and development perspective and this allowed Soweto Gold to be part of the Heineken value chain, which produces beer the world over, as presented in section 2.7.1.1. (Pillay, 2014). Given Soweto Gold was a competitor for Heineken, this created a platform for Soweto Gold to enter beer value chain of an established firm through the acquisition (Ljungkvist, 2013). The example of Heineken and Soweto Gold is an example there is an opportunity for craft brewers to merge or partner with large corporates in order to form part of the BMVC. As noted by Ljungkvist (2013), this form of partnership will "lead to increased knowledge transfer, even when tasks are performed by networks of sub-contractors and not within actual subsidiaries and such transfer of technology and knowledge leads to increased productivity and thus to opportunities for economic growth" for not only the country but the actual SME owner/manager.

5.2.2.2. The involvement of large corporate companies with SME's

Craft Brewery A noted that a potential business opportunity would involve a large corporate (of any sector) to sign contracts with craft breweries to supply them with beer for their corporate events (Interview with Craft Brewery A). This will (1) introduce the consumers to new drinking flavours

(2) increase consumer awareness of their beer and brands (3) increase their revenues (Interview with Craft Brewery A). The researcher infers that this is a strategic business opportunity that will indeed drive the agenda of not only supporting local businesses but assisting in the growth of the brands of the craft brewers and ultimately their business that may potentially reach the levels of mainstream beer makers.

5.2.2.3. Pricing strategy

Craft beer is more than double the price of mainstream beer and this is because they struggle with economies of scale to commercial breweries (Slater, 2015). Caspari (2003) stated "if a certain sector is saturated with business of the same nature or product, then these businesses are likely to form a close-knit supply chain network whereby they have the same supplier base in order to reduce competition amongst them (Caspari, 2003). A lower price is more likely to attract a higher customer base, which increases revenue and thus a sustainable channel for SME's within the value chain. In light of this, there exists an opportunity for craft breweries to amalgamate and form a unit and trade under a single company. The researcher infers that this will allow the business to leverage on their existing customer base that will enable them to reduce their supply chain and overhead costs which will in turn reduce the single price per unit of beer and attract more consumers.

5.2.3. Analysis of Challenge and Opportunities

It is important that craft brewers embark on research on the current status of the beer environment in order to be aware of the risks and opportunities within the BMVC (Thompson, et al., 2017). As can been seen, the challenges and opportunities can and will have a direct impact on the success of a craft beer owner. This can be further explained in Figure 5.1 using Porter's Five (Thompson, et al., 2017).

5.3. Business Model Development

In order to develop the conceptual framework, a series of logical steps were followed in chronological order to build a conceptual framweork for the BMVC namely (author's own):

1. Porters Five Forces – to understand the industry environment and the strategies that need to be formed
2. The Enablers of integration into the BMVC: Business Model Strategy - to understand the enablers of value chain integration
3. Business Model Development tool for an SME – to understand the tools that need to be utilised to develop a business model

4. Business Risk Management
5. Business Model Optimization

5.3.1. Porters Five Forces

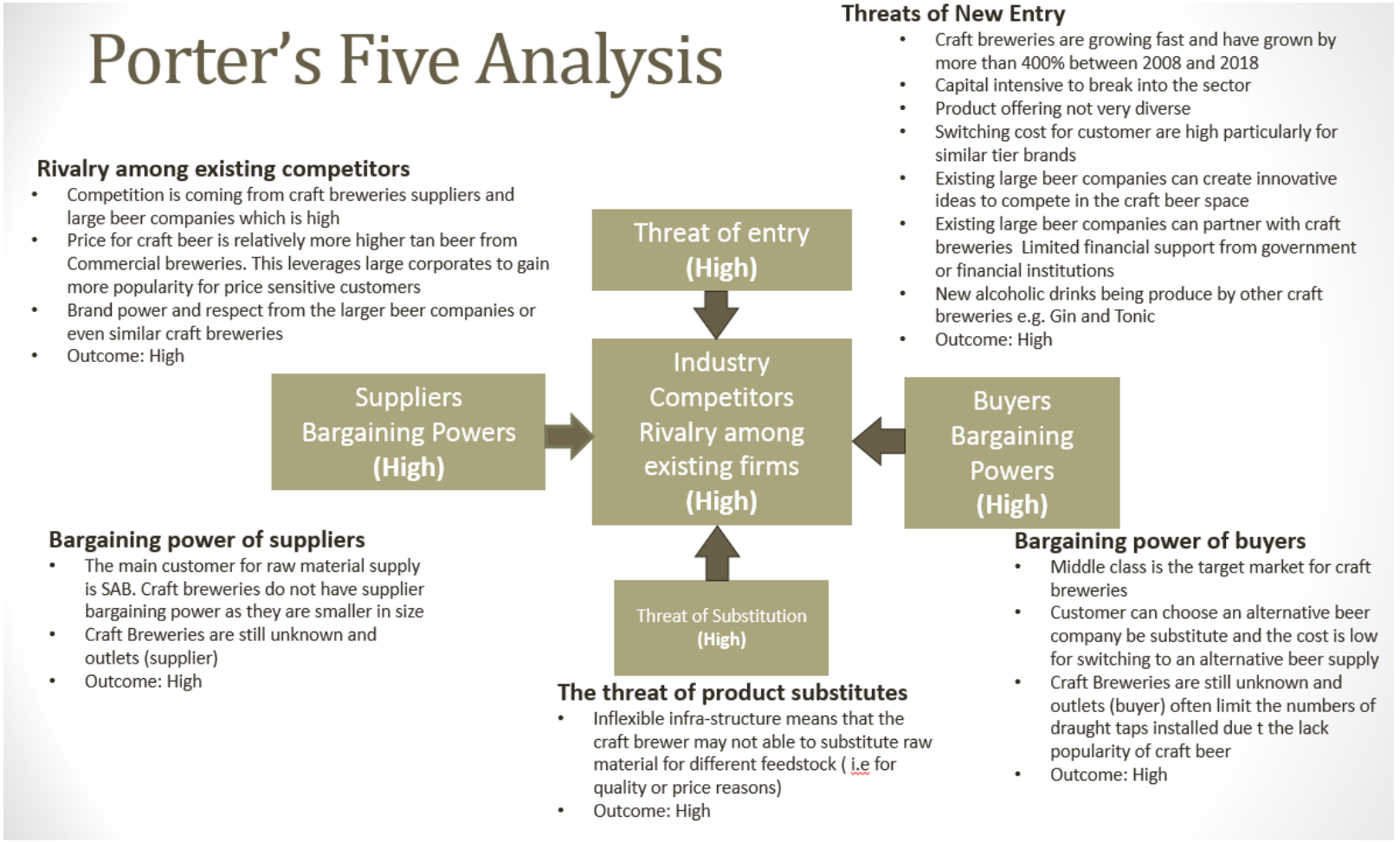

Figure 5.1: Porters Five Analysis for the Craft Beer Industry (Author's own illustration)

As can be seen in Figure 5.1, there is a high barrier of entry for new craft breweries due to the capital investment that is high and existing commercial breweries. Given the high rate of new craft breweries that have come about between 2008 and 2018 (Corne, 2018), there is high competition amongst craft breweries as customers are at liberty to choose an alternative beer choice. Thus, from the Porter's Five Forces, the Craft Beer Industry is a complex and high risk industry.

5.3.2.: Enablers of integration into the BMVC: Business Model Strategy

The enablers are a management tool that can guide the involvement of SME's into the value chain (Meehan & Muir, 2008) in the context of the BMVC, the following will be applicable

The recurring themes that will enable integration of SME's are shown in Table 5.1.

Table 5.1: Characteristics, obstacles and enablers in the implementation of SCI in SME's

(Author's own illustration inspired by Table 2.3 *(Meehan & Muir, 2008)*

Enablers of integration of SME's into value chain		
Characteristics of SME's	**Obstacles**	**Enablers**
Capital Investment	Capital intensive	Adequate source of funding Amalgamation with other SME's and organizations in order to share costs
Tax and Excise Costs	Tariffs too high	Low tax and excise
Location of SME	Should not be near school or church	Must be in an industrial area
Business has limited market target and is focused on a few customers	Lack of understanding of supply chain involvement	Holistic supply chain and value chain understanding. Expand on Marketing activations and initiatives to drive brand exposure
Misalignment between business strategy and processes	Inefficient business system and the processes	Unique Value proposition in the industry
Stakeholder Engagement	Lack of information devoted to external communication, while the internal communication is unstructured	Dedicate resources to manage communication channels and flow throughout all stakeholders
Inexperience use of KPI's for business management	Measurement of supply chain integration with inconsistent measures and unsuitable measures	Skilled employees with business management skills

		Define suitable methods for identifying relevant KPI's to measure business performance

5.3.3. Business Model Development and Optimization

Table 5.2 depicts Business Model Development tool for an SME as explained by (Osterwalder & Pigneur, 2010) *(Osterwalder & Pigneur, 2010)*

Table 5.2: Business Model Development tool for an SME as explained

(Author's own, inspired by Table 2.4)

Business Model Development	
Key Partners	Identify key partners that will be players in the value chain, the competitors and potential risks
Key Activities	Value Chain Development and local economic development
Value Propositions	Business proposals and the value that this will have in the sector and value chain
Customer Relationships	Being able to form strategic alliances in the business network, the different avenues that they trade in and the impact on your business and your chain
Customer Segments	Developing customer behaviour models
Cost Structure	Two broad main types of cost structures are distinguished, namely (1) cost-driven structures and (2) value-driven structures. Fixed costs, variable costs, economies of scale and economies of scope characterize the two main types of cost structures
Revenue Structure	Developing pricing models that will yield sufficient, efficient and sustainable revenues

In the BMVC context, the following over-arching principles would need to be addressed by the SME owner/manager to build their business model (Author's own intepretation)

1. Define the unique value proposition (e.g. different type of beer)
2. Strategic partnerships with key stakeholders (supplier or competitor)
3. Defining the revenue model in the of a revenue structure and cost structure
4. Segment customers according to the different beer preferences
5. Understand the unique entry-point into the value chain

This will be achieved as follows (Author's own intepretation):

Step 1: Industry Analysis

i. Porters Analysis (Figure 5.1)
ii. SWOT

Step 2: Enablers of integration and Business Model Design

i. *Industry gap*

Analysis through understanding consumer needs and available beer styles in the current environment

ii. *Supply Chain Planning*

Understanding the beer value chain, approaching key stakeholders in the value chain and populating the business case incorporating price ranges, R&D and competitors and securing capital

iii. *Supply Chain Analysis*

Understanding the revenue model and structures. Incorporate tax and excise duties. Formulate and analysing KPI's, production volumes

iv. Business case development
v. Business model development
vi. *Marketing initiatives*
vii. *Value chain integration*

Step 3: Business Risk Management

i. Internal & External Risk management
ii. Anticipate Competitor next move
iii. Anticipate competitors next move
iv. Manage tax, excise, over-heads etc.

Step 4: Business Model Optimization

i. *Integration Optimization*

Optimizing activeness in the value chain by implementing innovations aligned to growth and best practices that will ensure security in the value chain

Proposed Conceptual Business Model (Author's own framework)

Step 1: Porters Five Forces Industry Analysis of the beer manufacturing value chain

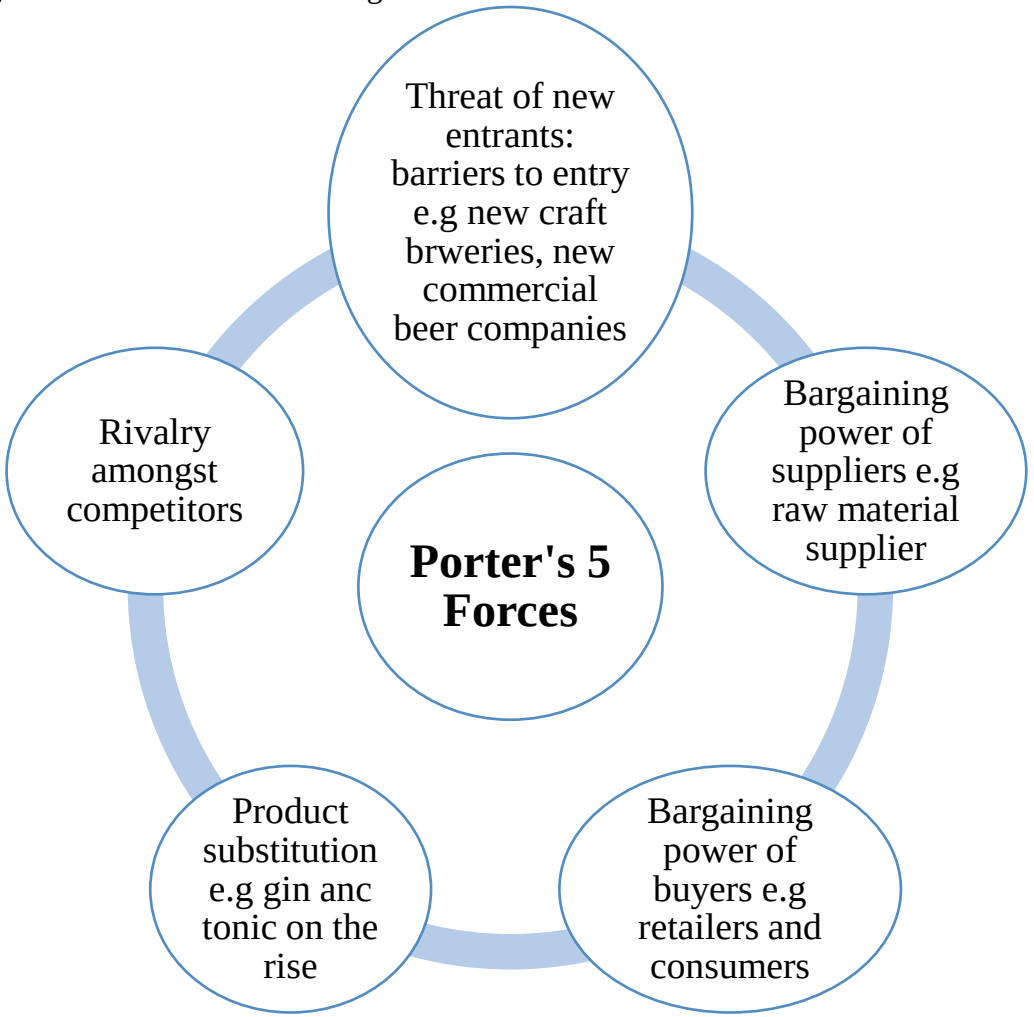

Figure 5.2: Beer Manufacturing Value Chain Analysis: Porters Five Forces (Author's own framework)

Step 2**:** Enablers of Integration & Business Model Development (Author's own framework)

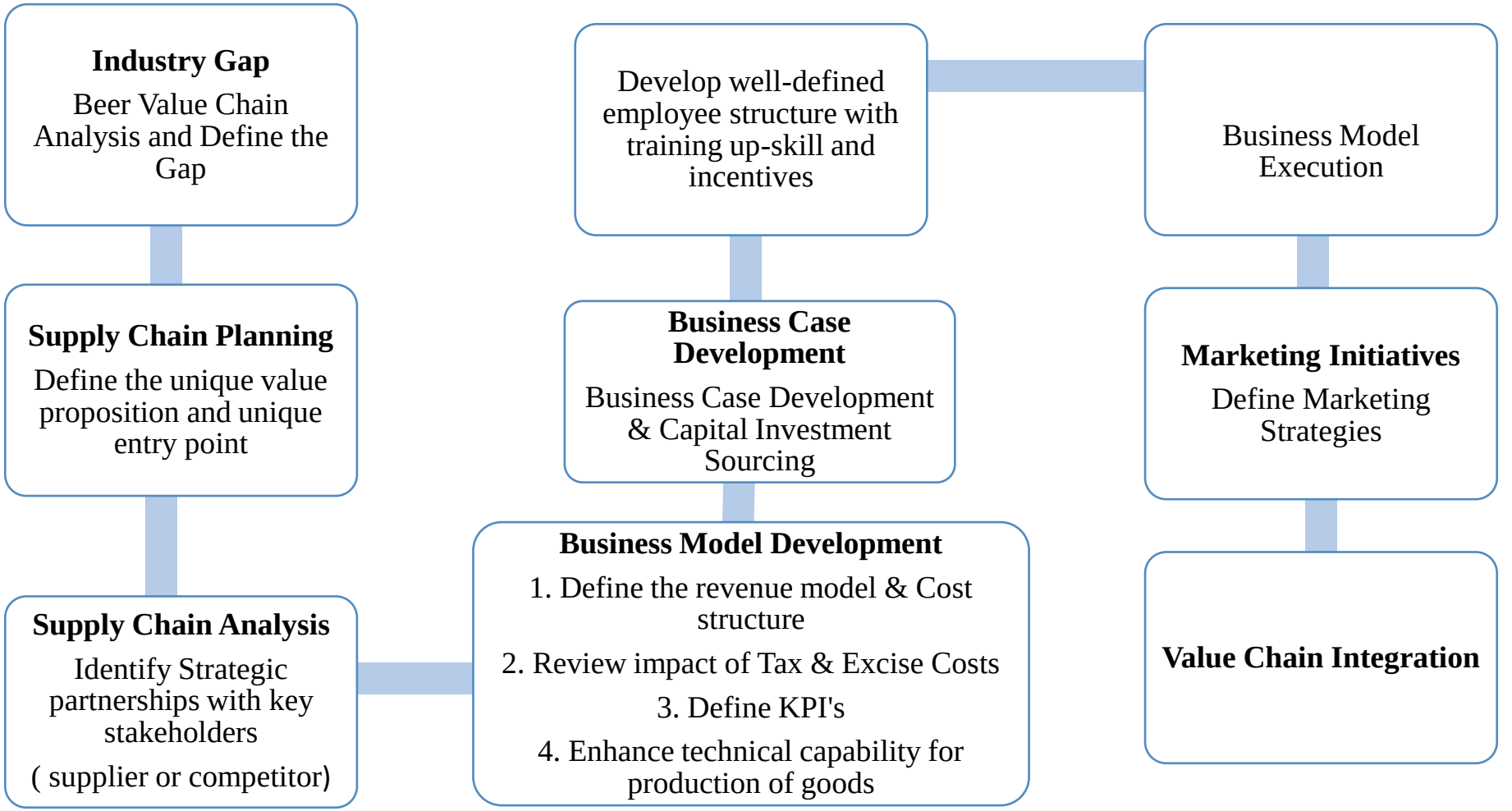

Figure 5.3: Enablers of Integration & Business Model Development (Author's own framework)

Step 3: BMVC Business Risk Management (Author's own framework)

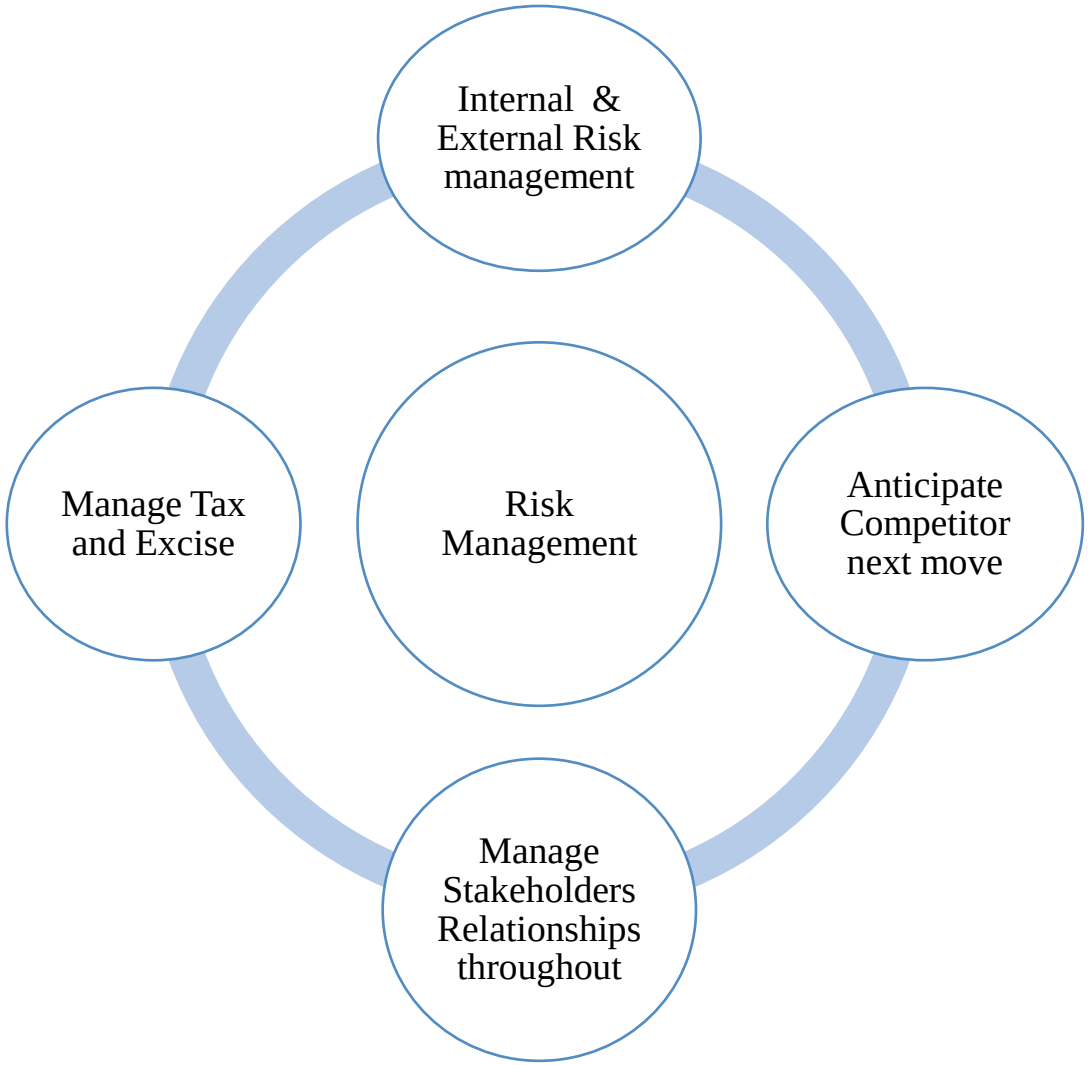

Figure 5.4: Business Risk Management (Author's own framework)

Step 4: Business Model Optimization (Author's own framework)

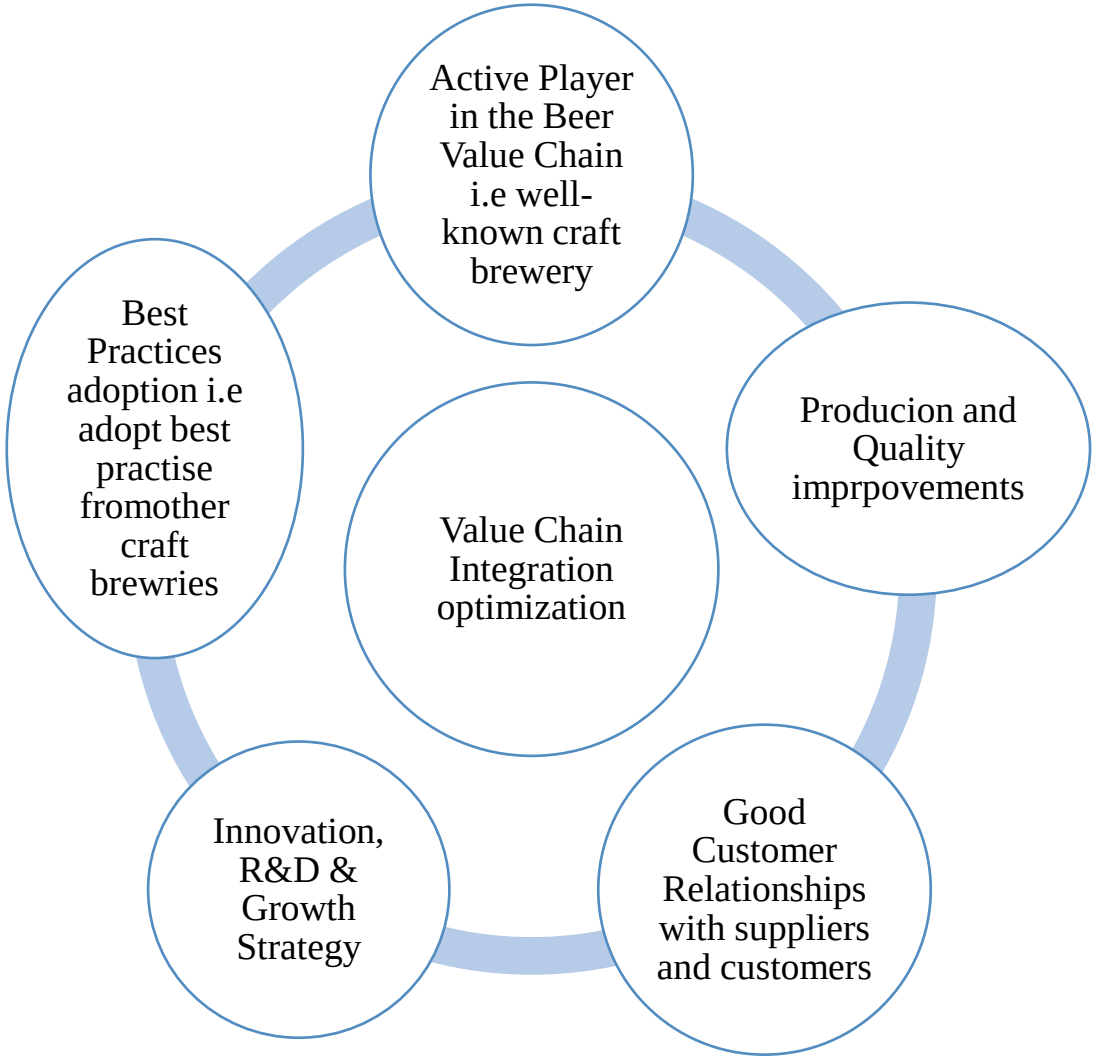

Figure 5.5: Business Model Optimization (Author's own framework)

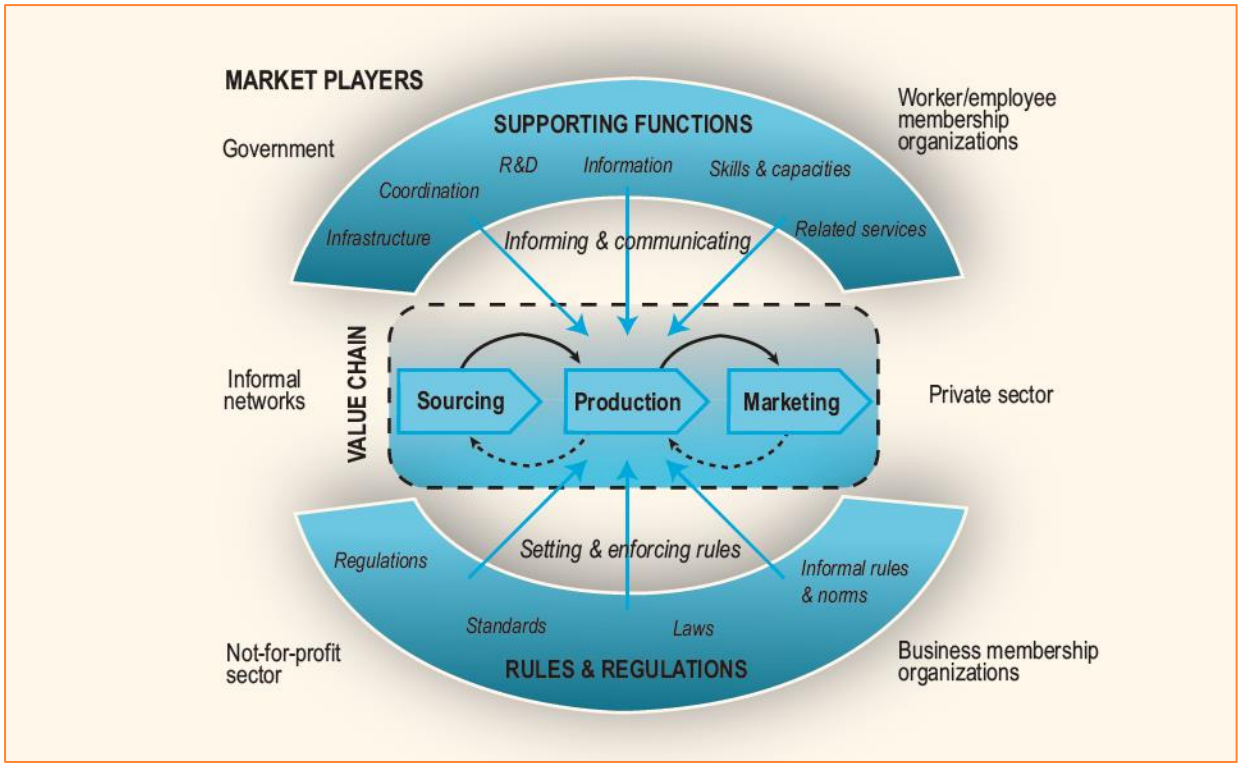

Figure 5.6: Factors within a value chain

(Saarelainen & Sieve, 2011)

5.4. Chapter Summary

This chapter discussed the results presented in Chapter 4. The challenges that were identified and recommendations were made to in order for craft breweries to integrate into craft beer value chain.

Chapter 6 : Conclusion and Recommendations

"Trust me, you can dance"

~Vodka

6.1. Conclusion

The aim of the research was to uncover the challenges that craft brewers encounter in their daily operational activities. Consequently, the aim of the research was to define and develop a theoretical business framework that can assist in mitigating these challenges.

In light of the beer growth rates the world over, it can be inferred that that the craft beer industry is one of the one sectors that has the potential to contribute to economic development and thus improve the socio-economy of developing countries (Guido, 2019). The craft breweries are forecasting two-fold growth rates within the next decade and this is driven by the fact that more consumers are taking more interest into the craft beer industry (Interview with Craft Breweries). According to StatsSA, the South African manufacturing sector has been identified as the key industry to offer jobs to the skilled and semi-skilled labour force and in turn making significant employment contribution to the formal sector in 2016 (Mosai, 2017). The beer industry is set to expand by an additional 5% world-wide (Guido, 2019). The global craft beer is expected to reach $ 503billion by 2025 and the key market contributors being New Zealand, Belgium, China and the UK. Research conducted by the Productivity SA has stated the Manufacturing sector is set to grow by an additional 2.9% in 2018 and 2019, particularly in exports (Mosai, 2017). With the current positive growth rates that are looming, it is evident that the CBI has great potential to further expand to economies of scale in South Africa (Corne & Reyneke, 2013).

In order for SME's to strengthen their position in the beer manufacturing value chain and form medium sized enterprises that have an impact in the value chain, the SME networks need to increase in order to participate in the value chain *(Caspari, 2003).* A clustered organization is more likely to overcome the barriers that are faced by one craft brewery *(Caspari, 2003).* Business development services is an option that can assist SME's who are already in the manufacturing value chain *(Guido, 2019).* The service is aimed at counselling, training and consulting craft SME's in order to assist the craft brewer to form strategies that will allow them

to further survive and excel in the value chain and identify new opportunities and market trends (ibid). In addition, governments need to ensure that the macroeconomic, financial stability, regulatory compliances, sound governance are transparent for the craft beer SME's in order to provide craft beer SME's with an environment that is conducive and favourable for SME's to grow *(Saarelainen & Sieve, 2011)*.

The research question on the challenges and opportunities on small and medium enterprises integrating into the South African manufacturing industry was explored and unpacked in the form of craft breweries. SME in the Craft Beer space has not been fully researched and this research intends to add to the data-set of craft beer SME's in South Africa and Botswana.

6.2. Recommendation for Future Work

The research question focused on the integration of craft breweries into the manufacturing value chain. There are a few areas that require further study

1. Conducting a replication research in other provinces in South Africa and the rest of Africa in order to better understand the impact of craft beer in Africa and establish a general framework for integrating into the global beer value chain as the African continent.

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Appendix

Appendix A: Participant Information Sheet

Dear Participant,

Re: Participation in Research on **Integrating SMEs into the Manufacturing Value Chain:** An Investigation of the Challenges and Opportunities for Craft Beer Manufacturers in Gauteng, South Africa

Thank you for offering your time in this interview.

I am a part-time MSc student in the School of Mechanical, Industrial and Aeronautical Engineering at the University of the Witwatersrand, under the supervision of Thabani Mudavhanu. My MSc title is: ***Integrating SMEs into the Manufacturing Value Chain:*** *An Investigation of the Challenges and Opportunities for Craft Beer Manufacturers in Gauteng, South Africa.*

My belief is that the craft beer industry has the potential to contribute to the value chain in South Africa. I would specifically like to understand the role that the craft beer market has played in South Africa.

I would like to formally invite you to participate in this study as your knowledge and experience would contribute significantly.

The broad aims of my research are:

- To identify the challenges that SME's encounter in their quest to integrate into the brewing value chain in South Africa
- To uncover and outline the opportunities that present themselves to the brewing companies as result of integrating SMEs into their values chain
- To analyse these challenges and opportunities and highlight the significance of SME's to large manufacturing companies and therefore the manufacturing sector

- To develop and contribute towards a basic conceptual framework that will guide brewing SME's on how to integrate into the value chain of the brewing industry

The study will be conducted between November and December 2018. Involvement in the study would entail a face-to-face interview or an interview over Skype with you at your convenience. I would like to bring one of my colleagues (MSc Industrial Engineering student) with me to assist. During these interviews I would like to understand how your company operates, map your processes, and understand more about the issues faced in the daily operations of your business (specifically within your Operations Department) and how you manage these issues. The interviews would be conducted at your company. A short walk-through tour of your facility would be interesting, if you have the time and are willing to do so.

Participation in the study is voluntary, and you may withdraw at any time. Anonymity (regarding company name and any owner/manager/employee names) and confidentiality of information provided will be assured and respected. I would like to record the interviews, so I can later transcribe them. Your consent at the time of the interview will be requested. If you do not wish the interviews to be recorded this will be respected.

The results of the study will form part of my MSc dissertation report, and may also be reported in academic papers and at conferences. A summary of the results of the research will be made available to you on request.

Please contact me if you have any questions regarding the research and participation in the study.

I look forward to hearing from you.

Yours faithfully

Appendix B: Letter of Consent Template

I, (participant to write name) _____, agree to participate in the research entitled **Integrating SMEs into the Manufacturing Value Chain:** An Investigation of the Challenges and Opportunities for Craft Beer Manufacturers in Gauteng, South Africa, to be undertaken by **Miss Masetshedi Nkwanyana** under the supervision of ……., and certify that I have received a copy of this letter of consent.

I acknowledge that the research has been explained to me and I understand what it entails, as follows:

1. There will be an interview which is expected to take no more than 1 hour.
2. The interview may be audio taped, and transcribed for analysis by the researcher.
3. I have the right to withdraw my assistance from this project at any time without penalty, even after signing the letter of consent.
4. I have the right to refuse to answer one or more of the questions without penalty and may continue to be a part of the study.
5. I may request a report summary, which will come as a result of this study.
6. I am entirely free to discuss issues and will not be in any way coerced into providing information that is confidential or of a sensitive nature.
7. Pseudonyms will be used to conceal my identity, and that of my company, my employees, my suppliers and my customers. The information disclosed in the interviews will be confidential.
8. Audio-tapes and transcripts will be kept securely stored during the research and after the research has been completed.
9. This project was approved by the Faculty of Engineering and the Built Environment of the University of the Witwatersrand and the School of Mechanical, Industrial and Aeronautical Research Ethics Committee (non-medical) of the University.
10. If I have any questions or concerns about my rights or treatment as a participant, I may contact the Chair of the School of Mechanical, Industrial and Aeronautical Research Ethics Committee (non-medical) at (phone # 011 717 7343) or by (email bruno.emwanu@wits.ac.za).

Signed: (participant to sign) _____

Date: (participant to add date) _____

Appendix C: Letter of Permission Template

Dear Sir/Madam:

On behalf of (company name) ……., I am writing to formally indicate our awareness of the research proposed by Masetshedi Nkwanyana, a student at the University of the Witwatersrand. We are aware that Masetshedi Nkwanyana intends to conduct her research by administering an interview with the organization.

As the (position in company)…….I grant Masetshedi Nkwanyana permission to conduct the research titled ***Integrating SMEs into the Manufacturing Value Chain:*** *An Investigation of the Challenges and Opportunities for Craft Beer Manufacturers in Gauteng, South Africa* at our company.

If you have any questions or concerns, please feel free to contact my office

Yours faithfully,

Signed: (participant to sign) _____

Date: (participant to add date) _____

Appendix D: Interview Questions Craft Brewery

Integrating SMEs into the Manufacturing Value Chain:
An Investigation of the Challenges and Opportunities for Craft Beer Manufacturers in Gauteng, KwaZulu Natal & Botswana

Information about the Interview and Interviewee

Date of the interview: _____
Place of the Interview: _____
Duration of the interview: _____
Profession of the interviewee: _____
Experience of the Interviewee: _____
Professional field: _____

Interview Questionnaire
Part 1 – Introduction to Interview Research

Thank you for agreeing to meet with me today. I have scheduled this meeting and I would like us to honour our time constraints today. Therefore, while I encourage you to elaborate on your answers to my questions, there may be times when I redirect, so that we may be sure to cover all the issues within this time

A short introduction about the reason for the choice of topic as an "ice-breaker" and a recap of the Research Objectives

Research Objectives

- To identify the challenges that SME's encounter in their quest to integrate into the beer manufacturing value chain in South Africa
- To establish the opportunities that present themselves to brewing companies as a result of integrating SMEs into their value chain
- To analyse the challenges and opportunities and highlight the significance of SME's to beer manufacturing value chain and the manufacturing sector
- To develop conceptual model that will be useful to the Craft Beer Industry and therefore contribute a towards framework that integrates craft breweries into the Beer Manufacturing Chain

Part 1 - Generic Introductory Questions

1. When did you start-off your business and why specifically in the beer industry?
2. What was the drive that made you enter the beer industry?
3. How many years has your brewery been in operation?
4. How many employees do you employ, on average?
5. How many litres do you brew in a month/year?
6. How many litres do you sell in a month/year?

Part 2 – Investigational Report's Interview Questions linked to Objective 1

1. What does a typical day in your operation look like i.e. from production to distribution?
2. How does your current Supply Chain Network look like at present? Are you familiar with your Supply Chain Network and how it affects your business?
3. At the conception of your business, were you aware of the beer manufacturing value chain and the factors that would potentially affect your business? (was a thorough Supply Chain network analyses conducted prior to your business start-up)
4. Are you in any partnerships within your SCN?
5. How does your partnership with your business stakeholders operate?
6. If No to question 4. – How do you operate your business to ensure that your beer sells?
7. What were the common challenges that you encountered at the conception of your business?
8. What are the common challenges that you encounter on a daily basis in the craft beer/microbrewery industry, now that your business has stabilised? Throughout the whole value chain?
9. Are they any regulatory practices that you need to adhere to?

Part 3 – Investigational Report's Interview Questions linked to Objective 2

SME Owner Manager

1. How important is growth and expansion for you and your business?
2. Do you have a business plan/model in place to assist you in your growth strategy?
3. What is your view with regards to big brewing corporates assisting you integrating into the beer value chain?
4. Is there sufficient support from large corporates, in your opinion?
5. If No to question 4, please advice on how this can be improved?
6. If Yes or No to Question 4, please expand?
7. In your understanding and knowledge, what resources do you think need to be available in order for you to be successful in your industry at business start-up?
8. In your understanding and knowledge, what resources do you think need to be available in order for you to be successful in your industry 5 years post start-up?
9. Are there any specifics industry bodies (organizations) that represent your type of work/industry interests? If yes – outline the few that come to your mind.

Part 4 – Investigational Report's Interview Questions linked to Objective 3

1. In light of the high failure rate of SME's in South Africa, what do you think are the most common challenges that contribute the failure of SME's in general and in the craft brewing space?
2. Do you think that current literature available for SME's is sufficient for equipping new SME owners for business start-up?
3. Do you think that current literature available for SME's is sufficient for equipping SME owners for managing challenges?
4. In your opinion, what are some the identified opportunities that are available for Craft beer makers in terms of contributing to the value chain?
5. How do you think you can make a positive impact in the beer value chain?

Part 5– Investigational Report's Interview Questions linked to Objective 4

1. What do you think will be the best practice for the Craft Beer industry to grow in South Africa and Africa in general?
2. Any other comments or advice that you would like to add that will contribute to my research?
3. What do you consider to be the key elements that will assist SME's to add value in the Manufacturing Supply Chain?

Appendix E: Interview Process and Data Sorting

The interview process involved the following

1. Agreement on a date and time was set between the interview and the interviewee
2. Three of the interviews were conducted via a Skype call due to location constraints
3. Two of the interviews were conducted telephonically call due to location constraints
4. Two of the interviews were conducted at the actual brewery
5. One set of data collected was in the form a Wits document that was sent through by the owner/Director. The Wits document was written for Wits Business School and the topic was regarding the actual craft brewery.

Step six: Analyse interview data

The responses from the interviewees were captured and organised by grouping it into themes as stated by Wilkinson and Birmingham (Wilkinson & Birmingham, 2003). The interview responses was captured using audio devices on mobile phones, Skype recording and Wits documents. The interviewees were asked open-ended questions, then more specific questions were asked.

Appendix F: Interview with Craft Brewery A

Integrating SMEs into the Manufacturing Value Chain:
An Investigation of the Challenges and Opportunities for Craft Beer Manufacturers in Gauteng, KwaZulu Natal & Botswana

Information about the Interview and Interviewee

Date of the interview:	10 January 2019
Place of the Interview:	Skype
Duration of the interview:	45 minutes
Profession of the interviewee:	Corporate background
Experience of the Interviewee:	5 years
Professional field	corporate background

Interview Questionnaire

Part 1 – Introduction to Interview Research

Thank you for agreeing to meet with me today. I have scheduled this meeting and I would like us to honour our time constraints today. Therefore, while I encourage you to elaborate on your answers to my questions, there may be times when I redirect, so that we may be sure to cover all the issues within this time

A short introduction about the reason for the choice of topic as an "ice-breaker" and a recap of the Research Objectives

- To identify the challenges that SME's encounter in their quest to integrate into the beer manufacturing value chain in South Africa
- To establish the opportunities that present themselves to brewing companies as a result of integrating SMEs into their value chain
- To analyse the challenges and opportunities and highlight the significance of SME's to beer manufacturing value chain and the manufacturing sector
- To develop conceptual model that will be useful to the Craft Beer Industry and therefore contribute a towards framework that integrates craft breweries into the Beer Manufacturing Chain

Part 1 - Generic Introductory Questions

Question 1
When did you start-off your business and why specifically in the beer industry?
Respondent A
We started formal trade operation in 2014 however my brother had started brewing beer as a hobby since the 90's. My brother had already started engaging with the successful Clarens brewery for advice
Question 2
What was the drive that made you enter the beer industry?
Respondent A
This is a family business that was focused on the needs of the local market but also as a hobby

Question 3

How many years has your brewery been in operation?

Respondent A
5 years

Question 4

How many employees do you employ, on average?

Respondent A
6
Question 5

How many litres do you brew in a month/year?

Respondent D5 Under normal circumstances, we produce about 15 000Litre/month which equates to about 180 000 Litre/year in the form of kegs and bottles and cans
Question 6

How many litres do you sell in a month/year?

Respondent A
Same as above

Part 2 – Investigational Report's Interview Questions linked to Objective 1

Question 1

What does a typical day in your operation look like i.e. from production to distribution?

Respondent A
Under normal operation, we brew once a month and it takes about 3 weeks from brew to distribute.

Question 2

How does your current Supply Chain Network look like at present? Are you familiar with your Supply Chain Network and how it affects your business?

Respondent A
Our supply network involves supply of raw material, produce and distribute. We learnt to be familiar with our beer supply chain network over time.

Question 3

At the conception of your business, were you aware of the beer manufacturing value chain and the factors that would potentially affect your business? (Was a thorough Supply Chain network analyses conducted prior to your business start-up)?

Respondent A
We learnt inputs and outputs that drive the network since we started However, it was an idea from my brother and he had already started doing research on the industry

Question 4

Are you in any partnerships within your SCN?

Respondent A
Yes

Question 5

How does your partnership with your business stakeholders operate?

Respondent A
We currently have 3rd party agents that supply our raw and packaging material and we also have a team that assist us with distribution of our product to retailers and consumers.

Question 6

If No to question 5. – How do you operate your business to ensure that your beer sells?

Respondent A
n/a

Question 7
What were the common challenges that you encountered at the conception of your business?

Respondent A
When we started it was financial challenges that we encountered because we had to self-fund our capital and the equipment was procured from China and we spent 55% more than what we had initially budgeted.

The challenge in Johannesburg is the location regulation are restricted. The brewery needs to be a certain radius school, church etc. this is a challenge because it restricts us from being near pubs and restaurants. However, areas like Clarens do not have such restrictions and this is an advantage for them.

We also had challenges like optimization but when managed to reach an optimal state.

Question 8

What are the common challenges that you encounter now on a daily basis in the craft beer/microbrewery industry, now that your business has stabilised? Throughout the whole value chain?

Respondent A
We have marginal challenges such as water and power cuts every now and again. Some challenges include distribution of our beer. Also, it is expensive to distribute beer because visibility is needed. Visibility requires investing into draught taps at pubs and restaurants and each tap costs R20k and this excludes maintenance. The taps can be rented at a cost however, the risk is that the pub or restaurant owner can choose to retract your tap if you don't sell enough beer. Currently, the industry giants own majority of the taps (> 60%) in most outlets due to their financial affordability and this is a disadvantage.

Question 9
Are they any regulatory practices that you need to adhere to?

Respondent A

Yes, there are legal framework regulations and tax regulations. The government charges R 1000 a day license fee for all beer events, which affects their charges

Part 3 – Investigational Report's Interview Questions linked to Objective 2

SME Owner Manager
Question 1
How important is growth and expansion for you and your business?

Respondent A

Growth is important to us as a business and there is opportunity in our province however, this is still an immature sector but we have hope that it will grow. We have added Gin and tonic to our core beer sales in order to keep up with innovation and as part of growth

Question 2
Do you have a business plan/model in place to assist you in your growth strategy?

Respondent A
The business model is focused in and around the province. We would like to expand to other provinces in South Africa, however, the shelf-life of our beer is 4 months so it might not be possible from a logistics perspective.

Question 3
What is your view with regards to big brewing corporates assisting you integrating into the beer value chain?

Respondent A

There is great opportunity from corporates for craft breweries. A proposal would be for large corporates to allow us to sub-contract their events with our beer so that they assist us with visibility

Question 4
Is there sufficient support from large corporates, in your opinion?

Respondent D
No.

Question 5
If No to question 4, please advice on how this can be improved?

Respondent A
They are still unaware of the term craft beer

Question 6
Respondent A
n/a

Question 9
Are there any specifics industry bodies (organizations) that represent your type of work/industry interests? If yes – outline the few that come to your mind.

Respondent A

We don't have a body that currently protects us or regulates us.

Part 4 – Investigational Report's Interview Questions linked to Objective 3

Question 1
In light of the high failure rate of SME's in South Africa, what do you think are the most common challenges that contribute the failure of SME's in general and in the craft brewing space?
Respondent A
The Craft beer industry is unknown in South Africa. So the promotion of this industry is required to keep the consumer interested craft beer
Question 2
Do you think that current literature available for SME's is sufficient for equipping new SME owners for business start-up?

Respondent A
The business owner was a business man from all over the world so he used this knowledge from experience and used knowledge from peers from Clarens. Literature is a viable and meaningful tool however, a deep level of understanding of the end-to-end supply chain is needed and this means interacting with all the stakeholders across the beer manufacturing value chain and forming good relationships

Question 3
Do you think that current literature available for SME's is sufficient for equipping SME owners for managing challenges?

Respondent A
Literature is available for knowledge so new craft brewers can find a high-level solution

Part 5– Investigational Report's Interview Questions linked to Objective 4

Question 1
What do you think will be the best practice for the Craft Beer industry to grow in South Africa and Africa in general?

Respondent A
We need more support from large corporates to assist in the form or promoting our beer in the form of social media and events. We had a beer event in Soweto 2017 and there was a low turn-out of people. This is driven by the lack of advertising mediums. Advertising mediums are expensive and we are limited to FaceBook and Word-of-Mouth mainly

Question 2
Any other comments or advice that you would like to add that will contribute to my research?

Respondent A
Over and above what was mentioned, we also need to look at the possibility of promoting in townships because that is a sector that can has the potential of growing craft breweries, specifically within the affording LSM groups.

Appendix G: Interview with Craft Brewery B

Integrating SMEs into the Manufacturing Value Chain:
An Investigation of the Challenges and Opportunities for Craft Beer Manufacturers in Gauteng, KwaZulu Natal & Botswana

Information about the Interview and Interviewee

Date of the interview:	10 January 2019
Place of the Interview:	Face to Face
Duration of the interview:	45 minutes
Profession of the interviewee:	Corporate background
Experience of the Interviewee:	5 years
Professional field	corporate background

Interview Questionnaire

Part 1 – Introduction to Interview Research

Thank you for agreeing to meet with me today. I have scheduled this meeting and I would like us to honour our time constraints today. Therefore, while I encourage you to elaborate on your answers to my questions, there may be times when I redirect, so that we may be sure to cover all the issues within this time

A short introduction about the reason for the choice of topic as an "ice-breaker" and a recap of the Research Objectives

- To identify the challenges that SME's encounter in their quest to integrate into the beer manufacturing value chain in South Africa
- To establish the opportunities that present themselves to brewing companies as a result of integrating SMEs into their value chain
- To analyse the challenges and opportunities and highlight the significance of SME's to beer manufacturing value chain and the manufacturing sector
- To develop conceptual model that will be useful to the Craft Beer Industry and therefore contribute a towards framework that integrates craft breweries into the Beer Manufacturing Chain

Part 1 - Generic Introductory Questions

Question 1
When did you start-off your business and why specifically in the beer industry?
Respondent B
We started formal trade operation in 1981
Question 2
What was the drive that made you enter the beer industry?
Respondent B
This is a family business that was focused on the needs of the local market but also as a hobby

Question 3

How many years has your brewery been in operation?

Respondent B
38 years

Question 4

How many employees do you employ, on average?

Respondent B
2
Question 5

How many litres do you brew in a month/year?

Respondent B
Under normal circumstances, we produce about 700Litre/month which equates to about 8 400 Litre/year in the form of bottles and cans.
Question 6

How many litres do you sell in a month/year?

Respondent B
Same as above

Part 2 – Investigational Report's Interview Questions linked to Objective 1

Question 1

What does a typical day in your operation look like i.e. from production to distribution?

Respondent B
Under normal operation, we brew once a month and it takes about 3 weeks from brew to distribute.

Question 2

How does your current Supply Chain Network look like at present? Are you familiar with your Supply Chain Network and how it affects your business?

Respondent B
Our supply network involves supply of raw material, produce and distribute. We learnt to be familiar with our beer supply chain network over time.

Question 3

At the conception of your business, were you aware of the beer manufacturing value chain and the factors that would potentially affect your business? (Was a thorough Supply Chain network analyses conducted prior to your business start-up)?

Respondent B
We learnt inputs and outputs that drive the network since we started However, it was an idea from my brother and he had already started doing research on the industry

Question 4

Are you in any partnerships within your SCN?

Respondent B
Yes

Question 5

How does your partnership with your business stakeholders operate?

Respondent C
We currently have 3rd party agents that supply our raw and packaging material and but we do our own distribution of our product to retailers and consumers. We have a discount price from the supplier

Question 6

If No to question 5. – How do you operate your business to ensure that your beer sells?

Respondent B
n/**a**

Question 7
What were the common challenges that you encountered at the conception of your business?

Respondent C
When we started it was financial challenges that we encountered because we had to self-fund our capital. We also had challenges like optimization but when managed to reach an optimal state. But we are optimal now

Question 8
What are the common challenges that you encounter now on a daily basis in the craft beer/microbrewery industry, now that your business has stabilised? Throughout the whole value chain?

Respondent B
We have crime issues in this area and they have beer at times from my house

Question 9
Are they any regulatory practices that you need to adhere to?

Respondent B

Yes, there are legal framework regulations and tax regulations. The government charges R 1000 a day license fee for all beer events, which affects our charges. Back in 1981, SARS were not aware of craft beer and it took us close to 2years to get a license

Part 3 – Investigational Report's Interview Questions linked to Objective 2

SME Owner Manager

Question 1

How important is growth and expansion for you and your business?

Respondent B

Growth is important to us but are comfortable in producing for locals and don't want to expand.

Question 2

Do you have a business plan/model in place to assist you in your growth strategy?

Respondent B

The business model is focused in and around the community only

Question 3

What is your view with regards to big brewing corporates assisting you integrating into the beer value chain?

Respondent B

There is great opportunity from corporates for craft breweries. A proposal would be for large corporates to allow us to sub-contract their events with our beer so that they assist us with visibility. But we as craft breweries can also form a united network as one craft brewery.

Question 4

Is there sufficient support from large corporates, in your opinion?

Respondent C

Yes

Question 5

If No to question 4, please advice on how this can be improved?

Respondent B

We get discount for the raw material from the supplier and SAB sometimes subsidises us

Question 6

If Yes or No to Question 4, please expand?

Respondent B

n/a

Question 9
Are there any specifics industry bodies (organizations) that represent your type of work/industry interests? If yes – outline the few that come to your mind.

Respondent B

We don't have a body that currently protects us or regulates us.

Part 4 – Investigational Report's Interview Questions linked to Objective 3

Question 1
In light of the high failure rate of SME's in South Africa, what do you think are the most common challenges that contribute the failure of SME's in general and in the craft brewing space?

Respondent B
The Craft beer industry is unknown in South Africa. So the promotion of this industry is required to keep the consumer interested craft beer

Question 2
Do you think that current literature available for SME's is sufficient for equipping new SME owners for business start-up?

Respondent B
The business owner was a business man from all over the world so he used this knowledge from experience and used knowledge from peers from Clarens. Literature is a viable and meaningful tool however, a deep level of understanding of the end-to-end supply chain is needed and this means interacting with all the stakeholders across the beer manufacturing value chain and forming good relationships

Question 3
Do you think that current literature available for SME's is sufficient for equipping SME owners for managing challenges?

Respondent B
There is plenty of literature that is available for knowledge so new craft brewers can find guidance there solution. Also, they can they can base new tastes and flavours from craft breweries

Part 5– Investigational Report's Interview Questions linked to Objective 4

Question 1
What do you think will be the best practice for the Craft Beer industry to grow in South Africa and Africa in general?

Respondent B
We need more support from large corporates to assist in the form or promoting our beer in the form of social media and events. We had a beer event in Soweto 2017 and there was a low turn-out of people. This is driven by the lack of advertising mediums. Advertising

mediums are expensive and we are limited to Word-of-Mouth only. We also don't want to advertise ourselves too much due to crime so we only alert people that we know.

Question 2
Any other comments or advice that you would like to add that will contribute to my research?

Respondent B
Over and above what was mentioned, the craft beer is a unique industry and we take pride in it.

Appendix H: Interview with Craft Brewery C

Integrating SMEs into the Manufacturing Value Chain:
An Investigation of the Challenges and Opportunities for Craft Beer Manufacturers in Gauteng, KwaZulu Natal & Botswana

Information about the Interview and Interviewee

Date of the interview:	10 January 2019
Place of the Interview:	Face to Face
Duration of the interview:	45 minutes
Profession of the interviewee:	Corporate background
Experience of the Interviewee:	5 years
Professional field	corporate background

Interview Questionnaire

Part 1 – Introduction to Interview Research

Thank you for agreeing to meet with me today. I have scheduled this meeting and I would like us to honour our time constraints today. Therefore, while I encourage you to elaborate on your answers to my questions, there may be times when I redirect, so that we may be sure to cover all the issues within this time

A short introduction about the reason for the choice of topic as an "ice-breaker" and a recap of the Research Objectives

- To identify the challenges that SME's encounter in their quest to integrate into the beer manufacturing value chain in South Africa
- To establish the opportunities that present themselves to brewing companies as a result of integrating SMEs into their value chain
- To analyse the challenges and opportunities and highlight the significance of SME's to beer manufacturing value chain and the manufacturing sector
- To develop conceptual model that will be useful to the Craft Beer Industry and therefore contribute a towards framework that integrates craft breweries into the Beer Manufacturing Chain

Part 1 - Generic Introductory Questions

Question 1
When did you start-off your business and why specifically in the beer industry?
Respondent C
We started formal trade operation in 2013
Question 2
What was the drive that made you enter the beer industry?
Respondent C
This is a family business that was focused on the needs of the local market but also as a hobby

Question 3

How many years has your brewery been in operation?

Respondent C
6 years

Question 4

How many employees do you employ, on average?

Respondent C
6
Question 5

How many litres do you brew in a month/year?

Respondent C
Under normal circumstances, we produce about 25 000Litre/month which equates to about 300 000 Litre/year in the form of kegs and bottles and cans.
Question 6

How many litres do you sell in a month/year?

Respondent C
Same as above

Part 2 – Investigational Report's Interview Questions linked to Objective 1

Question 1

What does a typical day in your operation look like i.e. from production to distribution?

Respondent C
Under normal operation, we brew once a month and it takes about 3 weeks from brew to distribute.

Question 2

How does your current Supply Chain Network look like at present? Are you familiar with your Supply Chain Network and how it affects your business?

Respondent C
Our supply network involves supply of raw material, produce and distribute. We learnt to be familiar with our beer supply chain network over time.

Question 3

At the conception of your business, were you aware of the beer manufacturing value chain and the factors that would potentially affect your business? (Was a thorough Supply Chain network analyses conducted prior to your business start-up)?

Respondent C
We learnt inputs and outputs that drive the network since we started However, it was an idea from my brother and he had already started doing research on the industry

Question 4

Are you in any partnerships within your SCN?

Respondent C
Yes

Question 5

How does your partnership with your business stakeholders operate?

Respondent C
We currently have 3rd party agents that supply our raw and packaging material and we also have a team that assist us with distribution of our product to retailers and consumers.

Question 6

If No to question 5. – How do you operate your business to ensure that your beer sells?

Respondent C
n/a

Question 7
What were the common challenges that you encountered at the conception of your business?

Respondent C
When we started it was financial challenges that we encountered because we had to self-fund our capital. We also had challenges like optimization but when managed to reach an optimal state.

Question 8
What are the common challenges that you encounter now on a daily basis in the craft beer/microbrewery industry, now that your business has stabilised? Throughout the whole value chain?

Respondent C
We have marginal challenges such as water and power cuts every now and again. Some challenges include distribution of our beer. Also, it is expensive to distribute beer because visibility is needed.

Question 9
Are they any regulatory practices that you need to adhere to?

Respondent C

Yes, there are legal framework regulations and tax regulations. The government charges R 1000 a day license fee for all beer events, which affects their charges

Part 3 – Investigational Report's Interview Questions linked to Objective 2

SME Owner Manager

Question 1

How important is growth and expansion for you and your business?

Respondent C

Growth is important to us as a business and there is opportunity in our province however, this is still an immature sector but we have hope that it will grow. We have added Gin and tonic to our core beer sales in order to keep up with innovation and as part of growth

Question 2

Do you have a business plan/model in place to assist you in your growth strategy?

Respondent C

The business model is focused in and around the province. We would like to expand to other provinces in South Africa, however, the shelf-life of our beer is 4 months so it might not be possible from a logistics perspective.

Question 3

What is your view with regards to big brewing corporates assisting you integrating into the beer value chain?

Respondent C

There is great opportunity from corporates for craft breweries. A proposal would be for large corporates to allow us to sub-contract their events with our beer so that they assist us with visibility. But we as craft breweries can also form a united network as one craft brewery.

Question 4

Is there sufficient support from large corporates, in your opinion?

Respondent C

No.

Question 5

If No to question 4, please advice on how this can be improved?

Respondent C

They are still unaware of the term craft beer. We take pride that craft beer is made in a unique manner and it has a certain flavour so we fear that commercial scale-up will remove the pride from our brand.

Question 6

If Yes or No to Question 4, please expand?

Respondent C
n/a

Question 9
Are there any specifics industry bodies (organizations) that represent your type of work/industry interests? If yes – outline the few that come to your mind.

Respondent C

We don't have a body that currently protects us or regulates us.

Part 4 – Investigational Report's Interview Questions linked to Objective 3

Question 1
In light of the high failure rate of SME's in South Africa, what do you think are the most common challenges that contribute the failure of SME's in general and in the craft brewing space?

Respondent C
The Craft beer industry is unknown in South Africa. So the promotion of this industry is required to keep the consumer interested craft beer

Question 2
Do you think that current literature available for SME's is sufficient for equipping new SME owners for business start-up?

Respondent C
The business owner was a business man from all over the world so he used this knowledge from experience and used knowledge from peers from Clarens. Literature is a viable and meaningful tool however, a deep level of understanding of the end-to-end supply chain is needed and this means interacting with all the stakeholders across the beer manufacturing value chain and forming good relationships

Question 3
Do you think that current literature available for SME's is sufficient for equipping SME owners for managing challenges?

Respondent C
Literature is available for knowledge so new craft brewers can find a high-level solution

Part 5– Investigational Report's Interview Questions linked to Objective 4

Question 1
What do you think will be the best practice for the Craft Beer industry to grow in South Africa and Africa in general?

Respondent C
We need more support from large corporates to assist in the form or promoting our beer in the form of social media and events. We had a beer event in Soweto 2017 and there was a low turn-out of people. This is driven by the lack of advertising mediums. Advertising

mediums are expensive and we are limited to FaceBook and Word-of-Mouth and Billboards. Our brewer is near an off-ramp so we have put a big billboard sign that advertises our brand. This has worked for us as we often see tourists and new consumers

Question 2
Any other comments or advice that you would like to add that will contribute to my research?

Respondent C
Over and above what was mentioned, the craft beer is a unique industry and we take pride in it.

Appendix I: Interview with Craft Brewery D

Integrating SMEs into the Manufacturing Value Chain:
An Investigation of the Challenges and Opportunities for Craft Beer Manufacturers in Gauteng, KwaZulu Natal & Botswana

Information about the Interview and Interviewee

Date of the interview:	18 December 2018
Place of the Interview:	WhatsApp Call
Duration of the interview:	45 minutes
Profession of the interviewee:	Corporate background
Experience of the Interviewee:	5 years
Professional field	corporate background

Interview Questionnaire

Part 1 – Introduction to Interview Research

Thank you for agreeing to meet with me today. I have scheduled this meeting and I would like us to honour our time constraints today. Therefore, while I encourage you to elaborate on your answers to my questions, there may be times when I redirect, so that we may be sure to cover all the issues within this time

A short introduction about the reason for the choice of topic as an "ice-breaker" and a recap of the Research Objectives

- To identify the challenges that SME's encounter in their quest to integrate into the beer manufacturing value chain in South Africa
- To establish the opportunities that present themselves to brewing companies as a result of integrating SMEs into their value chain
- To analyse the challenges and opportunities and highlight the significance of SME's to beer manufacturing value chain and the manufacturing sector
- To develop conceptual model that will be useful to the Craft Beer Industry and therefore contribute a towards framework that integrates craft breweries into the Beer Manufacturing Chain

Part 1 - Generic Introductory Questions

Question 1
When did you start-off your business and why specifically in the beer industry?
Respondent D
1996
Question 2
What was the drive that made you enter the beer industry?
Respondent D
This is a family business that was focused on the needs of the local market who wanted a beer that was unique and had a different taste. It was also to get more people to come to our province.

Question 3

How many years has your brewery been in operation?

Respondent D
23 years

Question 4

How many employees do you employ, on average?

Respondent D

Question 5

How many litres do you brew in a month/year?

Respondent D
Under normal circumstances, we produce about 13 000L/month which equates to about 156 000l/year in the form of kegs and bottles and cans

Question 6

How many litres do you sell in a month/year?

Respondent D
Same as above

Part 2 – Investigational Report's Interview Questions linked to Objective 1

Question 1

What does a typical day in your operation look like i.e. from production to distribution?

Respondent D
Under normal operation, we brew once a month and it takes about 3 weeks from brew to distribute.

Question 2

How does your current Supply Chain Network look like at present? Are you familiar with your Supply Chain Network and how it affects your business?

Respondent D

Our supply network involves supply of raw material, produce and distribute. We learnt to be familiar with our beer supply chain network over time and we learnt inputs and outputs that drive the network. We were initially assisted by SAB to set up some of the networks that we have.

Question 3

At the conception of your business, were you aware of the beer manufacturing value chain and the factors that would potentially affect your business? (Was a thorough Supply Chain network analyses conducted prior to your business start-up)?

Respondent D

We were not aware of the network inception of the business.

Question 4

Are you in any partnerships within your SCN?

Respondent D

We currently have agents that assist us with distribution of our product to retailers and consumers. This comes at an additional cost. From a supply perspective, we conduct our own deliveries so we are able to manage the costs of the raw material and adjust it according to inflation. As we started to optimise our production lines, we started to form learn more about the business and the drivers of our supply chain network. We took it upon ourselves to learn more about value chain as our goal was to increase out capacity and extend beyond our local market into Gauteng and Cape Town.

Question 5

How does your partnership with your business stakeholders operate?

Respondent D

Currently, we have formed networks on the supply and distribution side in order to have a sustainable operation across the supply chain and that our beer reaches the consumer on time in full

Question 6

If No to question 5. – How do you operate your business to ensure that your beer sells?

Respondent D

n/a

Question 7

What were the common challenges that you encountered at the conception of your business?

Respondent D

The first 10 years were a challenges for us as a business was a challenge due to the limited knowledge about the craft brewing industry but we managed to hold-on and overcome the challenges over time

Question 8
What are the common challenges that you encounter now on a daily basis in the craft beer/microbrewery industry, now that your business has stabilised? Throughout the whole value chain?

Respondent D
We have managed to form good relationships with our customers but the one challenge that we still encounter is logistics mainly in delivering the product to retailers on time.
Second challenge is the unit price for out beer. With the recent VAT increase, we are getting charged more money from our customers and we had to increase our price per unit
Lastly, tax is the same amount for craft beer as the big players as SAB. Only South Africa has this regulation in this format. h. Australia and other developed are charged much less for craft breweries due to lower revenue that they make

Question 9
Are they any regulatory practices that you need to adhere to?

Respondent D

Yes, there are legal framework regulations and tax regulations. The government charges R 1000 a day license fee for all beer events, which affects their charges

Part 3 – Investigational Report's Interview Questions linked to Objective 2

SME Owner Manager

Question 1
How important is growth and expansion for you and your business?

Respondent D

Growth is important to us as a business and there is opportunity in our province.

In addition, we don't want to commercialise as much and the perception is that the large volumes are commercial and don't have the craft perception and to know that it was manufactured uniquely for them.so it's a balance.

We rely mainly on word-of-mouth to promote our beer.

Question 2
Do you have a business plan/model in place to assist you in your growth strategy?

Respondent D
The business model is focused in and around the province. We would like to expand to other provinces in South Africa, however, the shelf-life of our beer is 4 months so it might not be possible from a logistics perspective.

Question 3
What is your view with regards to big brewing corporates assisting you integrating into the beer value chain?

Respondent D

There is great support mainly from large tourism companies, law and banks to grow that are supporting our growth. Big corporates, across industries, are seeing this brand as a premium one and are now prefer to have this drink at events. The long term goal is to make this network grow further and into different industries. There is limited support from large corporates from beer companies.

Question 4
Is there sufficient support from large corporates, in your opinion?

Respondent D
Not really from large corporates however, we have grouped ourselves as craft breweries in the province in order to reduce the Supply Chain costs and produce a unique beer

Question 5
If No to question 4, please advice on how this can be improved?

Respondent D
n/a

Question 6
If Yes or No to Question 4, please expand?

Respondent D
n/a

Question 9
Are there any specifics industry bodies (organizations) that represent your type of work/industry interests? If yes – outline the few that come to your mind.

Respondent D

We don't have s body that currently protects us or regulates us

Part 4 – Investigational Report's Interview Questions linked to Objective 3

Question 1
In light of the high failure rate of SME's in South Africa, what do you think are the most common challenges that contribute the failure of SME's in general and in the craft brewing space?

Respondent D
The Craft beer industry is unknown in South Africa. So the awareness of this industry is required in order to keep the consumer interested craft beer

Question 2

Do you think that current literature available for SME's is sufficient for equipping new SME owners for business start-up?

Respondent D
The business owner was a business man from all over the world so he used this knowledge from experience and used knowledge from peers. Nowadays, there is internet available than before for literature. Also, SARS normally does workshops and liquor license workshops to educate people on this subject.

In addition, a new brewery is expensive, for the equipment as well as the over-head costs. So there needs to be a passions for this industry as it will take time to generate revenue.

Question 3
Do you think that current literature available for SME's is sufficient for equipping SME owners for managing challenges?

Respondent E
Literature is available for knowledge so new craft brewers can find a solution

Part 5– Investigational Report's Interview Questions linked to Objective 4

Question 1
What do you think will be the best practice for the Craft Beer industry to grow in South Africa and Africa in general?

Respondent D
Most sales are to affluent people because price is based on raw material and packaging material and inflation therefore the average consumer will not be able to afford it. Our price for one 375ml beer is R60 vs R12 for commercial producers like SAB and Heineken. Heineken is venturing into craft beer and target middle class and lower income earners such as acquisition of Soweto Gold.

Question 2
Any other comments or advice that you would like to add that will contribute to my research?

Respondent D
Over and above what was mentioned, help is required from the big players in order to project and accelerate the craft beer growth and regulate our prices to be competitive.

Appendix J: Interview with Craft Brewery E

Integrating SMEs into the Manufacturing Value Chain:
An Investigation of the Challenges and Opportunities for Craft Beer Manufacturers in Gauteng, KwaZulu Natal & Botswana

Information about the Interview and Interviewee

Date of the interview:	17 December 2018
Place of the Interview:	WhatsApp Call
Duration of the interview:	45 minutes
Profession of the interviewee:	Corporate background
Experience of the Interviewee:	5 years
Professional field	corporate background

Interview Questionnaire

Part 1 – Introduction to Interview Research

Thank you for agreeing to meet with me today. I have scheduled this meeting and I would like us to honour our time constraints today. Therefore, while I encourage you to elaborate on your answers to my questions, there may be times when I redirect, so that we may be sure to cover all the issues within this time

A short introduction about the reason for the choice of topic as an "ice-breaker" and a recap of the Research Objectives

- To identify the challenges that SME's encounter in their quest to integrate into the beer manufacturing value chain in South Africa
- To establish the opportunities that present themselves to brewing companies as a result of integrating SMEs into their value chain
- To analyse the challenges and opportunities and highlight the significance of SME's to beer manufacturing value chain and the manufacturing sector
- To develop conceptual model that will be useful to the Craft Beer Industry and therefore contribute a towards framework that integrates craft breweries into the Beer Manufacturing Chain

Part 1 - Generic Introductory Questions

Question 1
When did you start-off your business and why specifically in the beer industry?
Respondent
2013
Question 2
What was the drive that made you enter the beer industry?
Respondent

Passion for beer

Question 3

How many **years has your brewery been in operation?**

Respondent

1 year

Question 4

How many employees do you employ, on average?

Respondent

Question 5

How many litres do you brew in a month/year?

Respondent

4days a week is dedicated to brewing which involves 8-9 hours a day. Most of the operation is still manual therefore not time efficient. Logistics are harder due to changes in the business

Question 6

How many litres do you sell in a month/year?

Respondent

Production right now is about 1500L/month and the plan for 2019 is to ramp up to 1200L/month to 15000HL/year.

Part 2 – Investigational Report's Interview Questions linked to Objective 1

Question 1

What does a typical day in your operation look like i.e. from production to distribution?

Respondent

Currently, we are producing small batches and this is still more hap-hazard and therefore it is harder to plan due to capacity constraint. Focus of each day differs based on the request i.e. events catering and local restaurant demand

Question 2

How does your current Supply Chain Network look like at present? Are you familiar with your Supply Chain Network and how it affects your business?

Respondent E

There was no Supply Chain Network(SCN) learnt prior to business and the strategy was more on growing the brand of a unique beer from Botswana and in parallel learning the SCN on the go

Question 3

At the conception of your business, were you aware of the beer manufacturing value chain and the factors that would potentially affect your business? (Was a thorough Supply Chain network analyses conducted prior to your business start-up)?

Respondent E

As mentioned, there was not a Supply Chain Network (SCN) learnt prior to business start-up but more of a learn as you go. We were not aware of the end-to-end Supply Chain network at the time

Question 4

Are you in any partnerships within your SCN?

Respondent E

We currently don't have any background in logistics and learning about the supply of raw material and logistics and this is still work in progress in terms of partnerships

Question 5

How does your partnership with your business stakeholders operate?

Respondent E

We currently have established networks and we sell to bars, hotels and restaurants which are small scale therefore they have a unique negotiation with suppliers. Given we plan on increasing volume in 2019, the plan is to keep these relationship the same so that prices does not over-shoot. In order to build the brand and make it known to the consumer, we also sold at events such as Beer Festivals. The fact that we have a liquor license at hand, this worked to our advantage

Question 6

If No to question 5. – How do you operate your business to ensure that your beer sells?

Respondent E

n/a

Question 7
What were the common challenges that you encountered at the conception of your business?

Respondent E

Common challenges included legal framework and regulations and tax regulations given that a craft brewery is a first of its kind in Botswana, these were the key challenges that we had to learn and understand. ABInBev, Chibuku and Heineken are the only players in Botswana therefore it's a completely new concept and drink for this country

Financial providers were not willing to provide assistance as this is a new concept in Botswana. Mya partner and I had saved some capital in order to invest in the business

Additional challenges, included trying to get consumer to know the new brand through the different festivals and platforms that we embarked on. Raw material sourcing was a challenge as we had to negotiate for cheaper prices. At times, there were power outages which affected production.

Question 8
What are the common challenges that you encounter on a daily basis in the craft beer/microbrewery industry, now that your business has stabilised? Throughout the whole value chain?

Respondent E
We have learnt to establish mitigation plans such as negotiating reasonable prices with our raw material suppliers, investing more time and marketing into events and festivals in order to drive the brand

Question 9
Are they any regulatory practices that you need to adhere to?

Respondent E
Yes, there are legal framework regulations and tax regulations given that this is a liquor industry and no trade is allowed until a license is granted

Part 3 – Investigational Report's Interview Questions linked to Objective 2

SME Owner Manager
Question 1
How important is growth and expansion for you and your business?

Respondent E
Growth is important in order to cover the over-heads for our business and fixed costs are covered and good revenue in the long run. The conception of beer in Botswana was not only meant to grow but the goal is to be part of the global value chain in due course but in the craft industry. The goal is not to over-take the core beer business of the Botswana market but to introduce new different style.

We are currently focusing on marketing on word-of-mouth and have just joined the South African Beer community for visibility, This is just a platform craft brewers meet to share ideas and assist each other in this industry.

Question 2
Do you have a business plan/model in place to assist you in your growth strategy?

Respondent E

The business model is focused on distribution in Botswana as a short term goal and the long term goal is to explore new markets and that is the strategy to grow. The strategy develop through

- Building a local brand unique to Botswana
- Growth over time through expansion to new markets in Africa
- Contribution to the global value chain

Question 3
What is your view with regards to big brewing corporates assisting you integrating into the beer value chain?

Respondent E
There is great support mainly from large tourism companies, law and banks to grow that are supporting our growth. Big corporates, across industries, are seeing this brand as a premium one and are now prefer to have this drink at events. The long term goal is to make this network grow further and into different industries. There is limited support from large corporates from beer companies.

Question 4
Is there sufficient support from large corporates, in your opinion?

Respondent E
There is great support from big corporates from Botswana as they take pride in the brand that Brewery E produces and is a unique local brand and he first of its kind. As such, they are more flexible in sponsoring certain events and partnerships

Question 5
If No to question 4, please advise on how this can be improved?

Respondent E
n/a

Question 6
If Yes or No to Question 4, please expand?

Respondent E

n/a

Question 7
In your understanding and knowledge, what resources do you think need to be available in order for you to be successful in your industry at business start-up?

Respondent E
The strategy for now expansion of this brand in a new country, building good relationships with people from other countries and using their local knowledge to penetrate into their market. Regional integration (SADC area) will require local knowledge of the logistics and the value chain

Question 8
In your understanding and knowledge, what resources do you think need to be available in order for you to be successful in your industry 5 years post start-up?

Respondent E
This will require building good relationships with local people as well as other countries and using their local knowledge to penetrate into the local and regional market.

Question 9
Are there any specifics industry bodies (organizations) that represent your type of work/industry interests? If yes – outline the few that come to your mind.

Respondent E
There are no organizations in Botswana for Craft Beer. However, we are in the IBD institute of Brewing and Distilling (IBD) course. The focus is to have access to leading breweries and to optimize. It is also a platform where craft breweries can complain. We are part of the Craft Brewers Association of South Africa industry in RSA.

Part 4 – Investigational Report's Interview Questions linked to Objective 3

Question 1
In light of the high failure rate of SME's in South Africa, what do you think are the most common challenges that contribute the failure of SME's in general and in the craft brewing space?

Respondent E
The main challenge is capital for investment. In addition, it is also a challenge to cover the day to day cost and this requires sound financial management knowledge of the business and being able to manage these costs at inception with low revenue and then slowly building up the revenue

Question 2
Do you think that current literature available for SME's is sufficient for equipping new SME owners for business start-up?

Respondent E
There is definitely a skills gap and the skills in this industry need to be exceptional. One also needs to be honest about these gaps and being able to close them off quickly in order to save the business. What is needed to be understood is that long-term success of the business might not be in the first year and the owner/manager must be able to take this knock and cover these costs.

Question 3
Do you think that current literature available for SME's is sufficient for equipping SME owners for managing challenges?

Respondent E
Literature is available and may be the saving grace for many owner/managers and they will be able to identify these challenges much earlier and able to spot a challenge and find a solution

Part 5– Investigational Report's Interview Questions linked to Objective 4

Question 1

What do you think will be the best practice for the Craft Beer industry to grow in South Africa and Africa in general?

Respondent E
There is a great need for the craft beer message to be driven across ethnicity and borders and one can't rely only on bars and restaurants and bars for survival. There isn't a business model that is available for a craft brewer to contribute to the value chain so this means that one ultimately learns as they go

Question 2
Any other comments or advice that you would like to add that will contribute to my research?
Respondent E
Over and above what was mentioned, one needs to also look at the following for the success of the CBI:

- Look at the level of interaction and collaboration between local craft breweries and Regional craft breweries
- And the power they have in terms of contributing to the value chain as a collective
- This can reduce the SC costs for the craft beer industry
- Australia craft breweries work as a group hence their success
- Wine industries tend to work in silo but this would also be a great platform for them to assist CBI given that they powerful
- Botswana is a unique environment and it might take some time for the CBI to grow as fast as in South Africa

Appendix K: Information received from Craft Brewery F

- Intro
- Rules
- Teams & Times
- Submissions

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- Rules
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- Submissions

The Redrock Case

WBS MBA Case Competition April 2018

Introduction

Alan Melville, the co-founder and MD of the Redrock Brewing Company, was recovering at home after surgery and taking advantage of this forced down-time to reflect on the challenges facing their young company.

Redrock Brewing Co was started in June 2016 (after several years of planning) and grew out of the original Brickfields Brewing Company: Brickfields was launched in late 2013, as a firmly "Joburg" brand, and quickly gained consumer appeal in both the Gauteng and Western Cape Markets. In 2015, a deal was done with private equity investors as well as the major Distributor, DGB) whereby the Redrock brand was created … and work began on building the Redrock Brewery in Linbro park, Johannesburg.

The brewery was built by Braukon of Germany, and is technologically advanced (i.e. at the same level that a major brewer would design a brewery) and is fully automated. It is the largest in the country in terms of brewlength (15 000 litres per batch) and has a daily brewing capacity of 45 000 to 60 000 litres, depending on the recipe process. The brewery has been strategically planned in 3 phases, with phase one start-up capacity being 192 000 litres of final beer (around 92.5% of beer brewed, due to process losses) per month or 2,3 million litres per year.

Phase 2, when Implemented (due for late 2018/early 2019) will double the monthly capacity, with Phase 3 doubling that once again to reach final capacity of some 9 million litres per annum.

In addition to its own portfolio of brands, Redrock's business plan also allows for the brewery to contract brew – i.e. to brew for the major coastal brands in order to fulfil their Gauteng (and other inland) orders, without the shipping expense of beer from the coast to Gauteng … which can be as high as R4 per litre, depending on the packaging configuration. *Craft Brewing is in many regards quite unique, in that many brewery owners allow their competitors (without sufficient brewing capacity) to brew additional supply; the brewing of beer per se is not regarded as a major competite edge, but rather the sales and distribution thereof. Craft Brewers compete aggressively for "share-of-throat" at a retail level, but aside from this, generally share information and pool resources. It is deemed that the creation of a quality Craft Beer Sector, within the total liquor market, is an overarching priority for all brewers.*

The Redrock brewery capacity is currently allocated 50/50 in terms of own vs contract brands. It is planned that this will change, over a 5 year period to being 75% own brands, with the

balance being contract; because of the brewing capacity expansion, this means that contract brewing will always remain a key business driver.

Background

Beer is the most popular and often consumed alcoholic beverage in South Africa.

The so-called "mainstream" beer market (read township) is dominated by ABInbev (the ex SAB, now merged with the International group) with over 86-87% of the market, and Heineken (Heineken, Namibia, Amstel) with say 12-13%. Craft beer accounts for a minuscule percentage…. estimates say the craft beer market is currently between 12-15 million litres per annum.

The appeal of mainstream beer is price – obviously classic beer taste (or at least the consumers perception of what that taste is) is a factor, but it is less of case of unique beer taste per se than over the top flavours …. although the RTD (ready to drink) and flavoured drink (beer, cider wine, spirits, other) is growing rapidly.

Fairly obviously, marketing and brand image do play a role, especially in terms of badging (i.e. the consumer holding a green bottle of something different, stands out in a crowd) …. and the smaller mainstream brands definitely push this aspect…. and unique flavour may become a selling point at this level. The big mainstream brands are ubiquitous, and their marketing is generally brand reinforcement, with the major USP point being "a part of our way of life".

Mainstream beer is the embodiment of Porter's 4P's – the right product, everywhere, all the time, at the right price … and generally always with some form of consumer promotion catch. The world-class distribution systems ensure that the consumer will never have to search for his favourite beer …. and the mainstream brewers provide significant support to the trade too, in order to reinforce their in-store sales and promotional goals. Beer is a low-value per case but also bulky product taking up significant floor space … so stock turnover is a key retail driver; the classic, low-margin, high-volume product.

Clearly then, any new brand has to break through this clutter – and not just brand-dominance clutter, but distribution and availability and price "clutter" … i.e find a unique niche in the 4P machine.

In a sense, the Competition Commission[2], when approving the SAB/ABInbev merger, provided a small window for the small brewers, when they enforced that the merged entity had to allow a minimum of 10% of space for the small brands … SAB has traditionally assisted the trade with refrigeration (for example) and prior to this only SAB products could be stocked in these. However, whilst SAB cannot (and does not in practice) stop the 10%, the trade relationship with the mainstream brewer can often be a deciding factor … the right to allocate stock to the fridge is the trade prerogative.

A compounding factor with beer – which does not affect higher alcohol products – is freshness; beer deteriorates from the moment it is packaged and is especially sensitive to oxygenation and UV-induced staling (hence the brown glass). The brewing process, coupled with the low final pH of beer, means that beer is an inherently food safe product (even after staling). eer is however prone to (some) bacterial and wild-yeast infections, generally caused by sub-optimal brewing practices and cleanliness… this is not commonly a factor with the mainstream brewers, but can be an everyday occurrence in small breweries. Beer that stands in trade too long can quickly deteriorate into a (high-priced) poor-drinking experience.

The beer market in South Africa is dominated by bottled-beer; whether as take-home beer (in the urban and peri-urban markets) or as shared-beer (larger volume bottles – the ubiquitous "quart") in the township-drinking outlets (both licensed and unlicensed) …. In fact, a highly complex and indeed very price-efficient distribution channel services the informal beer market outlets across the country…. something that has developed due to the licensed brewersnot being allowed by law to service the informal unlicensed outlets. However, despite the beer finding its own way to these "shebeens", the mainstream brewers will generally provide trade-marketing and promotional services within these spaces.[3]

Draught beer is a very limited mainstream practice generally confined to high-LSM outlets in traditional urban areas … the complexities of managing draught/keg beer … and the costs of installing and maintaining draught systems – has generally been avoided by the mainstream brewers. However, pressure from trade and consumers has seen significant growth in this keg-beer sector in the last 10 years – and indeed SAB/ABInbev responded with the Castle Tank Beer brand and trade-installations.

[2] Competition Commission: Case Number: 2015Dec0690: Conditions of the approval of the merger Clause 10-Small Beer Producers.

[3] Melville; A.J: Sales Promotion Planning in the Informal Retail Sector. MBA Thesis, Faculty of Management, University of the Witwatersrand, February 1996.

The rise of the popularity of keg/draught beer has opened the niche for Craft Brewers; in a nutshell, the high utility of consumers in the on-premise (in a restaurant or in a pub) sector has meant that the more-expensive craft beer has been able to find some purchase. Also, customers in restaurant settings will generally be stepping out of their "comfort" eating zone (one does not go out to eat what one eats at home), and so the psychological gap for experimentation with new beer flavor/s is available too.

The Craft beer Industry therefore found its initial niche, and is still predominantly found in draught/keg beer in restaurants and pubs (as well as at special events – e.g. concerts, markets, fetes, etc) across the country; the actual percentage is unknown, but anecdotally an estimate would be at least 60% of craft beer is served as draught beer. The largest Craft beer brand in the country, Jack Black Beer (more correctly Jack Black's, due to international trademark issues) is a predominantly draught/keg beer brand … and is estimated to be currently in over 1200 outlets…. probably accounting for at least 65-70% of its 2,8 million litre per annum total volume. For other major brewers, especially the larger ones, the figure varies by season, but could be said to be close to 60/40 kegs/bottles.

For a Craft Brewer, especially a smaller operation without access to large amounts of capital, it is undoubtedly easier (and more manageable) to keg beer … the dissolved oxygen control is simpler and there is less possibility of UV staling; a keg that is kept refrigerated after filling could theoretically (assuming the beer is good in the first place) last several months. Bottling is a complex operation and several weeks of effort in making an excellent beer can be very easily spoiled in a few moments. The wastage factor is also quite high in bottle filling – as much as 5% of the beer with hand filling, less so with machine filling (but still as high as 1-1.5% with top quality filling machines). The main problem with draught beer is actually accessing the real-estate; i.e. getting the beer onto a tap in an outlet. Draught installations take up a lot of behind/under bar space … so if there is already a competitor there, this immediately becomes an issue. It should be noted that a small single beer installation takes up only marginally less space than a bigger (say 4 beer) unit. It goes without saying that the mainstream brewers have already tied up most of the available real estate in the major beer-drinking outlets … due to their long association with such outlets. The capital investment requirement, as well as the required teams of service-personnel is not the same level of obstacle to a mainstream brewer as they are to a new market entrant. As an addition to earlier comments about co-opetition by Craft Brewers, an emerging trend is the sharing of beer-coolers by several craft brewers.

As an aside, a small single line draught unit can cost around R15000 installed; if a brewer has to recover this cost over 3 years, this means he has to make R416 rand minimum per month to break even … not even counting the cost of servicing the unit every 3 weeks and of course distribution of 42kg kegs … and the collection, return to brewery and resanitisation of thiose kegs..

This means the outlet must dispense at least 1 keg per week minimum … note: after 1 week of being "open", beer in a keg becomes very stale and starts having negative drinking-experience consequences. Many of the newer outlets build draught dispensing equipment into their infrastructure, so that they have control. This means they can pick and choose which beers to serve; relationships with the trade, as well as discounted price, therefore become very important…. not only to get listed, but also in the event of any problem going forward, where the brewer is at the mercy of the outlet owner's whim. However, brewers who do get listed in these outlets save on the capital requirement (which can be invested in the brewery) so many feel the discounted-pricing and outlet-risk is acceptable.

There is however stiff competition for these limited taps, and it is not uncommon to see significant price-dealing in these outlets in order to secure tap space; in these cases, the already tight craft brewer margins are further eroded, at the expense of trade profits – since (unlike their mainstream counterparts) the craft brewer seldom has retail price-setting power. It is a current occurrence that small/er craft brewers are being displaced from their traditional outlets – not just by mainstream brewers (who now own craft brands and as such bring the mainstream muscle to the space-for-listing struggle) but also by some of the bigger craft brewers who require the volume (to keep their bigger breweries viable … even if at the expense of margin).

For a Craft Brewer, the local market has always been the first source of growth; in fact, in the USA where Craft Beer reportedly accounts for 14% of all beer (by volume … 22% by sales revenue), the major beer sales are generally within a 20-50 mile radius of the brewery itself; i.e. the brewery is locally situated, using local procurement, and the local population takes pride in and supports the brewery in turn…. the butcher, baker, candlestick-maker local economy.

(A good South African example is Old Harbour brewery in Hermanus, where an estimated 80-90% of production of their gold-medal award winning lager[4] is supplied locally … a big

[4] National Craft Beer Awards, 2017

positive for the owners of this brewery is the strong European tourist market to the town, and these tourists originating from countries with a high-propensity to drink beer.)

In South Africa though, there are some other good examples of local breweries that derive a good portion of their income from at-brewery sales … such as Darling Brewery, Cape Brewing Company, Stellenbrau in Stellenbosch (now owned by Heineken) and of course Jack Black's Brewery (also part-owned by Heineken) in Diep River. The advantage in these cases is being able to sell the beer at retail (R70-90 per Litre) rather than wholesale (R20-R35 per Litre) price … and this is a good business model…but it does also mean running a separate "restaurant-type" business, with all those attendant issues.

Ultimately though, even the aforementioned breweries only sell between 8 and 25%[5] of their beer on-site; there are not sufficient local (and tourist) populations (with disposable income allowing the more expensive craft beer rather than mainstream beer) to completely support this notion; and ultimately the brewery is forced to seek additional markets further and further away. This means increased distribution costs … as the distribution and management of keg stocks becomes very complex … and professional distributors, who are few and far between, charge understandably big percentages to manage these operations.– if a brewer is lucky, and the distributor is working a tight geographic boundary with existing trade-relationships, and existing draught equipment in place, say around 15-18% mark-up … but otherwise as much as 35% in some instances.

Eventually then, the brewer is forced into considering the bottled beer market.

Bottling, if done properly so that the beer retains its quality, as well as original taste and thus appeal, requires proper equipment. The days of hand-bottling or even semi-manual 4-head bottle filling, without oxygen and sterile control, are probably past – from firstly a trade-stocking point of view and secondly from a consumer acceptance standpoint. Additionally, the major retail grocer groups, have started insisting on Food Safety Certification; to date there has been minimal enforcement of the food safety aspect, but the recent Listeriosis outbreak has renewed a focus on the industry. Food Safety certification, to FSSC22000 standard, is complex and expensive to both attain and maintain.[6] HACCP is a minimum.

[5] Anecdotal; from conversations with the various brewers.
[6] Redrock has passed the first-stage of FSSC22000, and is in final certification phase.

Bottling equipment is expensive. Bottles are also expensive (over R2.20 per 340ml bottle from local manufactures). Further, Bottles require labels, crowns, boxes, trays, pallets … all of which are expensive. Bottling also requires additional labour…. and utilisation of this fixed overhead is generally low in the early stages (since bottling lines are generally specified for end-state capacity rather than start-up volumes).

In short, bottling can add between R8.50 and R12.00 per litre to the cost of a beer …. So around R3 to R4 per bottle … at retail level, this adds between R8 and R15 per bottle. The so-called "Hand-Made" Craft beer thus becomes expensive for the consumer.

Furthermore, once this beer is on-shelf (getting the beer listed in good outlets, where people go to buy Craft Beer is another challenge), it generally has a limited shelf life … often it is unfiltered and unpasteurized, meaning it will last perhaps 2-3 months at best … under optimum storage conditions (which does not include being on an ambient temperature shelf in a shop). Incidentally, SAB is undoubtedly one of the best quality brewers in the world, and they have only recently moved shelf life from 90 days to a longer period.

It is estimated, by one of the foremost beer journalists and beer aficionados[7], that up to 50% of craft beer currently on-shelf, is likely beyond optimal drinkability … and certainly not worth the price-premium that Craft Beer sells for. The best Craft Beer outlets impose their own in-house stock rotation parameters[8], and will not keep any beer longer than 3 months; these are however few and far between.

This on-shelf quality issue is a problem for the entire Craft Beer industry – as purchasers are quite likely on the balance of probabilities, to have a bad beer experience when trying a product from this sector … an expensive product at that …. and this will affect their total sector perception and not just that of the brewery in question.

The top craft breweries have their own stock rotation policies, and will remove old beer from shelf … once they have done all they can to promote it in the months leading up to its demise. Again, only some of the bigger breweries can afford these policies; the constant stock-monitoring, the promotional activity by a team of in trade specialists, the final discounting to

[7] Lucy Corne – anecdotal evidence - in conversation with Alan Melville … discussing the State of the Industry, March 2018.

[8] Best known example is Hillcrest Tops, KZN – managed by Beer Industry Consultant and author, Holger Meier.

clear the beer (theoretically a shared cost between brewer and trade, byt practically borne by the brewer), as well as the stock replacement upon expiry..

The Craft Brewing Industry in SA

Craft Brewing – or Micro Brewing – is defined by the DTI as a beer brewing producing less than 6 million litres per annum. The micro-Brewing Licensing is issued accordingly.

The estimated current annual volume for the total Craft/Micro Brewing Industry is between 12 and 15 million litres – the large variance is due to unknown local own-taproom sales, as well as undocumented sales to small local outlets.

The Craft Beer sales via the major grocers (Pick n Pay, Spar/Tops, Checkers, Makro, Ultra Liquors), according to CONFIDENTIAL (Jan 2018) data is just over 1,4 million litres per year … so somewhere between 9% and 12.5% of the total estimated market. However, this volume represents a year-on-year growth in the grocery sector of 19.5%.

The major craft beer brewers % share of market, according the aforementioned data, is as follows:

	% Share	% Annual Growth	Last Quarter Share %
Cape Brewing Co (CBC)	16.50%	8.10%	−12.40%
Jack Black's	13.90%	15.70%	45.70%
SAB "Craft"	12.90%	146.90%	−29.40%
Darling Brewery	9.50%	17.00%	−21.40%
Stellenbrau	7.50%	35.30%	108.10%
Devil's Peak / Signal Hill	6.80%	11.20%	2.30%
Redrock Brewing Co	5.40%	244.60%	74.40%
Imported Craft	4.50%	26.20%	25.40%
Dragon Brewing	4.20%	−23.40%	−8.60%
Mitchells, Knysna	1.70%	86.20%	135.50%

The Last quarter share represents the change is sales from the prior quarter to the curren one.

Mitchell's Brewery in Knysna is seen (in the stats above) making a strong growth play … and this is perhaps appropriate given that the start of Craft Brewing per se in SA can be traced back to the original Mitchell's Brewery in Knysna which was opened by ex-SAB brewer Lex Mitchell in 1993.

In 1993, Mitchells embodied the Craft Beer revolution as it was happening around the world and especially in the USA … and took advantage of the international expansion and perceived commercialization (of their beers) –offering:

locally made,

mostly serving the local population

limited distribution to neighbouring towns

made by “hand” – in small batches

Using all natural ingredients - malted grain, local and imported hops

independent (from major brewery and alcohol companies)

The growth of Mitchell’s of late has come through a dramatic change in their distribution model (and pricing) coupled with a recent change to the brewing methodology which has resulted in a return to high-quality beers of unique taste profiles … several Gold Medal beers at the 2017 National Craft Beer Awards.

Somewhat ironically though, in 2018, Mitchells’ has mothballed its “local” Knysna brewing operation, opting instead to contract brew their beers at the new Devil’s Peak facility in Epping, Cape Town. This is due to the shifting market to the major urban areas of Cape Town and Johannesburg (Knysna and nearby towns can no longer sustain them; not to mention the high cost of distribution from Knysna to these markets, which was making end-price unaffordable. The iconic Mitchell’s Taproom in Knysa remains.

Incidentally, Mitchell’s is one of the few craft beers to penetrate traditional SAB “pouring-rights” at major sports grounds … and Mitchells is a firm crown favourite at Newlands Cricket Grounds – and in fact even brought out a spoof beer (Sticky Tape Pale Ale) to promote off the back of the Australian ball tampering incident.

Redrock's challenges

A brewery can stay small, selling beer locally to local outlets – this is likely a hobby brewery of a few hundred litres per batch, maybe being run out of office hours by a keen “brewer” …. And likely making some very interesting beers; a current trend is experimentation with barrel-ageing of beers (usually in old whisley or brandy barrels …. Refer to the recent Jameson’s CaskMates whisky and its interaction with a Stout brewery from Scotland.

These small breweries are not generally a commercial enterprise; although all those involved have a dream that it may become one.

One can add an in-house "tasting room" to the offering – so say 25% of the beer produced gets sold at retail prices (say R70-80 per litre) rather than at wholesale prices (say, R30-40 per litre). However, one adds the complexity (not to mention capital cost) of the tasting room and the running cost of staff etc. One generally has to have food available by law to serve with the alcohol, so one has these costs too. There are several examples of keen people who have set up this model (using retirement funds) and have subsequently become waiters and barmen; before eventually (and sadly) losing everything.

If one has situated the brewery correctly, one caters to both locals and the tourist trade – this is generally not possible in Gauteng, but there are several excellent examples[9] in the Western Cape (and in fact Limpopo and Mpumalanga). Still, one generally has to supplement day-to-day income with further afield sales, as well as attending weekend "craft-beer" events. It should be noted that many of the craft brewers really enjoy doing these weekend events – so it is not necessarily a negative … at least in the beginning of the business.

The bigger craft breweries use distributors to expand their draught sales horizon – the distributors charge significantly for this, but do achieve the distribution footprint. However, the retail price becomes more expensive … and there is a potential impact on sales volume as a result. The one exception is where the distributor can get the beer sold in one of the aforesaid high-utility outlets (e.g. a high-end restaurant in a 5 star hotel), where experimentation and price and not a significant issue.

Brewers can also move into bottling; indeed all of the major craft breweries (Jack Black's, CBC, Darling, Devil's Peak, Redrock) have state of the art bottling systems. However, these systems generally cost more that the brewhouse itself, and add a level of complexity that requires additional staff, additional procurement management, as well as general supervisory management. These packaging lines are thus very expensive …. and they are generally under-utilized, due to the optimal size of the lines vs the current demand in the market – many have been purchased with future expansion in mind and so most operate currently somewhere between 20 and 40% of capacity.

[9] For example, Tuk-Tuk Brewery, Franschoek

(The attached spreadsheet details the different production costs for both a lager and and ale. These are average numbers, based on a large brewery of 9000 litre Brewhouse capacity … the capital and operating costs are drawn from industry experience, and are based on shared information garnered from industry experts in the financial sector, as well as several of the larger craft breweries over the past 3 years).

In his study at home, Melville filled his whiteboards with some of the dilemmas and decisions he would need to focus on including:

How to move from Phase One to Phase 2 ahead of business plan; i.e. how to grow own sales in the market.

Coopetition with other players

Invest in new sales capapcity

Develop new Sales and Marketing campaigns

Price ???

How to Increase Asset Utilisation – and thus lower the Fixed Cost per litre produced - in the event that sales growth is slowed by market forces; such as those currently exerted by the mainstream volume (and lower price) strategies.

New Contract Brews

? go too far is empowering competition

Develop new Own Brands

? competition against our own existing brands

Price … what is Heineken doing with its new stable of craft beers … and does this matter ? … a price red-herring.

? Can one ever compete against mainstream ??? … or even premium mainstream?

How to reduce total procurement costs, in the same slowed-sales event as described above.

Appendix L: Data analysis process map

Research Approach (Author's own)

Research objectives	**Method/Approach**	**Research tools and techniques**
1. To identify the challenges that SME's encounter in their quest to integrate into the beer manufacturing value chain in South Africa	a) Semi-structured interviews with SME owner/managers b) Reviewed theme-related Literature	a.1) Used semi-structured interview questions aligned to the research for SME owner/managers b.1) Used semi-structured interview questions aligned to the research for key stakeholders from large manufacturing companies c.1) Used primary Source | Peer reviewed Journals
2. To establish the opportunities that present themselves to brewing companies as a result of integrating SMEs into their value chain	a) Semi-structured interviews with SME owner/managers b) Review related Literature	a.1) Develop semi-structured interview questions aligned to the research for SME owner/managers b.1) Used primary Source | Peer reviewed Journals
3. To analyse the challenges and opportunities and highlight the significance of	a) Summarised the findings from Objectives 1 and 2 by identifying trends	a.1) Applied the thematic analysis method by sorting the data into different themes

SME's to beer manufacturing value chain and the manufacturing sector	or recurring themes from the response data b) Identified and show potential Gap that could be closed from all the 'voices' from the SME participants	a.1) Applied triangulation method by referring to multiple sources of data for analysis
4. To develop conceptual model that will be useful to the Craft Beer Industry and therefore contribute a towards framework that integrates craft breweries into the Beer Manufacturing Chain	a) Consolidated the key findings into a Conceptual Framework	a.1) Applied the framework analysis by sorting, managing and analysing the qualitative data.

Appendix M: Definition of an SME in the South African context

SME definition in the South African context (Bank, 2015).

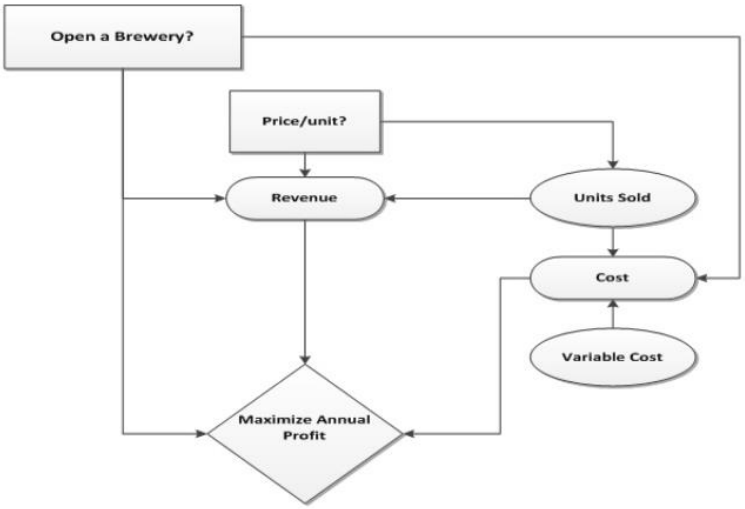
Sector or subsector in accordance with the standard Industrial Classification	**Size of class**	**The total fulltime equivalent of paid employees**	**Total turnover**	**Total gross asset value (fixed property excluded)**
Agriculture	Medium	100	R5m	R5m
	Small	50	R3m	R3m
	V- Small	10	R0.50m	R0.50m
	Micro	5	R0.20m	R0.10m
Mining and Quarrying	Medium	200	R39m	R23m
	Small	50	R10m	R6m
	V- Small	20	R4m	R2m
	Micro	5	R0.20m	R0.10m
Manufacturing	Medium	200	R51m	R19m
	Small	50	R13m	R5m
	V- Small	20	R5m	R2m
	Micro	5	R0.20m	R0.10m
Electricity, Gas and Water	Medium	200	R51m	R19m
	Small	50	R13m	R5m
	V- Small	20	R5.10m	R1.90m
	Micro	5	R0.20m	R0.10m
Construction	Medium	200	R26m	R5m
	Small	50	R6m	R1m
	V- Small	20	R3m	R0.50m
	Micro	5	R0.20m	R0.10m
	Medium	200	R39m	R6m

Retail and Motor Trade and Repair Services	Small	50	R19m	R3m
	V- Small	20	R4m	R0.60m
	Micro	5	R0.20m	R0.10m
Wholesale Trade, Commercial Agents and Allied Services	Medium	200	R64m	R10m
	Small	50	R32m	R5m
	V- Small	20	R6m	R0.60m
	Micro	5	R0.20m	R0.10m
Catering, Accommodation and other Trade	Medium	200	R13m	R3m
	Small	50	R6m	R1m
	Very Small	20	R5.10m	R1.90m
	Micro	5	R0.20m	R0.10m
Transport, Storage and communications	Medium	200	R26m	R6m
	Small	50	R13m	R3m
	V- Small	20	R3m	R0.60m
	Micro	5	R0.20m	R0.10m
Finance and Business Services	Medium	200	R26m	R5m
	Small	50	R13m	R3m
	V- Small	20	R3m	R0.50m
	Micro	5	R0.20m	R0.10m
Community, Social and Personal Services	Medium	200	R13m	R6m
	Small	50	R6m	R3m
	V- Small	20	R1m	R0.60m
	Micro	5	R0.20m	R0.10m

Appendix N: Simulation of costing a craft brewery

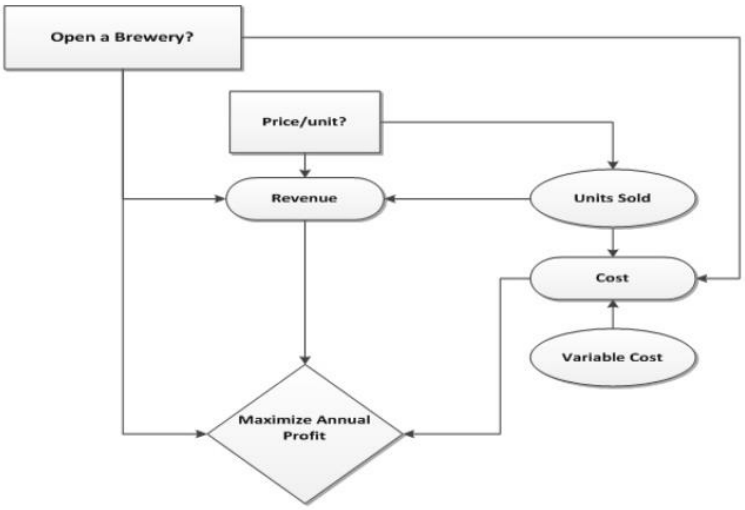
Model Formulation

Influence Diagram



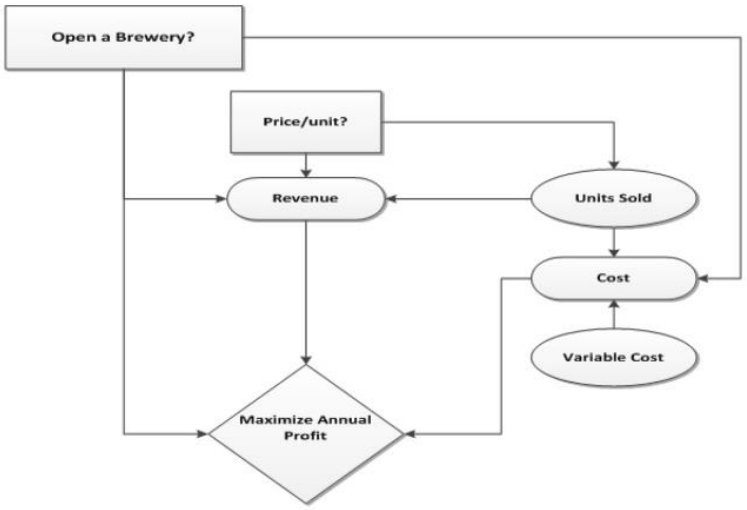
Model Formulation

Influence Diagram



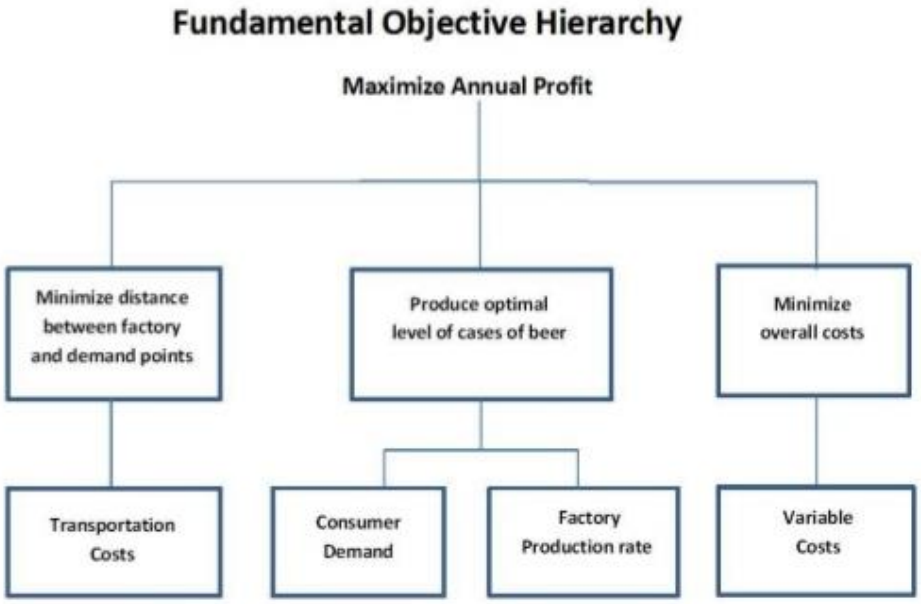
Model Formulation

Influence Diagram



Influence Diagram of new Craft Brewery *(Gautam, 2014)*

Model Formulation Continued



(Gautam, 2014)

Model Implementation continued:

Decision Variable: N_{ij} - Amount of barrel produced from brewery **i** to demand point **j**, X_i - Optimal location of brewery

Objective Function: Annual Profit = Revenue – Total Cost

$$Revenue = N_{ij}\,(bbl) \times Unit\ Price(\tfrac{\$}{bbl})$$

$$Total\ Cost = N_{ij}\,(bbl) \times (Cost\ of\ Land\left(\frac{\$}{acre}\right) \times Factory\ Size(\frac{acre}{bbl}) + Production\ Cost\left(\frac{\$}{bbl}\right) + Delivery\ Cost\left(\frac{\$}{bbl}\right))$$

$$Production\ Cost = N_{ij\,(bbl)} \times [Cost\ of\ Raw\ Material\left(\frac{\$}{bbl}\right) + Utilities\ Cost\left(\frac{\$}{bbl}\right) + Labor\ Cost\left(\frac{\$}{bbl}\right) + PCR\ (\frac{\$}{bbl})]$$

$$Delivery\ Cost\ (DC) = Ni_j\,(bbl) \times d_{ij}\,(mi) \times DCR(\$/\mathrm{mi/bbl})$$ Where: d_{ij} is the distance traveled from the factory to demand locations in miles

Constraints:

Total Cost ≤ Annual budget ($100M)

$$\sum_{j=1}^{J} Nij = N \times xi \qquad (\forall i)$$

$$\sum_{i} Nij \leq TDj \qquad (\forall j)$$

$$Nij \geq 0$$

Total costs $\leq Annual\ budget$

$$\sum_{i=1}^{I} Xi = 1.0$$

Xi = 1 if location is selected

Xi = 0 otherwise

Appendix O: BEE Contributor Lever

(Navigator, 2019)

BEE CONTRIBUTION LEVEL	SCORECARD POINTS	PROCUREMENT RECOGNITION
1	100 or above	135%
2	85 to 99.99	125%
3	75 to 84.99	110%
4	65 to 74.99	100%
5	55 to 64.99	80%
6	45 to 54.99	60%
7	40 to 44.99	50%
8	30 to 39.99	10%
Non Compliant	< 30	0%

Appendix P: B-BBEE Element

(Navigator, 2019)

B-BBEE ELEMENT	WEIGHT
Ownersip	20.00%
Management	10.00%
Employment Equity	15.00%
Skills Development	15.00%
Preferencial Procurement	20.00%
Enterprise Development	15.00%
Socio Economic Development	5.00%

Appendix Q: SARS Beer legislation criteria

Invalid source specified.

Annual turnover from activities regulated under the Act	Type of fee	Amount
Less than R 5 000 000	Application (s.11) Initial Registration Notice to review [Schedule 1 Item 4 (6)] Annual Renewal of registration Transfer Fee (s.15) Request for variation of conditions [s. 16(1)] Notice of change in location or activities [s. 16(3)] Appointment of person to conduct activities (s. 17)	R 500 R 2 000 R 500 R 2 000 R 1 500 R 1 500 R 1 500 R 1 500
At least R 5 000 000 but less than R 15 000 000	Application (s.11) Initial Registration Notice to review [Schedule 1 Item 4 (6)] Annual Renewal of registration Transfer Fee (s.15) Request for variation of conditions [s. 16(1)] Notice of change in location or activities [s. 16(3)] Appointment of person to conduct activities (s. 17)	R 1 000 R 4 000 R 1 000 R 4 000 R 3 000 R 3 000 R 3 000 R 3 000
At least R15 000 000 but less than R 250 000 000	Application (s.11) Initial Registration Notice to review [Schedule 1 Item 4 (6)] Annual Renewal of registration Transfer Fee (s.15) Request for variation of conditions [s. 16(1)] Notice of change in location or activities [s. 16(3)] Appointment of person to conduct activities (s. 17)	R 7 500 R 5 000 R 7 500 R 5 000 R 5 000 R 5 000 R 5 000 R 5 000
At least R 250 000 000, but less than R 1 billion.	Application (s.11) Initial Registration Notice to review [Schedule 1 Item 4 (6)] Annual Renewal of registration Transfer Fee (s.15) Request for variation of conditions [s. 16(1)] Notice of change in location or activities [s. 16(3)] Appointment of person to conduct activities (s. 17)	R 10 000 R 7 500 R 10 000 R 7 500 R 7 500 R 7 500 R 7 500 R 7 500
At least R 1 billion.	Application (s.11) Initial Registration Notice to review [Schedule 1 Item 4 (6)] Annual Renewal of registration Transfer Fee (s.15) Request for variation of conditions [s. 16(1)] Notice of change in location or activities	R 25 000 R 15 000 R 25 000 R 15 000

	[s. 16(3)] Appointment of person to conduct activities (s. 17)	R 15 000 R 15 000 R 15 000 R 15 000