



THE MARKET DEMAND OF CHECHIL CHEESE IN BLOEMFONTEIN

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DECLARATION

I declare that the field study hereby submitted for the Masters in Business Administration at the University of the Free State Business School is my own independent work and that I have not previously submitted this work, either in part or as a whole, for a qualification at another university or at another faculty at this university.

I also hereby cede copyright of this work to the University of the Free State.

Hennie Lambrechts

November 2014

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ABSTRACT

Innovation is the only undisputed catalyst for growth and wealth creation over the long term. However, launching a new product entails significant risk for established as well as new businesses. In order to minimise some of these risks, demand forecasts are necessary to construct the commercial elements of the business (or product line), create revenue models, predict profits and cash flows, judge feasibility, define suitable pricing structures and levels, and quantify financing requirements. This study determined demand for Chechil cheese as a new product in Bloemfontein in order to guide future decisions during the new product development and launch process.

Demand was measured according to three criteria. First, respondents were asked to what degree they liked or disliked the product on a five point scale. Second, respondents' reactions are substantiated by determining whether they would recommend the product to a friend, colleague or relative. Last, price sensitivity was measured by determining each respondent's likelihood to purchase 100g of the product at R30, R45 and R60. It was found that the overwhelming majority of respondents indicated that they liked the product and that they would recommend it to a friend, colleague or relative. Respondents indicated inelastic demand between the R30 and R45 price points and elastic demand between R45 and R60.

Findings from this study could be used in conjunction with further internal analysis of the business' supply curve in order to establish the optimal price point to launch the new product.

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CHAPTER 1 - Orientation

1.1 Introduction

For any business, launching a new product entails significant risk. Many of these risks can be minimised if preceded by good planning that rests on accurate data. McBurney and Parsons (2000: 8) state that planning to enter a market with a new product entails that a variety of technical and commercial decisions be made before the product can be launched. Demand forecasting, as a part of the marketing function, forms an important part of this initial research process before committing to the often substantial costs involved. This study aims to present a demand forecast research report of a new savoury cheese snack in Bloemfontein to the stakeholders of Chechil SA, a company planning to manufacture and distribute the product locally.

According to an industry profile conducted by MarketLine (2012: 2), the South African savoury snacks market grew by 9,8% in 2011 to reach a value of more than R8.1 billion. In 2016, this market is forecasted to have a value of approximately R12.7 billion - an increase of 56.6% since 2011. Market volume is forecasted to increase by 38,3% to 170 million kilograms in 2016 (from 2011), with potato chips holding the majority share at 52,7% of the total market value. These figures describe the growing industry Chechil SA aims to penetrate with its savoury cheese snack.

Competition within the savoury snacks market is boosted by the presence of strong, often internationally active, incumbents (MarketLine, 2012: 2). However, steady market growth, coupled with an optimistic prognosis, has provided an incentive for businesses to enter the market with new products. In order to responsibly evaluate launching a new product, a business must forecast the expected number of customers as well as the expected usage patterns of these customers. Demand forecasts are necessary to construct the commercial elements of the business (or product line), create revenue models, predict profits and cash flows, judge feasibility, define suitable pricing structures and levels, and quantify financing requirements. Furthermore, when presenting the business to potential financing bodies, business partners and other investors, accurate and clear forecasts are

crucial to describe the market potential of the business as well as its commercial viability.

Chechil SA is a Private Company, registered with the Companies and Intellectual Property Commission of South Africa since April 2013. The company aims to introduce a premium cheese bar-snack in Bloemfontein with the intention of eventually expanding its operations across South Africa. Operating within the secondary and tertiary sector, the first stage of the company will be focused on Chechil cheese, a unique smoked string cheese snack that compliments beer. Chechil will be produced locally by means of an imported production line, specifically designed for the production of this type of cheese. As such, Chechil SA will be the first supplier of this delicacy to the South African market.

1.2.1 Problem statement

The problem is that it is unclear whether Chechil cheese will be able to gain a share of the savoury snack market in Bloemfontein.

1.2.2 Description of problem

Potato chips account for 52,7% of the savoury snacks market in South Africa, processed snacks account for 30,8%, nuts and seeds 14,3%, and popcorn 2,3% (MarketLine, 2012: 10). So far, there has been limited innovation with regards to savoury cheese snacks in this industry, providing good opportunities for businesses to introduce new products. Malcolm Tatum (2003: 1) points out that market research studies are very important during new product implementation to accurately project the desirability of goods or services. Failing to project market demand can cause a variety of difficulties for a business and may even result in liquidation. Where new products are concerned, traditional methods cannot be used to forecast demand, since these methods all require historical data (McBurney and Parsons, 2000: 2). For the purpose of this study, intention and expectation surveys will be used to determine the demand for Chechil cheese in Bloemfontein. Section 1.5, *Theoretical framework*, provides a summary of demand forecast methods.

1.2.3 Research questions

- What is the market demand for Chechil cheese in Bloemfontein?
- How sensitive are consumers to changes in the price of Chechil cheese?

1.3 Objectives

1.3.1 Primary objective

- To determine whether there is a demand for Chechil cheese in Bloemfontein.

1.3.2 Secondary objectives

- Discuss demand forecasting techniques, with specific reference to the snack market.
- Quantify price elasticity of Chechil cheese.
- Attempt to simplify the complicated process of forecasting demand for a new product.

1.4 Preliminary literature review

1.4.1 History of savoury snack food

Throughout history humankind has consumed a variety of light foods in between meals (Smith, 2003: 289). Typically fruits, these snacks were likely sweet, multipurpose foods that did not require extensive preparation. In the nineteenth century, snack foods were commercialised and has since evolved into a myriad of products in a variety of flavours and styles (McCarthy, 2001: 25). These processed food products typically contain high quantities of salt and sugar that raises obvious health concerns. It is important to note that interest in these products has however shown steady growth as consumers (especially women) lead increasingly busy lifestyles (RSA, 2005: 9). Multipurpose, processed foods that are easy to consume are defined as snack foods in the twenty-first century (Smith, 2003: 292).

Peanuts and popcorn are considered to be the first commercial snack foods, (Smith, 2003: 291). The pretzel has a long history as a traditional snack food. Children in the southern regions of France were rewarded with a baked pretzel in the image of

a monk with folded arms sometime after 610 AD for memorising their prayers (McCarthy, 2001: 25). Although well known for many centuries, pretzels were only produced commercially for the first time in 1861 to become an important snack in the 1930s, when their manufacture could be mechanised (Smith, 2003: 291).

Tortilla chips originated in Mesoamerica where masa (corn flour) is traditionally used to make snacks (McCarthy, 2001: 26). Potato chips are allegedly the result of a disgruntled chef, George Crum, who purposively sliced potatoes wafer thin, deep fried and over-salted them when a restaurant customer returned his fried potatoes to the kitchen, saying that they were too thick. The railroad magnate Commodore Cornelius Vanderbilt loved the 'crunch potato slices' and they soon became a popular addition to that restaurant's menu (McCarthy, 2001: 26). John E. Marshall was the first commercial manufacturer of potato chips and sold them in barrels. They became stale quite quickly after being opened, however (Smith, 2003: 289), and thus largely remained a restaurant food item. In 1926 Laura Scudder invented a potato chip bag made up of waxed paper ironed into bags (McCarthy, 2001: 26). During the 1920s and 1930s, cellophane and glassine bags became available to package chips. Packaging today is dominated by advanced polypropylene bags filled with nitrogen gas that ensures the potato chips are kept fresh and crunchy for extended periods of time.

On 5 December 1933, when the Repeal of Prohibition in the United States was passed with the Twenty-first Amendment to the United States Constitution, consumption of alcohol became legal in bars and saloons (Blocker, Tyrrell and Fahey, 2003: 23). This new legislation brought an increased demand for potato chips and other salted snacks and established a snacking culture in bars and saloons (McCarthy, 2001: 26). However, Lusas (2001: 26) writes that during the 1960s and 1970s the snack industry faced increasing trepidations regarding the health effects of foods containing a lot of salt and fats. As a result, manufacturers responded to consumer demand with healthier, lower fat and sodium free snack products. This trend continued into the 1980s and 1990s and provided further incentive for manufacturers to produce healthy snack foods. Naturally low fat pretzels surpassed the \$1 billion mark in annual sales by 1993 (McCarthy, 2001: 27). It is important to note that even though snack food technology has shifted its

focus towards baked snacks using healthy oils, (RSA, 2011), traditional snacks continue to see steady growth (MarketLine, 2012: 2).

1.4.2 Chechil cheese

Chechil is a smoked, salty, string cheese beer snack that originated in Armenia and Anatolia. It has a consistency approximating that of sulunguni or mozzarella and is produced in the form of dense strings rolled up in a figure of eight. The cheese is made from pasteurised cow milk, matured in brine and smoked before consumption. Chechil has a very low fat content (between 5 – 10%) and is vacuum packed – strong selling points when compared to the fattening and unhygienic nature of other beer snacks. Furthermore, Chechil is an all-natural product with no chemicals or preservatives, is traditionally packaged in 100g servings and has a shelf life of 3 months (Yurkin, 2013: 2).

In the West, Chechil is often called Armenian or Syrian cheese, (Petrosian, Underwood, 2006: 47). In the former USSR Chechil became very popular as an accompaniment to beer, so much so that many patrons automatically included the cheese with every beer order. The cheese soon became a household item in Eastern Europe and enjoys considerable popularity in Russia, Kazakhstan and Singapore.

Since Chechil cheese is a new product in the South African market and the original recipe is closely guarded internationally, little more information about the product is available. Chechil SA is however privileged to have access to a master commercial Chechil cheese maker from Kazakhstan who has agreed to share the manufacturing process.

1.4.3 Demand forecasting

The marketing function of a business is responsible for developing a marketing strategy that will guide the company to achieve its objectives before a new product is introduced to the market (McBurney, Parsons and Green, 2002: 226). The key questions that need to be answered while developing a marketing strategy may seem simple, but they require extensive analysis and contemplation if they are to be

used for business decision-making (McBurney and Parsons, 2000: 3). Without live, operating data, these decisions rest on forecasts of customers and usage (McBurney and Parsons, 2000: 8). This study focuses on market forecasts as required by marketing and commercial development professionals.

When considering the marketing and commercial function, a business will not be able to make successful choices with regards to prospective customer segments and territories without accurate demand forecasts (McBurney and Parson, 2000: 9). These decisions guide the activities of the entire business, acting as reference to define and measure the commercial features of the company. Pilinkiené (2008: 19) writes that most authors in economic literature agree that the application of forecast methods differ on two aspects: one school prioritises quantitative forecast methods that are supported by supplementary qualitative data (Kinnear and Taylor, 1996; Reekie and Crook, 1998; and Kennedy, 1999), whereas the other stands for a combination of quantitative and qualitative forecast methods, stating that this approach delivers forecasts that are more consistent and informative (Bolt, 1994; Hall, 1994; Makridakis, Wheelwright and Hyndman, 1998; Clemen, 1989; Kirsten, 2000; Goodwin, 2002; Larrick and Soll, 2006; Green and Armstrong, 2007). Qualitative forecast methods are based on intuitive information that is received from consumers, sales people and company personnel surveys, while quantitative forecast methods analyse past data, assuming that other factors will not change (Pilinkiené, 2008: 20). Qualitative forecast methods were widely developed during the 1980s, with Goodwin (2002: 127 - 135) stating that there is no doubt qualitative methods are crucial for long term forecasts. Qualitative forecast methods have become popular recently as a result of their relatively low cost and simple application methodology.

1.5 Theoretical framework

It is apparent that there is no single demand forecasting method appropriate for every situation. Pilinkiené (2008: 20) identified more than 200 methods that can be used to forecast demand. It is beyond the scope of this study to review them all. The 14 most often used demand forecasting methods as identified by Armstrong (2005: 30) are briefly described in order to determine the most applicable theoretical

tools for this study. Dr. J. Scott Armstrong, who is considered to be a leading expert in the forecasting field, acted as editor for *The Principles of Forecasting* in 2001 and founded the *International Journal of Forecasting*.

1.5.1 Delphi model and Prediction markets

Armstrong and Green (2005: 3) write that the Delphi technique was developed in the 1950s at RAND Corporation in order to assist in capturing the knowledge of diverse experts and to avoid the drawbacks of conventional group meetings. The Delphi method requires the administrator to question between five and twenty experts. The forecasts are repeatedly summarised and returned to the experts until their predictions reach similar values. The final estimates are then averaged to reach the final forecast. The accuracy of the Delphi forecast methodology has been studied by Rowe and Wright (1999: 351 - 371), who provided clear evidence that this forecasting technique is superior to unaided judgment and traditional groups.

Prediction markets are sometimes used by consultants within a firm as a forecasting tool. A range of employees bet on, for example, the sales growth of a new product and this average is used for forecasting. This method has a proven success rate to predict for instance the margin of victory for a political election. There is no empirical evidence, however, that prediction markets are an accurate forecasting alternative when compared to traditional methods in commercial organisations (Armstrong and Green, 2005: 3).

1.5.2 Judgmental bootstrapping and Decomposition

Judgmental bootstrapping aims to predict the forecasts of an expert by designing a model of the expert's forecasting process (Armstrong, 2001b: 169). Theoretically the model is more accurate than other methods using expert forecasts because it applies the rules of the expert more consistently than the expert himself (Armstrong and Green, 2005: 4). This method is valued for its ability to reveal the factors experts consider when making forecasts and using this awareness to improve judgmental forecasting.

Decomposition is the act of breaking a complex forecasting problem into smaller manageable parts. Appropriate methods are subsequently applied for every part and combined to form the final forecast. MacGregor (2001: 107 – 123) provides empirical evidence to substantiate the increased accuracy obtained from decomposed forecasts.

1.5.3 Conjoint analysis

Conjoint analysis is a compensatory model. Potential customers are presented with a series of various options and are forced to make compromises by choosing one option above another (Armstrong and Green, 2005: 6). This information can be analysed by regressing the choices of respondents against possible product features. The accuracy of conjoint analysis forecasts is dependent on the realism of the options presented to potential customers (Wittink and Bergestuen, 2001: 147 – 167).

1.5.4 Intention and expectation surveys

Intention surveys are used to forecast demand by asking potential customers how they intend to act on a specific situation (Armstrong and Green, 2005: 5). Expectation surveys function similarly, with potential customers indicating how they expect they will act. Morwitz (2001: 33 – 56) summarised the difference between intention and expectation surveys by indicating that a potential customer's intent may differ from their expected behaviour. Armstrong and Green (2005: 6) state that intention and expectation surveys are particularly valuable when historic data is not available, as in the case of a new product.

1.5.5 Role-playing

Role-playing is generally used in forecasting when a situation involves conflict. In order to use role-playing as a forecasting method, the administrator typically describes a target situation, the role of the major protagonists and potential decisions (Armstrong and Green, 2005: 5). Participants prepare for their roles and

the situation and enact realistic interactions until a decision is reached. This information is subsequently used to make a forecast.

Green (2002: 321 – 344) found role-playing to be a significantly more effective forecasting method when compared to unaided judgment and mentioned the value of secrecy that this method offers.

1.5.6 Structured analogies

Historical data from situations that are similar to the forecast at hand may be used as a structured analogy to predict a new target situation (Armstrong and Green, 2005: 4). The formal, structured approach of this method is used in order to overcome bias and ineffective use of data from similar situations. This method entails describing a target situation and selecting experts with experience directly related to the forecast. After a collection of similar situations has been identified, experts rank their similarity to the target situation and apply the data from these historical forecasts.

1.5.7 Expert systems

Expert systems as a forecasting method consists of identifying the forecasting procedures of experts and empirical research. These systems are dependent on a conditional statement, for example: 'If household income is below R4 500, then do not supply premium products' (Armstrong and Green, 2005: 5).

Collopy, Adya and Armstrong (2001: 285 – 300) found that expert systems are superior compared to unaided judgment, although this method is only cost-effective if several similar forecasts are required.

1.5.8 Rule-based forecasting

Inspection, statistical analysis and domain knowledge is used in rule-based forecasting to categorise features of time-series data. This information is then used to develop rules to adjust data and predict outcomes (Armstrong and Green, 2005: 7). Armstrong, Adya and Collopy (2001: 259 – 282) state that this method is very

valuable when there are clear patterns in the series, when applicable domain knowledge exists and when long-term forecasts are required. With these conditions, rule-based forecasts deliver significantly less errors than combined forecasts.

1.5.9 Extrapolation

Extrapolation is based on historical information that is directly related to what is being forecasted (Armstrong and Green, 2005: 6). The most popular extrapolation method is exponential smoothing, through which the most relevant data carries a heavier weight and stabilises trend fluctuations. Extrapolation is typically used for forecasting that involves a substantial amount of items, such as the inventory of a retailer (Armstrong, 2001c: 217: 243).

1.5.10 Econometric methods/Segmentation

Econometric methods entail the use of mathematical equations that show the relation between explanatory and dependent variables, where the variables, directions of effects, limits on relationships, and the functional forms of the equations are chosen using prior knowledge and theory, and the coefficients are estimated using regression analysis (Armstrong, 2001: 301 - 302).

1.6 Research methodology

1.6.1 Research design

This field study is comprised of an empirical study and literature review. It is clear from the description of demand forecasting methods that intention and expectation surveys are the most relevant to new product demand forecasting since no historic data is available. As a descriptive study, the research is concerned with an estimate of the proportions of our targeted population who is interested, or who is expected to become regular consumers of Chechil cheese (Cooper, Schindler, 2011: 149).

1.6.2 Research method

Cooper and Schindler (2011: 161) state that quantitative methodologies dominate research involving consumer behaviour, knowledge, opinions, or attitudes. This study is no different, employing a quantitative intention/expectation structured questionnaire using the Juster scale.

1.6.3 Sampling strategy

Non-probability convenience sampling will be used following practical considerations. Since Chechil SA will be sold as a beer snack, the strata is made up of people living in Bloemfontein and falling within LSM brackets 7 and above (SAARF, 2012: 7).

1.6.4 Data collection methods

Conducted using the communication method and self-administered, the questionnaire is presented to patrons at popular shopping destinations similar to where Chechil will be launched.

The questionnaire is structured according to the Juster scale, where responses are marked from 0, meaning no chance or almost no chance, to 5, certain or practically certain. A description of the product and a sample will be presented to potential customers after which they answer a series of questions. The intention questionnaire used in this study was adapted from Dillman (2000) and has delivered high response rates, reduced response error and compensates for non-response bias. The demand forecast is consequently calculated by aggregating the responses of all the participants.

1.7 Ethical considerations

All respondents who participate in the study will do so voluntarily. Administrators will be trained to deliver the surveys objectively, and all data obtained will be analysed scientifically without bias. Questionnaires will clearly indicated the purpose of the research and ensure the anonymity of respondents. Additionally, the statistical

credibility of the findings will be verified upon completion of the study and presented in the final research report.

1.8 Demarcation of field of study

Market forecasts are typically used for design and implementation, developing market and commercial potential and other external entities like suppliers and investors. This study is concerned with forecasting demand as a function of marketing. The research will be conducted in the initial market of Chechil SA, Bloemfontein, targeting consumers older than 18 who frequent bars and/or pubs and fall within LSM brackets 7 and above.

1.9 Chapter layout of study

1.9.1 Chapter 1 – Research proposal

Chapter 1 provides an introduction to the study and the methodology used. The savoury snacks market in South Africa is described and offers a context for Westal (Pty) Ltd.'s intention to launch a new snack product. Furthermore, the most popular methods for forecasting demand is identified, described and a rationalisation is offered for the method most applicable to this study.

1.9.2 Chapter 2 – Literature review

Chapter 2 will provide a detailed description of the savoury snacks market in South Africa from a marketing perspective. In addition to a concise marketing history of snack foods internationally, secondary quantitative data will be presented to determine the size of the South African savoury snack market. This information will serve to contextualise Chechil SA as a premium beer snack within the South African snack market.

1.9.3 Chapter 3 – Research methodology

Chapter 3 offers an in-depth investigation of demand forecasting for new products. This chapter will focus on the factors that need to be considered when forecasting

the demand for a new product. Furthermore, the data collection process and theoretical framework for data collection will be discussed.

1.9.4 Chapter 4 – Data analysis

Chapter 4 will present the data that has been collected from respondents in a clear, logical manner. This information will be analysed and delivered as a forecast for Chechil SA in Bloemfontein.

1.9.5 Chapter 5 – Conclusion and recommendations

The forecast achieved in Chapter 4 will reveal critical information that is required when launching a new product. The forecast will be applied to the business and recommendations for development will be suggested. The study will close with a conclusion, summarising the findings.

CHAPTER 2 – LITERATURE REVIEW

2.1 Introduction

With the modern culture of rapid advancement, demanding consumer expectations have been created from the increasingly fast progress of technology and access to information. These consumer expectations place an onus on organisations to consistently innovate in order to stay competitive (Chaman, 2010: 3 and Simon, 2010: 20). The development of new products requires a multitude of functions, some of which include the determination of viability, initial investment and expected impacts. This chapter explores new product forecasting as a marketing function with the goal of answering these questions. Recognised as one of the most challenging activities during demand planning, the ultimate goal of new product forecasting is to minimise risk and optimise reward (Chaman, 2013: 3). Though difficult, this process can prove rewarding - a recent study by the Institute of Business Forecasting and Planning (IBF) revealed that 22% of sales come from accurate forecast data (Chaman, 2007: 28). Chaman goes further to state that the success of new products can be improved even further if the conceptualisation and development processes of these products are sped up, since first entrants are able to set a premium price and immediately gain significant market share. As an academic field of study, new product forecasting will be discussed from an analytical, behavioural and strategic perspective.

Furthermore, a quantitative analysis of the South African snack market will be presented as the context of the market within which Chechil SA will compete. This analysis will provide a general overview of the market according to market value, volume and segmentation. A five forces industry analysis as developed by Michael Porter of the Harvard Business School follows (Porter, 1979). Lastly, the chapter concludes with a brief description of the major players in the South African snack industry.

2.2 New Product Forecasting

Manufacturers are consistently working to predict consumer demand in order to efficiently manage the manufacturing process, inventory and distribution. In the case of new product forecasting, this information gives the manufacturer a further

indication of the viability of a new product and the optimal initial investment required to bring the product to market (Bursa, 2009: 26). Valuable new product forecasts should be approached as the culmination of accurate analytics, sensitivity to the behaviour of stakeholders and sound strategy.

2.2.1 Analytics

Analytics represent the tangible aspects of new product forecasting, including available data, the analysis performed and the metrics used to assess the accuracy of the forecast (Kahn, 2010: 29).

2.2.1.1 Data

Even though no historical sales data is available when forecasting for new products, analogous product data, marketing data of previous products (including pricing information) as well as industry data (including total market value, volume and competitors) may be used to sketch a general understanding and support the underlying assumptions about the new product market (Foldes, 2010: 4 and Kahn, 2010: 29). Kahn goes further to mention that the availability and accessibility of this data to forecasters, as well as mechanisms that are in place to evaluate the credibility of input data, are critically important factors of successful new product forecasting. Armstrong (2005: 29) identified nine general rules to improve forecasting accuracy:

- Match the forecasting method to the situation;
- Use domain knowledge;
- Structure the problem;
- Model experts' forecasts;
- Represent the problem realistically;
- Use causal models when you have good information;
- Use simple quantitative methods;
- Be conservative when uncertain.

2.2.1.1.1 Match the forecasting method to the situation

It is apparent that there is no single demand forecasting method appropriate for every situation. Pilinkiené (2008: 20) identifies more than 200 methods to forecast demand, each with its own advantages and disadvantages. The value of any new product forecasting process is dependent on the applicability of the forecasting method to the context of the product being forecasted, the market it will enter as well as the limitations of data collection.

2.2.1.1.2 Use domain knowledge

Managers and forecasters often possess information about a market that is important to include when forecasting demand. This domain knowledge can be incorporated into a demand forecast methodology by using causal forces. Causal forces can be used to summarise a manager or forecaster's expectations regarding the course of a trend in a time series. This information can become very important, especially when it conflicts with historical trends (contrary series). It is important to note, however, that Armstrong (2005: 31) emphasises potential errors that can result from forecasts of contrary series when using traditional methods.

When applying causal forces in demand forecasting, Armstrong and Collopy (2001: 273 - 283) found that errors were reduced by 17% for short-term predictions and by more than 40% for long-term forecasts.

2.2.1.1.3 Structure the problem

As with management research in general, it is useful to break a forecast problem into smaller problems, solve each problem and then reassemble the findings. Such a decomposition approach improves the accuracy of judgmental forecasts by about 50% of extreme (very large or very small) numbers, (MacGregor, 2001: 107 - 123).

2.2.1.1.4 Model experts' forecasts

Judgmental bootstrapping can serve as an inexpensive substitute to expert systems often used by organisations (Armstrong, 2005: 31). This method offers better accuracy than judges' forecasts and is superior to unaided judgment (Armstrong,

2001b: 171 - 192). The method also reveals the weights that an expert attaches to the various factors, thus improving the forecast. Judgmental bootstrapping is fairly inexpensive and accurate, however it is seldom used by practitioners.

2.2.1.1.5 Represent the problem realistically

Green (2005: 463 - 472) demonstrates that game theory does not have an evident value for forecasting, since researchers commonly begin with a model and then attempt to generalise the situation. When forecasting demand, it is preferable to define the situation and subsequently develop a realistic representation (Armstrong, 2005: 32).

2.2.1.1.6 Use causal models when you have good information

Good information in this case is defined as enough data to comprehend the aspects affecting the variable to be forecasted, and developing a causal (econometric) model. Quantitative econometric models have been shown to be more accurate than non-causal models like exponential smoothing models (Allen and Fildes, 2001: 303 – 362). These models are particularly important for forecasts involving large changes and when considering alternate decisions (Armstrong, 2005: 32).

2.2.1.1.7 Use simple quantitative methods

Makridakis and Hibon (2000: 489 - 508) found that in time-series forecasts, after a certain modest complexity level, no gains in accuracy were achieved. This result applies to econometric models as well (Armstrong, 1985: 225 - 235). Meade and Islam (2001: 577 - 595) have also shown that uncomplicated diffusion models are superior to intricate ones by studying the spread of ownership of new consumer goods through a population.

2.2.1.1.8 Conservative when uncertain

Forecasting is typically plagued with many uncertainty factors that make the discipline notoriously difficult. Miller and Williams (2004: 529 - 549) designed a

method to diminish seasonal influences while using time series data. This approach reduced errors by 4%. Gardner (2005: 38) provides additional evidence of the effectiveness of dampened trends with exponential smoothing which saved the U.S. Navy \$30 million in reduced inventory costs.

2.2.1.1.9 Combine forecasts

Combining different forecast methods results in improved accuracy and reduces the probability of big error, (Armstrong and Green, 2005: 10). Blattberg and Hoch (1990: 887 - 899) achieved an improved forecast of annual sales when aggregating judgmental forecasts with data obtained through a quantitative model.

Given the available data for new product forecasting and paying close attention to the rules that increase accuracy as discussed above, the next step of the analytical process is analysing data.

2.2.1.2 Analyses

Chaman, (2008: 16) emphasises the importance of analysing data thoroughly before it is entered into one of the various forecasting models. It follows that inaccurate input data leads to flawed forecasting results. Forecasting models can be categorised into three groups: time series models, cause-and-effect models and judgmental models.

2.2.1.2.1 Time series models

Time series models are concerned with the extrapolation of past data towards finding the best statistical fit (Chaman, 2008: 15). These models assume that past trends or patterns will repeat in future. Easy to understand and use, these models are a practical solution to short term forecasting since data patterns are less likely to change significantly over short periods of time (Chaman, 2008: 15). Time series models are also known as univariate models since only data of the series that is being forecasted is required for the process. Time series models include Simple Trend, Decomposition, Averages including Simple and Moving, Box Jenkins (also

known as Autoregressive Integrated Moving Average, or ARIMA), and Exponential Smoothing.

2.2.1.2.2 Cause-and-effect models

Cause-and-effect models forecast demand through calculating the average relationships between an independent variable (the cause) and the dependent variable (the effect) (Chaman, 2008: 15). For example, if sales were dependent on the size of the advertising budget spent, then sales would be the dependent variable (the effect) and advertising the independent variable (the cause). Cause-and-effect models are most applicable when a strong relationship exists between the variables and when this relationship stays relatively consistent over the forecast period (Chaman, 2008: 15). Cause-and-effect models include Econometrics, Regression, and Neural Network.

2.2.1.2.3 Judgmental models

Judgmental forecasting models are especially valuable when no historical sales data exists as in the case of new products (Chaman, 2008: 15). Chaman (2008: 15) further lists the following situations where judgmental models are especially applicable:

- A large percentage of sales are as a result of new customers (the 80/20 rule);
- Forecasts that stretch far into the future; and
- Forecasting in a volatile market.

It should be noted that these methodologies should not be disregarded merely because they are predominantly based on judgment - set procedures that have been proven scientifically are to be followed (Chaman, 2008: 15). The most widely used judgmental models include Delphi, Analog, Performance Evaluation Review Technique (PERT), Diffusion, Scenario, and Survey. As discussed in section 1.5 *Theoretical framework*, the forecasting method most applicable in the case of this study is a survey. With a survey model, primary data is collected through a

telephonic, mail, email or in-person survey that forms the basis of the forecast (Kahn, 2010: 30).

Having discussed the data and analysis aspects of the analytical dimension of new product forecasting, attention will now be paid to the last aspect of the analytical dimension, namely measuring and evaluation through metrics.

2.2.1.3 Metrics

The launch of a new product should be accompanied by a collection of strategic metrics that evaluates forecasting performance in order to gain an ongoing understanding of the market (Kahn, 2010: 30). In addition to forecasting metrics, supply chain metrics regarding sell-through and sell-in volume may reveal insights into the final consumers' purchase behaviour and contribute to the portrayal of trade customers. This data forms a valuable part of the information gained from metrics, especially when working with consumer packaged goods companies (Kahn, 2010: 30). With the continued use of strategic metrics the organisation is able to generate a knowledge database that becomes an invaluable benchmarking resource during subsequent new product launches (Kahn, 2010: 30).

2.2.2 Behaviour

While the aspects discussed in section 2.2.1 *Analytics* can be described as the hard side of forecasting, behaviour represents the soft side, considering the organisational and individual behaviors related to the inherent biases and organisational politics of new product forecasting (Kahn, 2010: 30). Whether conscious or unconscious, these influences may result in misleading forecasts if not adequately declared.

2.2.2.1 Organisational and individual bias

Bias is defined as either the systematic or random influences that present or hold a partial perspective in favour of one viewpoint over another (Kahn, 2009: 34). Systematic bias, as the purposeful introduction of an error motivated by an individual's personal agenda or company politics, poses the greatest concern with regards to new product forecasting (Kahn, 2009: 34). Without stringent control over the new product forecasting processes (especially concerning data used near the

beginning of the process), systematic biases can cause major errors in the final forecast.

It follows that the new product forecasting process creates a dilemma for the organisation: on the one hand the forecaster should consistently inject realism into the forecasting process, while concurrently stimulating enthusiasm to motivate the organisation and the new product development process. While optimistic forecasts can provide valuable encouragement to drivers of new products in an organisation, realism can have the opposite effect. Both of these results pose particular types of biases (Kahn, 2009: 37)

2.2.2.2 Communication

The value of a new product forecast is greatly enhanced through inputs from representatives of each function in the organisation (Kahn, 2010: 30). Launching a new product has an impact on most, if not all, functions, and communication across departments is imperative when generating a meaningful forecast. Even though these inputs are naturally susceptible to biases, cross-functional communication can contribute to mitigating bias through the reality checks and transparency that diverse and open communication adds to the new product process (Kahn, 2010: 31). Cross-functional communication further contributes to the collection and dissemination of forecast data and information on which new product decisions are based.

2.2.3 New product forecasting strategy

As the last dimension of new product forecasting, strategy is concerned with process, assumptions management, new product planning and linkages with other company processes (Kahn, 2010: 31). This will now be discussed in more detail.

2.2.3.1 Process

New product forecasting generally entails various data sources and contributing functions. In order to deliver a best strategy, a process should be clearly defined and implemented that integrates data, people and systems (Kahn, 2010: 31 and Burnette, 2010: 22). It is important for organisations to approach new product forecasting not as the result of a software package or statistical technique, but rather as a company-wide endeavour that supersedes company politics and

functional areas to provide a scientific, impartial basis for new product business decisions.

2.2.3.2 Assumptions management

Kahn (2010: 31) describes new product forecasting as a process of assumptions management, where assumptions are methodically generated, translated and tracked. By approaching the new product forecasting process as assumptions management, the forecaster is able to reduce the likelihood of flawed forecasts through regular documentation and tracking consistency (Kahn, 2010: 31). The mechanism that ensures the continued adherence to this approach is included in the forecasting process described in the previous paragraph.

2.2.3.3 New product planning and linkages with other company processes

Since the sales and operations planning function is a partial implementation of company strategy and maintains cross-functional communication, decision-making and connections with processes across the organisation, it is practical to accommodate new product forecasting within this department. The new product forecast consequently serves as input into the sales and operations planning process with particular emphasis on effective new product plans (Kahn, 2010: 31).

2.2.4 New product forecasting management

The three dimensions as described above, namely analytics, behaviour and strategy, overlap into new product forecasting management. The management of new product forecasting should be seen as a separate function from the sales forecasting management function as a result of the different data sets, functions and forecasts needed (Kahn, 2010: 32). When separating these functions, the organisation is forced to consider the new product forecast strategically, which ensures that the process is meticulously managed.

Figure 2.1: The three dimensions of new product forecasting



Kahn, (2010: 31).

2.2.5 Risks of new product forecasting

The new product forecasting process entails a variety of risks. Assmus (1984: 130 - 133) identifies delays and loss of competitive advantage, incorrect decision-making, biased forecasts, and overconfidence as threats that the organisation faces when forecasting demand for new products.

2.2.5.1 Delays and loss of competitive advantage

Thomas (2006: 2) writes that it is not uncommon for competitors to block or delay the launch of new competing products through the new product forecasting process. This is achieved by marketing actions that attempt to distort the reliability of the test market by, for example, running a significant discount promotion on competing products during the period. These delays may allow the competitor time to develop and launch a similar product at about the same time as the organisation, effectively negating the competitive advantage achieved through first entry. Delays potentially have significant market share and resultant financial implications for the organisation.

2.2.5.2 Incorrect decision-making

Behavioural influences on the new product forecasting process, as discussed in section 2.2.2 *Behaviour* could point to the process itself as the source of incorrect

decisions (Assmus, 1984: 130). Assmus further argues that the new product forecasting process influences the organisation to spend more resources on the development of a new product and bring it to market after the process is completed, when a more responsible decision might be to collect additional information or discontinue the project.

Furthermore, a flawed new product forecast could potentially have a detrimental effect on the initial investment by the organisation when launching a new product (Stevenson, 2012: 74). Machinery, labour, overheads, input materials as well as inventory requirements and stock could all be over- or underestimated, based on forecasted demand information, causing the firm's profitability to be negatively affected.

2.2.5.3 Overconfidence

The forecasting process, especially when based on a recognised model, usually causes an underestimation of the downward risk among decision-makers (Hilary, 2011: 7). Especially after achieving a measure of success with previous forecasts individuals tend to overestimate their ability to predict demand of a new product (Peterson, 2007: 110 and Thaler, 2010: 1). This conviction could cause an overly optimistic confidence in decisions made on the basis of a forecast and overshadow other environmental factors that should be considered when launching a new product.

Additional risks specific to an organisation and its context should be identified before any new product forecasting process is initiated. These risks should be actively managed throughout the process in order to mitigate the potential negative effects they pose to the organisation as far as possible.

Having presented the latest literature with regards to new product forecasting, the market for snack foods in South Africa is consequently discussed.

2.3 The snack foods market in South Africa

The demand for snacks has continued to show growth in developed as well as developing countries despite the global financial crises of 2008 (Seymour-Blackburn, 2013: 1). With a population of almost 50 million people and considered to be one of the most developed countries on the African continent, South Africa

offers a promising market for snacks (Canada, 2012: 2). Snack foods have played an important role in the food sector of South Africa, contributing from R4.4 billion in 2007 to R6.4 billion in 2011 in market value (MarketLine, 2012: 8).

Table 2.1: South African snacks market value forecast

Year	ZAR (millions)	% Growth
2011	R 6 421.40	9.80%
2012	R 7 048.30	9.80%
2013	R 7 732.40	9.70%
2014	R 8 478.70	9.70%
2015	R 9 290.10	9.60%
2016	R 10 058.00	8.30%
Compound annual growth rate between 2011 - 2016:		9.40%

Adapted from MarketLine (2012: 8).

Table 2.1 shows a forecast of the snacks market value in South Africa over the period 2011 – 2016. A declining growth rate, from 9.8% in 2011 to 8.3% in 2016, is expected (MarketLine, 2012: 7). However, PepsiCo, a leading snacks and beverage manufacturer, revealed that a decline in their carbonated soft drinks market for Q4 in February 2014 was mitigated by strong snack sales opportunities in emerging countries like South Africa (PepsiCo, 2013: 14).

Demand increased from 2007 – 2011 to achieve 122.9 million kilograms at a compound annual growth rate of 7.1%. To provide some context to these figures, the Saudi Arabian and Nigerian snack markets grew with compound annual growth rates of 7% and 6.2% respectively over the same period, (MarketLine 2012: 7).

2.3.1 Market segmentation

Chechil SA will compete in the processed snacks category. Potato crisps occupy the largest segment of the snacks market at 52.7%, with processed snacks making up 30.8% of the market's aggregate value (MarketLine, 2012: 10).

Table 2.2: South African snacks market category segmentation: % share, by value, 2007 - 2011

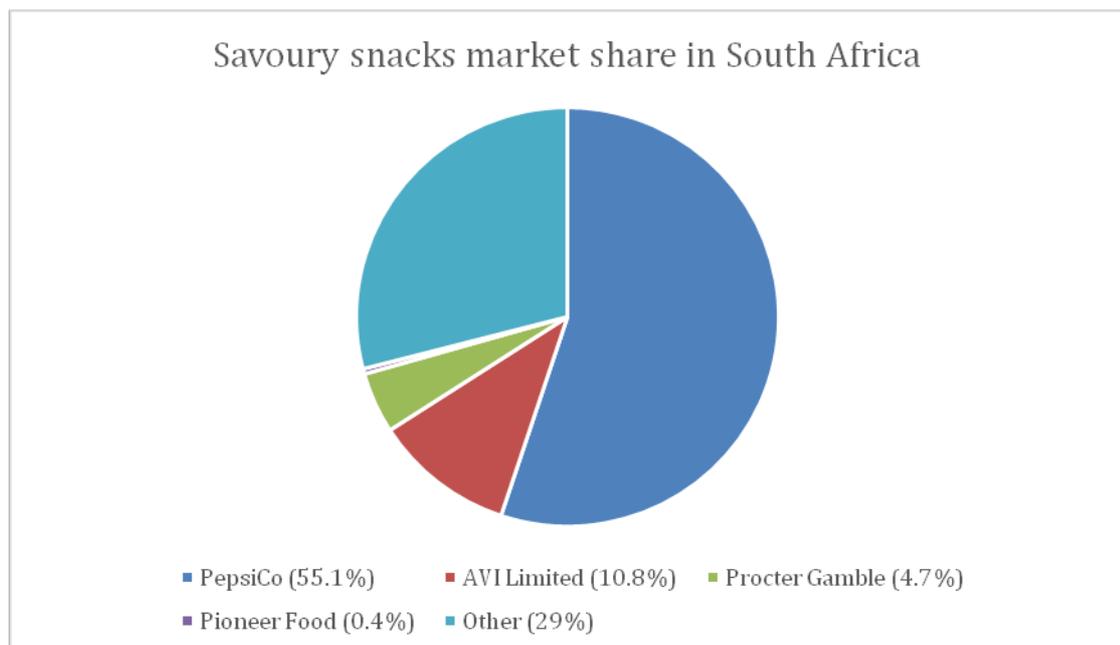
Category	2007	2008	2009	2010	2011	2007 - 11 CAGR(%)
Potato chips	47.70%	49.10%	50.40%	51.60%	52.70%	8.20%
Processed snacks	34.30%	33.20%	32.40%	31.50%	30.80%	4.60%
Nuts and seeds	15.40%	15.10%	14.90%	14.60%	14.30%	5.20%
Popcorn	2.60%	2.50%	2.40%	2.30%	2.30%	4.00%
Total	100%	100%	100%	100%	100%	22%

Adapted from MarketLine (2012: 10).

2.3.2 Market share

PepsiCo is the chief player in the South African snacks market, producing 55.1% of the market (MarketLine, 2012: 12). Other competitors include AVI Limited, Procter & Gamble, and Pioneer Foods.

Figure 2.2: South Africa snacks market distribution: % share, by value, 2011



Adapted from MarketLine (2012: 12).

2.3.3 Market distribution

The main distribution channels of snacks in South Africa are hypermarkets and supermarkets, making up 53.8% of all sales (MarketLine, 2012: 13). Other noteworthy channels include independent retailers, convenience stores and service stations.

Table 2.3: Snacks market distribution in South Africa: % share by value

Channel	Share (%)
Hypermarkets and supermarkets	53.8%
Independent retailers	24.2%
Convenience stores	13.8%
Service stations	3.7%
Other	4.5%
Total	100%

Adapted from MarketLine (2012: 13).

2.3.4 Five forces analysis

The snacks market will be analysed with key buyers as supermarkets, hypermarkets, and smaller retailers. Manufacturers of ingredients and packaging solutions are considered as the key suppliers (Datamonitor, 2009: 13).

Table 2.4: Forces driving competition in the savoury snacks market in South Africa

Driver	Strong	Moderate	Weak
Buyer power			x
Degree of rivalry			x
New entrants	x		
Substitutes	x		
Supplier power			x

Adapted from MarketLine (2012: 16).

2.3.4.1 Buyer power

The major buyers in the South African snacks market are the supermarket and hypermarket chains. Since these buyers have substantial financial strength and are able to buy in bulk, losing such a client could have a severe negative impact on a producer's revenues (MarketLine, 2012: 17 and Datamonitor, 2009: 13). Additionally, snack products make up a small part of the variety of products available at most food retailers, further contributing to buyer power (Datamonitor, 2007: 13).

On the other hand it is important to note that even though the retailers themselves do not have brand affiliations or preferences, consumer demand does to a large degree influence stocking decisions. With the large low income sector in South Africa, consumers are very price sensitive, leading to corresponding price sensitive retailers wishing to maintain profit margins (MarketLine, 2012: 17). These contrasting factors lead to moderate buyer power in the snacks market of South Africa.

Table 2.5: Drivers of buyer power in the savoury snacks market in South Africa

Driver	Strong	Moderate	Weak
Backwards integration			X
Buyer independence			X
Buyer size	X		
Financial muscle	X		
Low-cost switching			X
Oligopsony threat	X		
Price sensitivity			X
Product dispensability			X
Tendency to switch			X
Undifferentiated product			X

Adapted from MarketLine (2012: 17).

2.3.4.2 Supplier power

In South Africa, suppliers to the snacks industry include agricultural producers, agricultural commodity traders, factory equipment as well as the manufacturers of other ingredients and packaging (MarketLine, 2012: 16 and Datamonitor, 2009: 13). Producers of snacks generally purchase raw materials (like potatoes) directly from farmers who mostly operate as relatively small businesses (MarketLine, 2012: 18). Grains and vegetable oils are mostly supplied by large international commodity traders like Bunge and Senwes (Bunge, 2014: 1). While it is uncommon for buyers in the snacks market to integrate backwards into the farming supply chain, there are some who have become involved in commodity trading. A few buyers also manufacture some of their own ingredients, such as flavourings (MarketLine, 2012: 16). Both of these strategies reduce supplier power.

Even though snack producers should cater for consumer preferences, the impact of supplier price pressures can be mitigated through a diverse product mix that requires different raw material inputs. Supplier power in the South African snack market is moderate (MarketLine, 2012: 18).

Table 2.6: Drivers of supplier power in the savoury snacks market in South Africa

Driver	Strong	Moderate	Weak
Differentiated input			X
Forward integration			X
Importance of quality/cost	X		
No substitute inputs			X
Oligopoly threat			X
Player dispensability			X
Player independence			X
Supplier size	X		
Switching costs			X

Adapted from MarketLine (2012: 18).

2.3.4.3 New entrants

The snacks market in South Africa is served by large companies, some of which have international footprints. These companies have extensive product portfolios, often reaching outside the food sector. Additionally, with long track records of established brands and large, often international marketing budgets, successful mainstream entry is challenging (Datamonitor, 2009: 14). Steady market growth, coupled with optimistic prognoses, tends to ease this threat somewhat, however. MarketLine (2012: 16) suggests that small-scale entry should focus on artisanal production techniques or unusual ingredients. Kettle Foods, with their hand-cooked potato chips substitute manufactured from root vegetables, is a good example. Retail space is highly contested, with established products from large snack suppliers competing for prime shelf space. Convincing retailers to substitute these established products with a new offering could be challenging and may deter new entrants. The optimistic market outlook, potential low fixed costs and accessible suppliers make the likelihood of new entrants strong, however.

Table 2.7: Factors influencing the likelihood of new entrants in the savoury snacks market in South Africa

Driver	Strong	Moderate	Weak
Distribution accessible	X		
Incumbents acquiescent		X	
Little IP involved		X	
Little regulation		X	
Low fixed costs	X		
Low-cost switching		X	
Market growth	X		
Scale unimportant		X	
Suppliers accessible	X		
Undifferentiated product		X	
Weak brands		X	

Adapted from MarketLine (2012: 19).

2.3.4.4 Threat of substitutes

There are many substitute products for snacks at relatively similar prices, including confectionery and beverages (Datamonitor, 2009: 14). Furthermore, with the global drive towards healthy living and sugar- and salt-free meals, a growing number of households are switching to healthier options like fruit. The major competitors in the snacks market have adapted to this trend and now offer a diverse range of snack products (MarketLine, 2012: 16).

Certain substitute products may have additional benefits for retailers, such as being easier to display and taking up less shelf space (as in the case of candy bars) while others, like fruits, have disadvantageous requirements like chilled display areas. As a cheap, generally beneficial alternative, combined with the low cost of switching, the threat of substitute products is high.

Table 2.8: Factors influencing the threat of substitutes in the savoury snacks market in South Africa

Driver	Strong	Moderate	Weak
Beneficial alternative	x		
Cheap alternative		x	
Low cost switching	x		

Adapted from MarketLine (2012: 20).

2.3.4.5 Degree of rivalry

The South African snacks market is dominated by a small group of large, international companies that occupy about 71% of the total market share. As manufacturers of snack foods, these companies are all heavily invested in substantial fixed assets that would have to be divested when exiting the market, creating an increased incentive to maintain market share and encouraging rivalry (Datamonitor, 2009: 14). The steady market growth and diversified product offerings of these companies however work to ease the threat of competition to a degree. Competitor size, exit barriers and large fixed costs are offset by the number of players, the ease of expansion, diversification and the low cost of switching, resulting in an overall moderate degree of rivalry (MarketLine, 2012: 21).

Table 2.9: Drivers of the degree of rivalry in the savoury snacks market in South Africa

Driver	Strong	Moderate	Weak
Competitor size	x		
Easy to expand		x	
Hard to exit	x		
Lack of diversity		x	
Low cost of switching		x	
Low fixed costs	x		
Number of players			x
Similarity of players		x	
Storage costs		x	
Undifferentiated product		x	
Zero sum game			x

Adapted from MarketLine (2012: 21).

2.3.5 Leading companies in the snacks industry

2.3.5.1 AVI Limited

AVI Ltd. (AVI) operates primarily in South Africa and is listed on the Johannesburg Stock Exchange in sector J357, Food Producers (AVI, 2014: 1). The company manages various trading subsidiaries that manufacture, process, market and distribute consumer products. The company's portfolio includes more than 50 brands, with leading snack brands that include Bakers, Pyotts, Willards and Provita. AVI Ltd. is also responsible for various teas and coffees (Freshpak, Five Roses, Ellis Brown, Frisco, House of Coffees and Ciro), convenience foods (I&J) and various cosmetic, footwear and apparel brands (Lentheric, Yardley, Spitz, Coty, Kurt Geiger, Tosoni, Lacoste, Gant and Carvela) (AVI, 2013: 1). The company is divided into four business units responsible for beverages (Entice), snacks (Snackworx), frozen foods (Chilled and Frozen Convenience Brands) and fashion respectively. The snacks unit of AVI Ltd. achieved revenues of R2.681 billion in 2013, up 10.4% from 2012 (AVI, 2013: 3). Operating profits for 2013 increased by 18.1% when compared to 2012 to reach R387.9 million.

In their annual report, the company attributes growth within their snacks portfolio to price increases and an improved sales mix (AVI, 2013: 12).

2.3.5.2 PepsiCo, Inc.

Created in the late 1890s through a merger by Caleb Bradham, Elmer Doolin and Herman Lay, PepsiCo is an international beverage and snack foods company. Managing a 22-brand global portfolio, each generating at least \$1 billion retail sales in 2013, the company is firmly established in the snack and beverage industry. PepsiCo is organised into four geographic business units, with PepsiCo Europe being responsible for all beverage, food and snack activities in Europe and South Africa (PepsiCo, 2013: 34). Listed on the New York Stock Exchange as PepsiCo, Inc. (PEP), the company reported operating profits of approximately \$1.3 billion in 2013 for its European business unit, down 1.5% from 2012. Net revenue for 2013 in the same business unit was \$13.75 billion, up 2% from 2012 (PepsiCo, 2013: 60). The company attributes the overall growth of 3% in snacks volume for the European business unit largely to high single-digit growth in South Africa and Turkey. PepsiCo's snacks portfolio in South Africa includes Lays, Doritos, Cheetos and Fritos.

2.3.5.3 Pioneer Food Group Ltd.

The Pioneer Food Group Ltd., listed on the Johannesburg Stock Exchange, sells its products in more than 80 countries around the world (Pioneer, 2013: 3). The company reported revenue of R20.5 billion and close to R500 million profit for 2013 (Pioneer, 2013: 9). Bokomo Foods produces the snacks and treats portfolio of the Pioneer Food Group, with popular brands including Moir's, ProNutro (snack bars), and Safari. In its annual report of 2013, the company identifies snacks and treats as one of the key categories to focus on in terms of implementing its strategy (Pioneer, 2013: 45).

2.3.5.4 Tiger Brands Ltd.

As South Africa's largest food company, Tiger Brands is recognised as one of the Top 40 Index companies listed on the Johannesburg Stock Exchange (Tiger Brands, 2013: 1). The company focuses on the manufacturing, processing and distribution of branded consumer food, personal and baby care, and home products.

Snacks and treats make up 18.3% of the Consumer Brands portfolio, the category responsible for 39% of the group's turnover (Tiger Brands, 2013: 12). The snacks and treats business unit achieved R1.9 billion turnover in 2013, an increase of 9.2% since 2012, as well as operating income of R304 million, an increase of 13.9% in comparison to 2012 (Tiger Brands, 2013: 49).

2.4 Conclusion

This chapter discussed new product forecasting according to three dimensions, namely analysis, behaviour, and strategy. The various forecasting models and the situations within which they are most applicable were presented, as well as the importance of analysing data thoroughly before entering it into the chosen forecasting model. It is important to note that after the launch of a new product, the consistent use of relevant metrics that evaluates forecasting performance towards an ongoing understanding of the market is critical.

Following new product forecasting, an overview of the snacks market in South Africa was presented to serve as context for the market within which Chechil SA will compete. Market value, volume, segmentation, share and distribution were discussed, as well as a five forces analysis and a description of the major competitors in the South African snacks market. This information will play an important role in the demand-forecasting plan as seen in *Chapter 4*.

Chapter 3 will outline the research methodology followed to forecast the demand for Chechil cheese in Bloemfontein.

CHAPTER 3 - RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the research methodology of the study by presenting a detailed outlay of the aim, objectives, design, data collection strategy, sampling, ethical considerations and limitations of the research. The chapter concludes with a sample questionnaire as well as a description of the data analysis plan.

3.2 Research aim

The aim of this study is to determine market demand of Chechil cheese in Bloemfontein in order to forecast expected sales with the launch of a new venture, Chechil SA.

3.3 Research objectives

3.3.1 Primary objective

- Determine whether there is a demand for Chechil cheese in Bloemfontein.

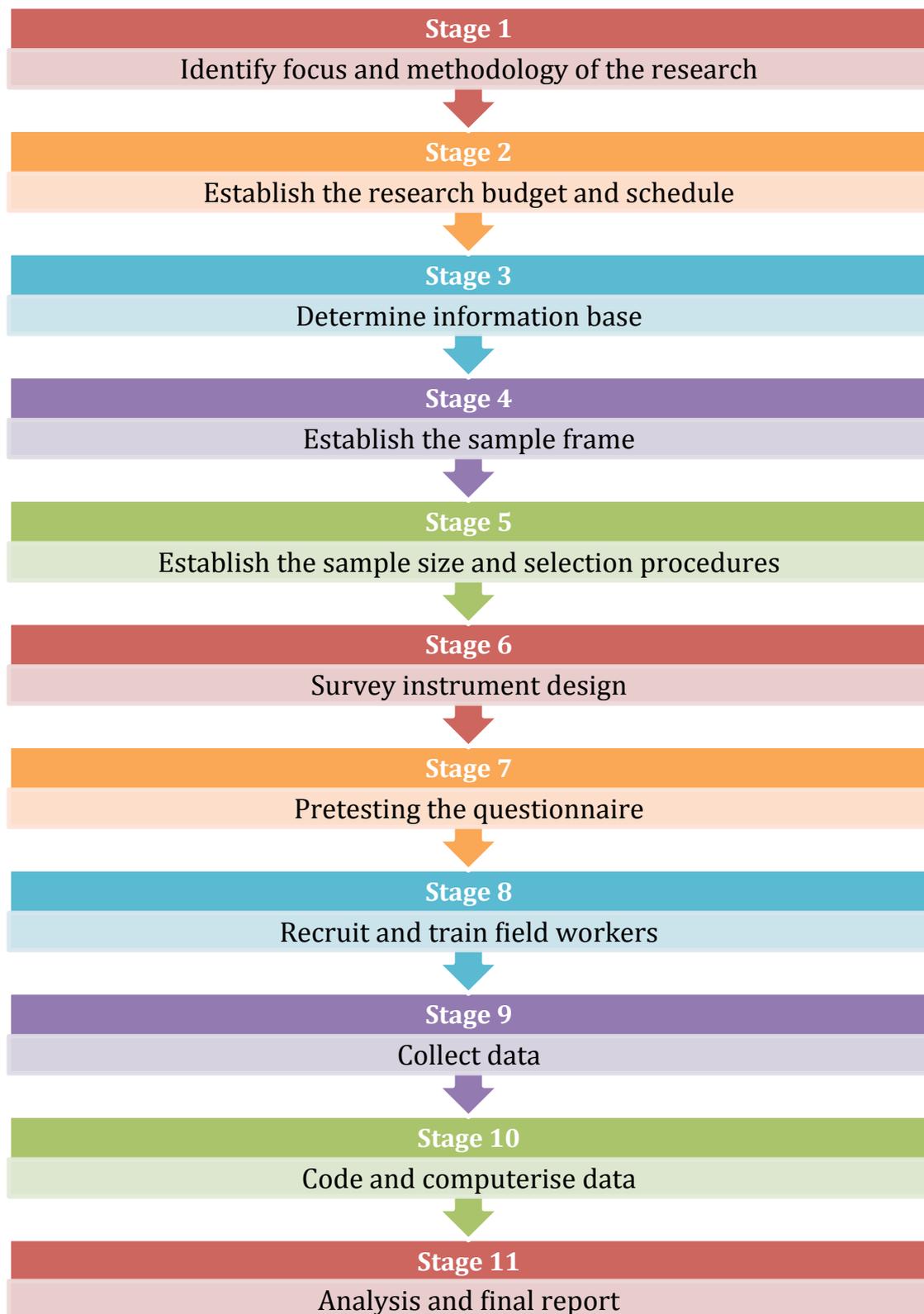
3.3.2 Secondary objectives

- Discuss demand forecasting techniques, with specific reference to the snack market.
- Quantify price elasticity of Chechil cheese.
- Attempt to simplify the complicated process of forecasting demand for a new product.

3.4 Research design

The research design presents the logical structure of the study in order to meet the research objectives (Yin, 2009: 27). Cooper and Schindler (2011: 161) write that research concerned with knowledge, opinions, consumer behaviour or attitudes are dominated by quantitative methodologies. This study supports that statement, making use of a quantitative methodology in the form of a structured intention survey.

Figure 3.1: The survey research process



Adapted from Rea and Parker (2005: 80).

Since the research questions to be answered with this study are precise and structured, this is a formal study. Data will be collected with the aid of personal

interviews following the communication approach. Additionally, this study does not attempt to control any variables through manipulation and will only report on the results of the survey. Every consideration will be taken by the field workers administering the intention survey to not introduce bias through influencing any of the variables.

Armstrong and Overton (1971: 114) state that direct questioning of potential consumers regarding their intention to purchase a product in the future has produced significant predictive success. The challenge with this type of research, however, is to accurately convey product information to the potential consumer, since all a prospective purchaser would know about a new product or service has to be inferred from the information supplied by the researcher. In the case of this study, Chechil SA is an exact duplicate of the same type of cheese that is commonly manufactured in Kazakhstan. A sample will be presented to respondents along with additional product information when conducting the survey allowing them to make an accurate prediction of their intention to buy. When manufacturing Chechil in South Africa, the only difference would be the local milk (with more fat content than the milk used in Kazakhstan) that could marginally affect the taste of the final product.

Cooper and Schindler (2011: 261) describe the various advantages and disadvantages associated with surveys conducted via personal interview. Being able to assist the respondent when interpreting questions and prescreening respondents to match the objectives of the study are clear advantages. This process is, however, quite costly and takes the longest when compared to other forms of survey research.

The primary research question of this study is concerned with quantifying the demand for Chechil in Bloemfontein, thus making the purpose of the study descriptive. Data will be collected on a weekday as well as on a weekend, but not more than 7 days apart as it does not attempt to track changes in intent over a period of time. As a cross-sectional study, the aim of the research is to represent a snapshot of demand at one point in time. The study is designed to capture the purchasing intent of a population through statistical inferences made from the sample's characteristics in terms of the representativeness of the sample and validity of the research design. Data will be collected in actual field conditions during

the normal shopping routine of respondents in an attempt to produce accurate and realistic responses.

3.5 Data collection strategy

This study will be conducted using the communication approach, administering questionnaires through a personal interview in a retail environment. Bruwer and Haydam (1996: 9) have noted the popularity of the intercept method of collecting survey data when measuring shopping behaviour and lifestyle characteristics (see also Hornik & Ellis, 1988: 539; Schleifer, 1986: 17 and Bush and Hair, 1985: 158). This data collection method involves stopping or intercepting shoppers in a retail setting at random and conducting the interview on the spot (Churchill, 1992: 275).

In the case of this study, interviews will be conducted at popular shopping destinations where Chechil SA will most likely be presented for sale when launched. These interviews will be conducted during a weekday as well as a weekend across different geographical areas in Bloemfontein in an effort to obtain data from a representative sample. Interviewers will ask respondents passing the intercept location if they would be willing to sample a new smoked string cheese product and participate in a brief survey. Once the questionnaire has been fully answered, the interviewer will approach the next respondent passing the location. The interviewers will follow a structured script, describing the purpose of the study and the respondent's rights as a research participant.

3.6 Sampling design

The target population of this study is made up of people living in Bloemfontein and falling within LSM brackets 7 and above (SAARF, 2012: 7). Since the study will be conducted using the intercept survey method, the sampling frame is made up of people that visit the retail outlets where fieldworkers will be placed. These outlets have been chosen to represent a wide geographical area of Bloemfontein and are popular shopping destinations of the target population. Non-probability, convenience sampling will be used.

3.7 Research ethics

A mature consideration of ethics when conducting research is critical to effective and meaningful results (Drew, 2007: 56). Resnik, (2011: 1) defines research ethics as a method, procedure or perspective that guides the behaviour of the researcher. There are various reasons for adhering to accepted ethical norms when conducting research, since these norms promote the aims of research including truth, knowledge and the avoidance of error. Furthermore, ethical research norms promote the universal values that enable collaborative work, accountability, public support and moral and social values.

In terms of this study, all respondents will be clearly informed that participation is voluntary. Field workers will be trained to deliver the surveys objectively, following a structured script, and all data obtained will be analysed scientifically. The purpose of the research will be clearly communicated to each respondent and no personal information will be captured that could be used to identify a participant. Additionally, the statistical reliability of the study will be tested after data has been analysed and this will be clearly presented in the final research report.

3.8 Measurement map

3.8.1 Intercept survey guide

Rea and Parker (2005: 68) identifies eleven rules and guidelines to follow when administering an intercept survey:

- The questionnaire should be administered in three minutes or less and pretested to ensure that it is as effective and brief as possible.
- Locations should be suited to the research objectives and be populated by potential respondents that make up the target population of the study.
- Ideally, a small incentive should be offered to respondents for completing the survey.
- Increased response rates are achieved when the field worker represents a reputable organisation since this affiliation adds credibility to the research.
- Field workers should be clearly recognisable as part of the research project and carry legal identification and permission letters at all times.

- Research should be conducted during weekdays as well as weekends as appropriate to ensure that a representative cross section of the target population is included in the response.
- Field workers are to be recruited and trained by the researchers in terms of proper interviewing techniques, eliciting the attention and subsequent participation of members from the target population, the accurate recording of responses as well as the importance of confidentiality and conviviality.
- Structured procedures for contacting the researcher are to be communicated to field workers in case they encounter problems during the administration of the survey.
- Clear, careful instructions are to be communicated to field workers with regards to receiving blank surveys and delivering completed ones.
- Surveys are to be conducted in the language or languages of the respondent and field workers should be fully functional in all appropriate languages.
- Procedures for monitoring field workers should be incorporated as a measure of quality control.

This study incorporates all of these guidelines in order to ensure that the survey is administered appropriately. Since Chechil SA is a new venture field workers will however not visibly represent a well-known organisation.

3.8.2 Format of the intercept survey

Before the questionnaire is administered, the field worker will introduce him- or herself to a potential respondent and make the intention of the survey clear. If the respondent is willing to participate in the study, he/she will be presented with a sample of Chechil. After this the questionnaire will be administered and completed. With twelve questions and fourteen possible data points, the questionnaire should take less than three minutes to complete.

3.9 Reliability and validity

Reliability and validity are two of the most important requirements of any credible measurement procedure, (Miller, 2010: 1). While reliability is concerned with the

consistency or stability of research results over repeated measurements, validity ensures that the research instrument correctly measures what it aims to measure, (Moskal & Leydens, 2000: 1). The questionnaire presented as addendum has been designed to collect the required data to meet the research objectives. Phrasing all of the questions in a readable, clear and comprehensive manner ensured the validity of the questionnaire. Section one of the questionnaire collects demographic information of respondents in order to segment results according to target groups in terms of age, gender and ethnicity. Section two adheres to content as well as construct validity in terms of measuring price elasticity. Section three completes the questionnaire by collecting purchasing behaviour data regarding respondents' favourite snacks, frequency of purchase and average snack spend per month.

3.10 Data analysis plan

After data has been collected, the questionnaires will be examined and assessed. Data will be categorised and classified in terms of the research objectives and presented in terms of descriptions, graphs and tables. The primary and secondary research questions will each be addressed individually.

The primary research question will be answered in terms of the data gathered from sections one and two of the questionnaire. Responses will be aggregated at the three different price points and presented graphically.

Secondary research objectives will be met in terms of the literature review conducted in Chapter 2, as well as applicable economic formulae such as price sensitivity. These formulae will be calculated using the data received from section three of the questionnaire.

Equation 3.1: Formula to calculate arc price elasticity

$$\text{Price Elasticity} = \left[\frac{Q_2 - Q_1}{\frac{1}{2}(Q_2 + Q_1)} \div \frac{P_2 - P_1}{\frac{1}{2}(P_2 + P_1)} \right]$$

Armstrong (1971: 117).

Additionally, section one of the questionnaire will provide context to the data, allowing the researcher to place intended purchasing behaviours within defined contexts, such as age groups, ethnicity and gender.

3.11 Limitations

Rea and Parker (2005: 80) identified the limitations of intercept surveys as interviewer errors, limited information, lack of anonymity and interviewer bias. Since field workers may perceive certain potential respondents as unfriendly or threatening, the random sampling procedure may be negatively impacted. The nature of intercept surveys limits them to being short and concise and therefore only a limited amount of information can be gathered using this methodology. Furthermore, when compared with telephone or Internet surveys, this survey method lacks the same degree of anonymity and may introduce bias from the field worker through the use of hand gestures, facial expressions, body language and comments.

Additionally, the samples presented to respondents have been imported from their country of origin, Kazakhstan. As such, the product was manufactured using a differing grade of milk than what would be used to manufacture Chechil in South Africa. Even though the difference in taste would be so slight as to be negligible, it is important to note this limitation to the study.

The researcher will take every care to mitigate these limiting factors by following thorough training procedures of competent field workers and by adhering to the research methodology described in this chapter.

3.12 Conclusion

This chapter presented a detailed description of the research methodology that will be employed in this study. The research aim, objectives, design, data collection strategy, sampling strategy, ethics and limitations were considered. A data analysis plan and an example of the questionnaire that is to be used were also included.

CHAPTER 4 - DATA ANALYSIS

4.1 Introduction

This chapter presents an analysis and evaluation of the primary data that has been collected. Findings are presented in the same order in which the questionnaire was structured, with *Section 1* being concerned with basic background information, *Section 2* with information regarding purchase intentions and *Section 3* with information regarding the purchasing behaviour of respondents.

Table 4.1: Background information	
Total respondents	192
Dates surveys were completed	9 - 16 August 2014
Average time taken to complete questionnaire	2 - 3 minutes
Confidence level	95%
Confidence interval	7

4.2 Findings

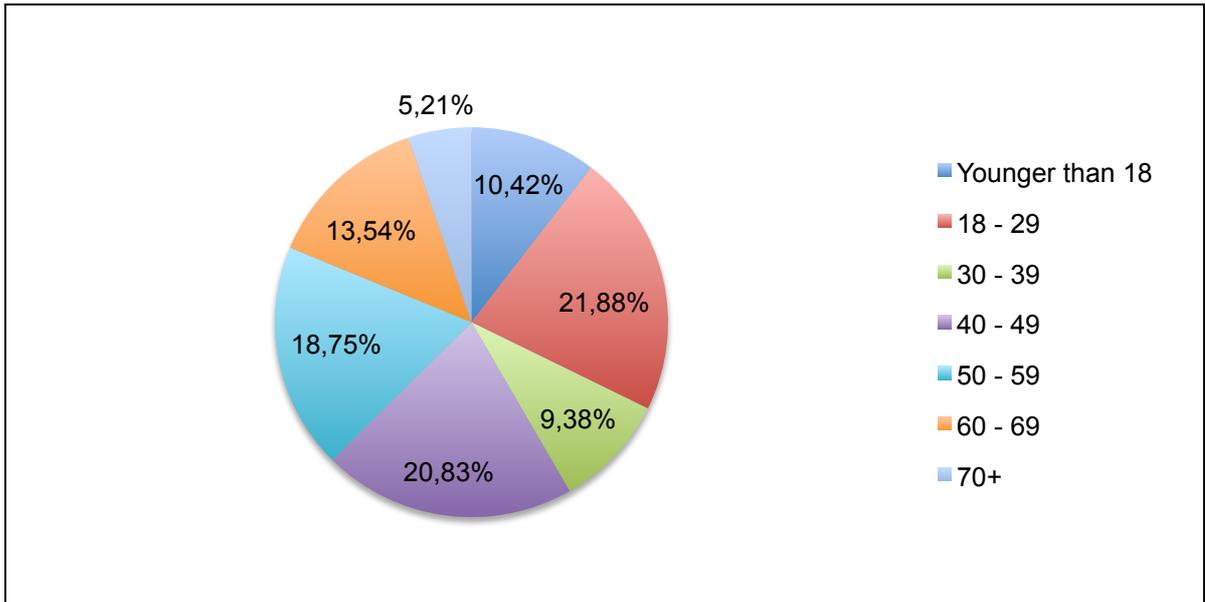
4.2.1 Section 1 - Background

Section 1 captured basic demographic data of respondents, including age group, gender and ethnicity.

4.2.1.1 Age group

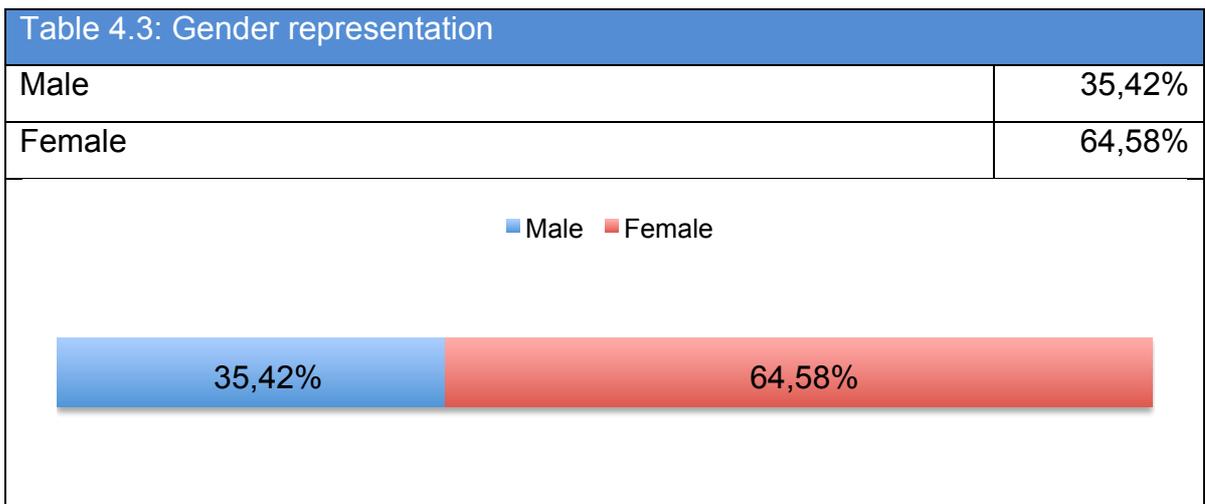
Respondents from all age groups were well represented, with the majority of the respondents falling within the 18-29 years bracket (21,88%), followed by the 40-49 years bracket (20,83%) and the 50-59 years bracket (18,75%).

Table 4.2: Age group representation	
Younger than 18	10,42%
18-29	21,88%
30-39	9,38%
40-49	20,83%
50-59	18,75%
60-69	13,54%
70+	5,21%



4.2.1.2 Gender

Almost two thirds of the respondents were female (64,58%).



4.2.1.3 Ethnicity

The majority of respondents were white (86,46%), with a small presence of black (7,29%) and coloured (6,25%) respondents.

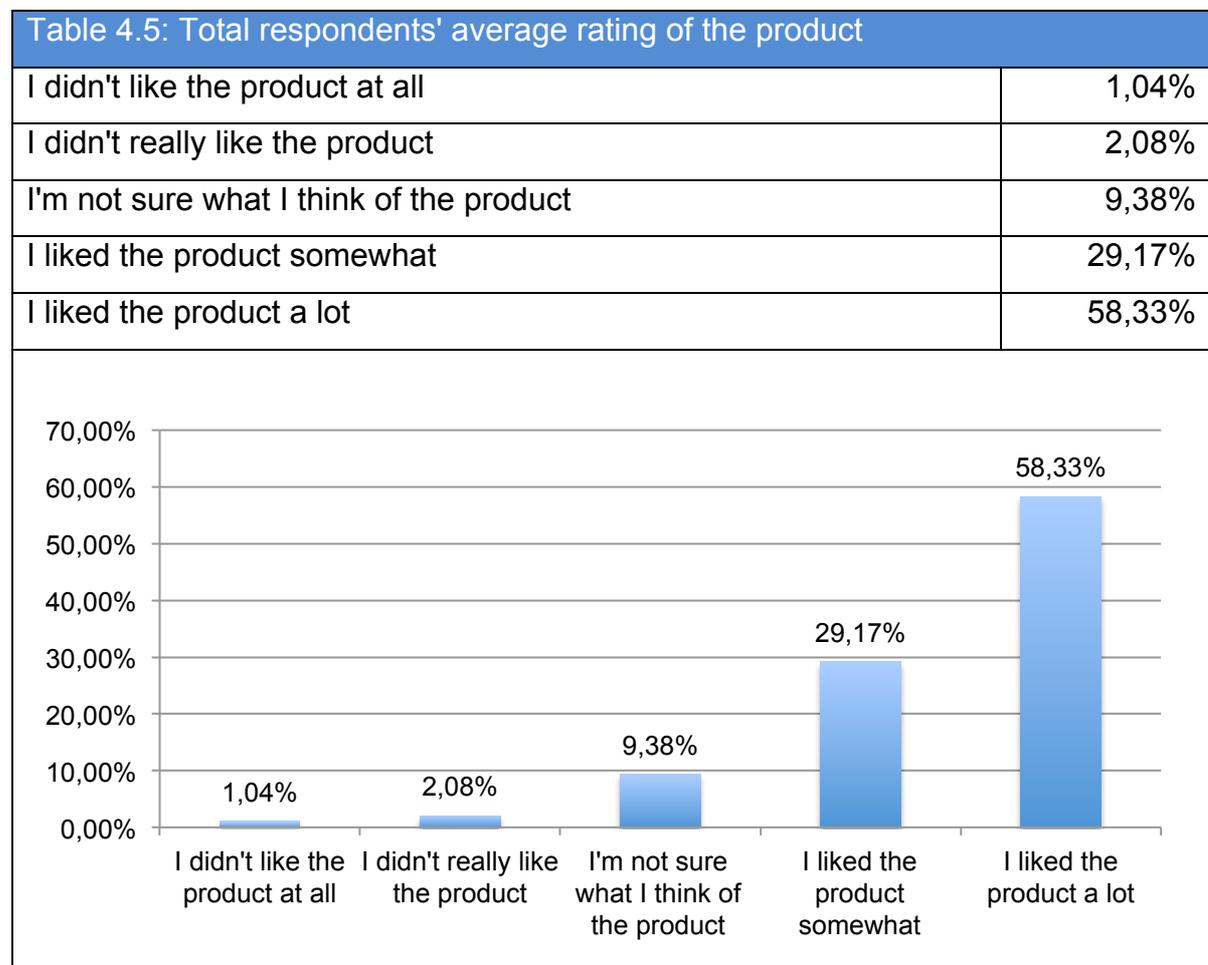
Table 4.4: Ethnic representation	
White	86,46%
Black	7,29%
Other (Coloured)	6,25%

4.2.2 Section 2 - Demand

Demand was measured in *Section 2* by firstly gauging the extent to which respondents enjoyed or disliked the sample and capturing a reason for this judgment. This rating is followed by establishing whether the respondent would recommend the product to a friend, colleague or relative. Lastly, demand and price elasticity is calculated by establishing the respondent's likelihood to purchase the product at various price points.

4.2.2.1 Rating

87,5% of respondents indicated a positive rating of the sample product, with only 3,12% of respondents indicating that they did not like it. The remaining 9,38% of respondents was not sure whether they liked the product or not.



Of the positive ratings, the majority of respondents mentioned that they enjoyed the taste of the product (22,92%), its saltiness (19,79%) and smoked flavour (12,5%). A collection of respondents described the product as different (6,25%), unique

(4,17%) and comparable to meat snacks (4,17%). The few respondents that gave a negative rating of the product rationalised their decision by mentioning that the product is too salty (2,08%) or too smoked (1,04%), while 11,46% of respondents did not offer a specific reason for their rating.

Table 4.6: Average rating of the product in terms of age and gender

	<18	18-29	30-39	40-49	50-59	60-69	70+	Male	Female
I didn't like the product at all	0,00%	0,00%	0,00%	0,00%	5,56%	0,00%	0,00%	0,00%	1,61%
I didn't really like the product	0,00%	0,00%	0,00%	5,00%	5,56%	0,00%	0,00%	2,94%	1,61%
I'm not sure what I think	20,00%	0,00%	0,00%	0,00%	11,11%	23,08%	40,00%	14,71%	6,45%
I liked the product somewhat	20,00%	33,33%	44,44%	35,00%	27,78%	7,69%	40,00%	32,35%	27,42%
I liked the product a lot	60,00%	66,67%	55,56%	60,00%	50,00%	69,23%	20,00%	50,00%	62,90%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

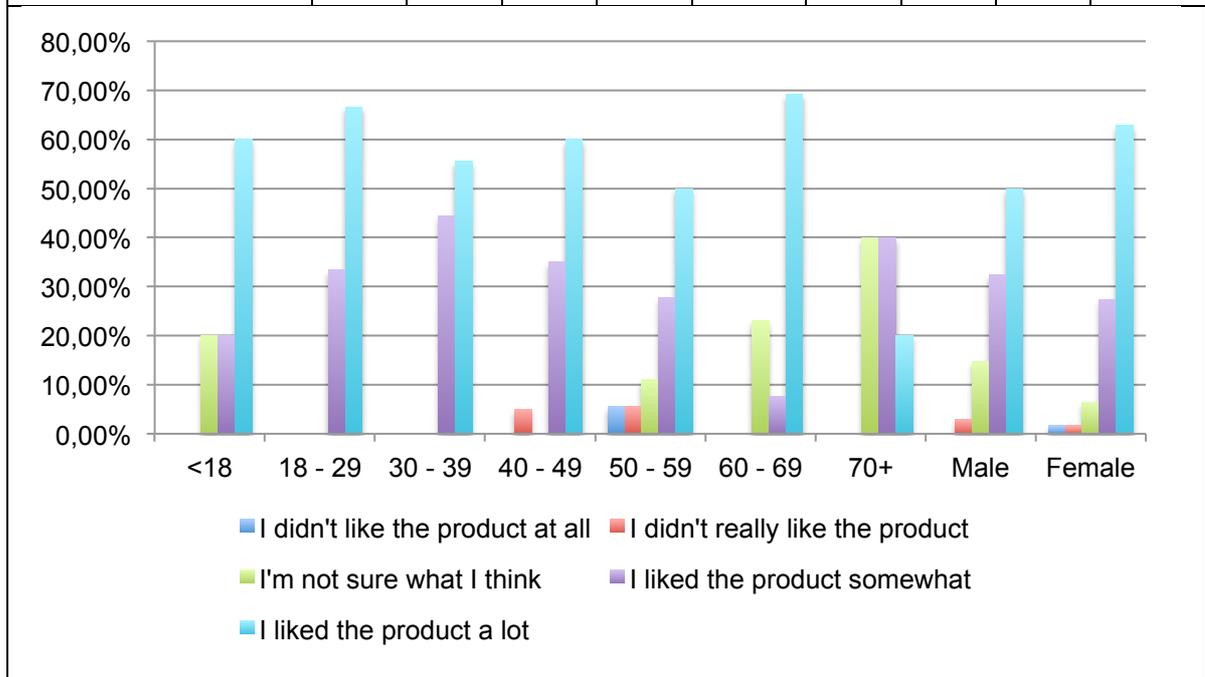
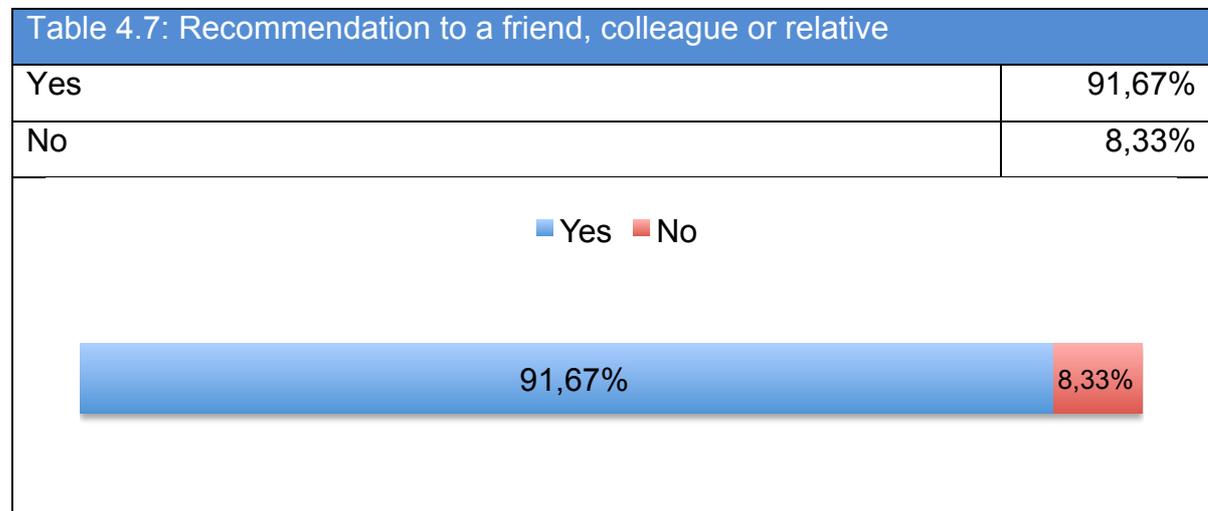


Table 4.6 presents respondents' average rating of the product in terms of their age and gender. It is interesting to note that the only respondents who offered a negative rating of the product fell in the 40-59 years age bracket. Female respondents were slightly more positive towards the product (90,32%) than their male counterparts (82,35%), while men were significantly more ambiguous (14,71%) than women (6,45%).

4.2.2.2 Recommendation to a friend, colleague or relative

To confirm respondents' rating, it was tested whether they would recommend the product to a friend, colleague or relative. The vast majority (91,67%) of respondents indicated that they would.



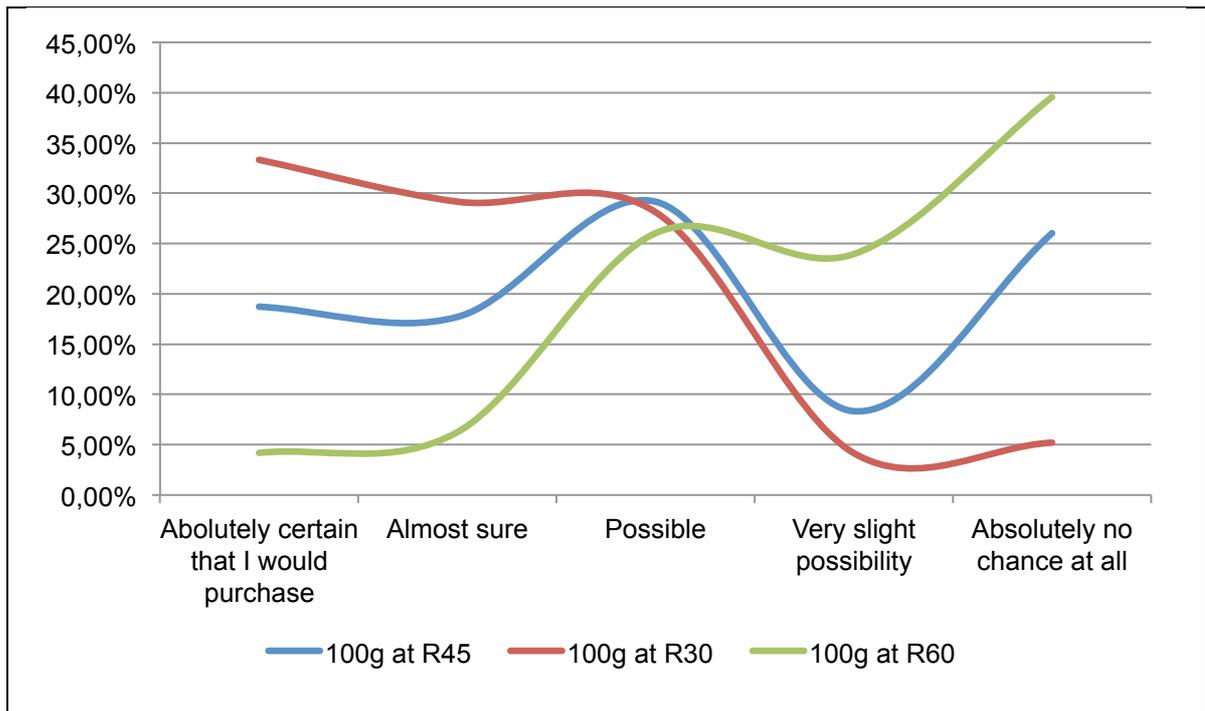
4.2.2.3 Demand analysis

4.2.2.3.1 Purchase intention

In order to calculate demand, respondents' likelihood to purchase at specific price points was measured first.

Table 4.8: Likelihood to purchase at different price points for all respondents

	100g at R30	100g at R45	100g at R60
Absolutely certain that I would purchase	33,33%	18,75%	4,17%
Almost sure	29,17%	17,71%	6,25%
Possible	28,13%	29,17%	26,04%
Very slight possibility	4,17%	8,33%	23,96%
Absolutely no chance at all	5,21%	26,04%	39,58%

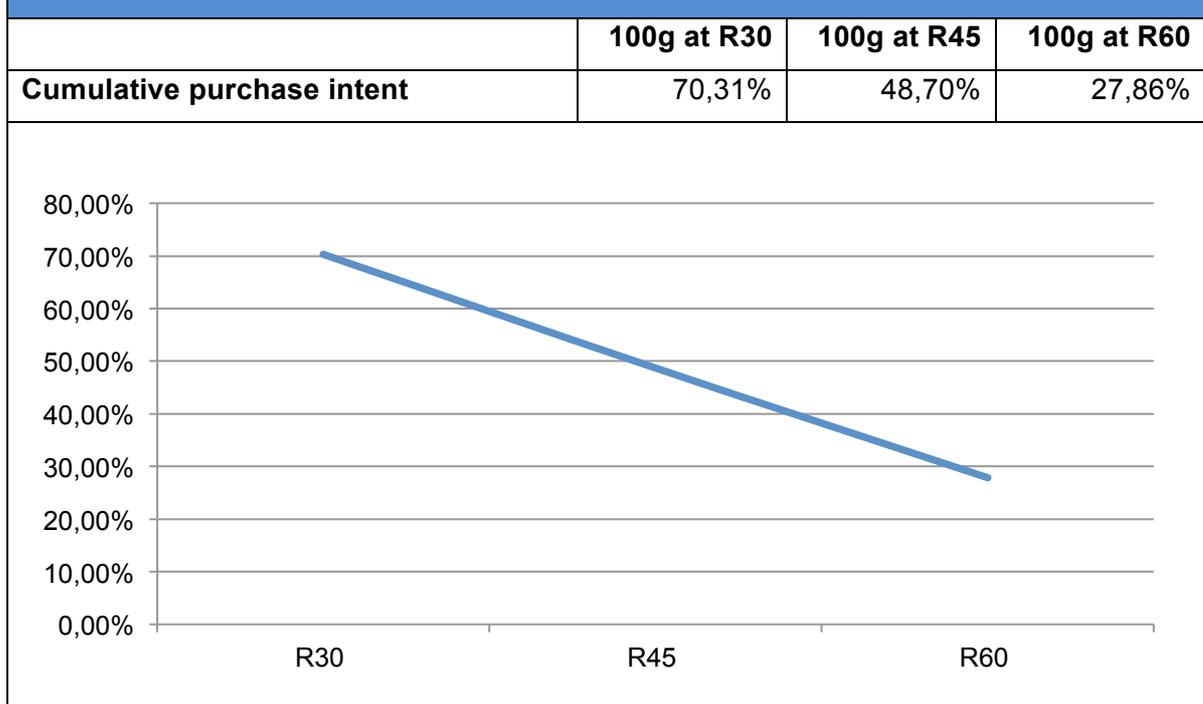


As expected, most respondents were much more willing to purchase the product at R30 than at R60. Movements between the R30 and R45 price points were relatively small (30,74% decrease in demand when increasing price from R30 to R45) when compared with movements between the R45 and R60 price points (42,79% decrease in demand when increasing price from R45 to R60).

4.2.2.3.2 Demand curve

The relationship between the specified price points and respondents' intention to purchase the product is indicated with a demand curve. The purchase intention data from table 4.8 can therefore be translated into a demand curve as presented in table 4.9.

Table 4.9: Demand curve



The curve displays respondents cumulative purchase intention as a weighted indication of demand at the three specified price points. The downward slope of the demand curve further illustrates the extent to which respondents would be willing to purchase the product at various price points.

4.2.2.3.3 Price elasticity

Elasticity, as an economic concept, is defined as a measure of the responsiveness of one variable to changes in another variable (Baye, 2010: 75). Price elasticity of demand (E_d) is therefore the change in quantity demanded (Q_d) that results from a change in price (P). When calculating price elasticity between two points on the demand curve, the arc price elasticity of demand formula is applied:

Equation 4.1: Formula to calculate arc price elasticity of demand

$$Price\ Elasticity = \left[\frac{Q_2 - Q_1}{\frac{1}{2}(Q_2 + Q_1)} \div \frac{P_2 - P_1}{\frac{1}{2}(P_2 + P_1)} \right]$$

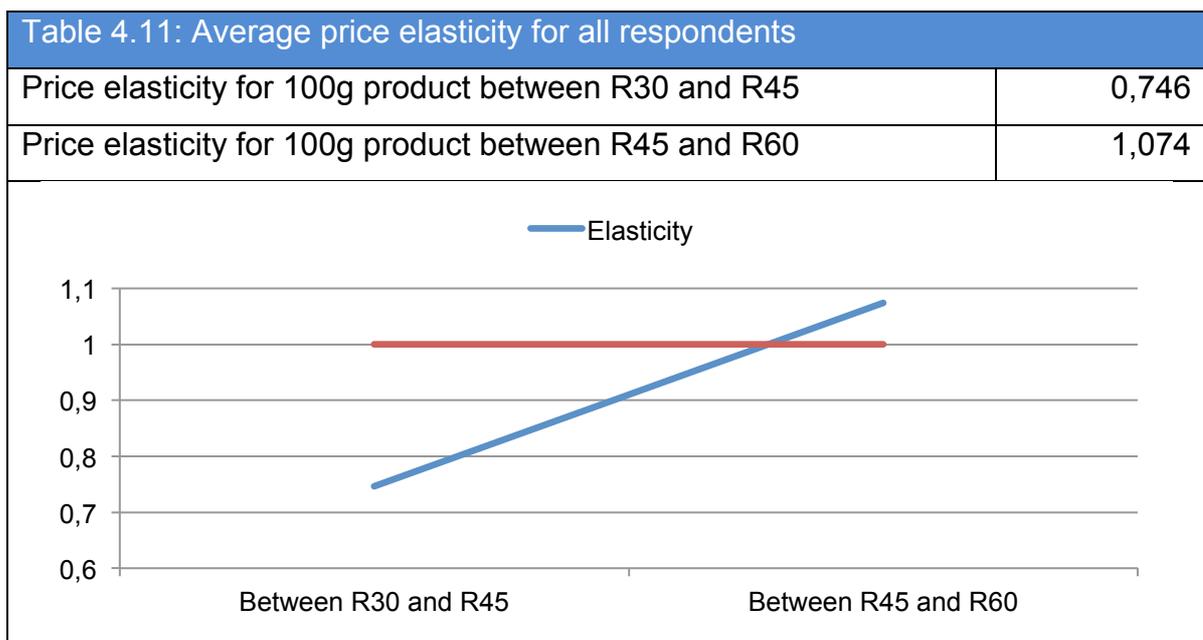
Baye (2010: 80).

Parkin, Powell and Matthews (2002: 75) illustrate the interpretation of elasticity of demand results as follows:

Table 4.10: Interpreting elasticity of demand	
$E_d = 0$	Perfectly inelastic demand
$0 < E_d < 1$	Inelastic or relatively inelastic demand
$E_d = 1$	Unit elastic, unit elasticity, unitary elasticity, or unitarily elastic demand
$1 < E_d < \infty$	Elastic or relatively elastic demand
$E_d = \infty$	Perfectly elastic demand

When a product has inelastic demand, an increase (decrease) in price would result in a lesser decrease (increase) in quantity demanded, while a product with elastic demand would cause a larger decrease (increase) in quantity demanded than the increase (decrease) in price. Unit elastic demand is where an increase (decrease) in price would result in an equal decrease (increase) in quantity demanded. Therefore, all else being equal, increasing the price of elastic products would result in a decrease in overall revenue, while increasing the price of inelastic products increases overall revenue.

The arc price elasticity of demand equation (Equation 4.1) was used to calculate the average price elasticity of respondents' for 100g of the product between the R30 and R45 as well as R45 and R60 price points.



Results indicate that respondents are, on average, inelastic to changes in price between the R30 and R45 price points. However, changes in price between R45 to R60 are elastic and would cause a change in the quantity demanded that is proportionately larger than the change in price. As such, a change in price past this point would result in a decrease in revenue.

Table 4.12: Average price elasticity of respondents in terms of age

	18-29	30-39	40-49	50-59	60-69	70+
Elasticity between R30 - R45	0,880	0,731	0,801	0,628	0,494	0,200
Elasticity between R45 - R60	1,106	0,720	0,804	1,583	1,470	0,700

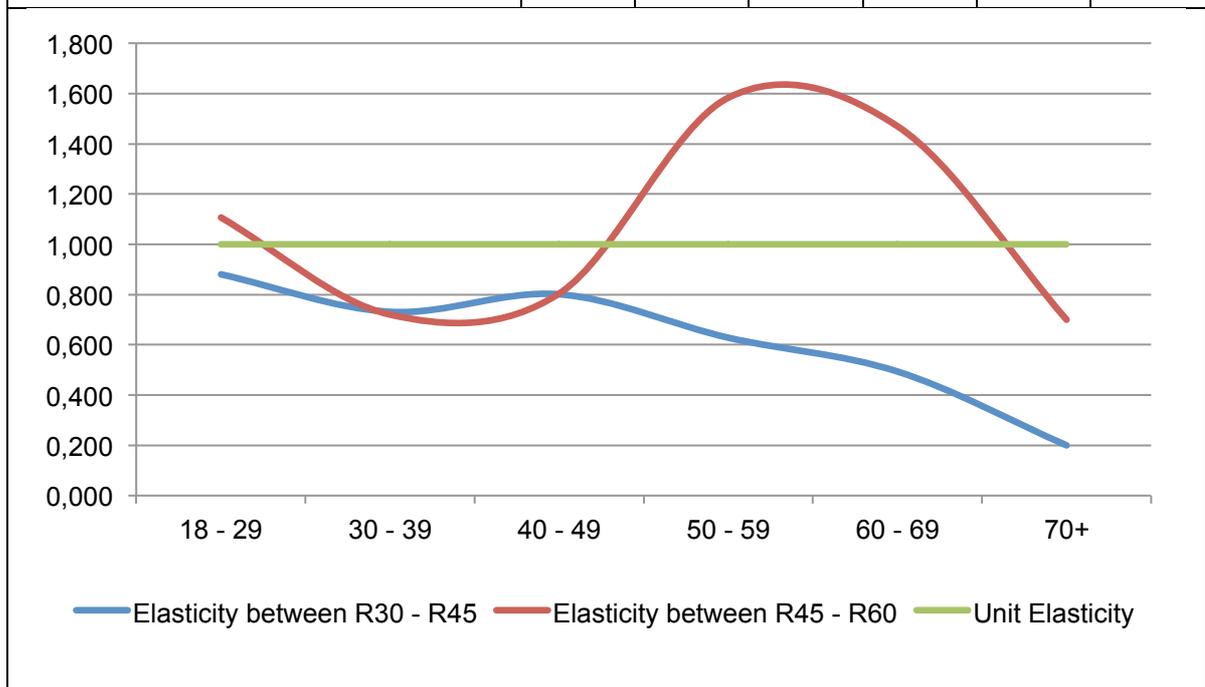


Table 4.12 shows that respondents between 50-59 years are the most sensitive to changes between the R45 and R60 price points, while respondents between 18-29 years are most sensitive to changes between the R30 and R45 price points. The 30-39 years age bracket is the least sensitive to price. This can most likely be attributed to the fact that respondents in this age bracket have the largest percentage disposable income available (Van Wyk, 2004: 49).

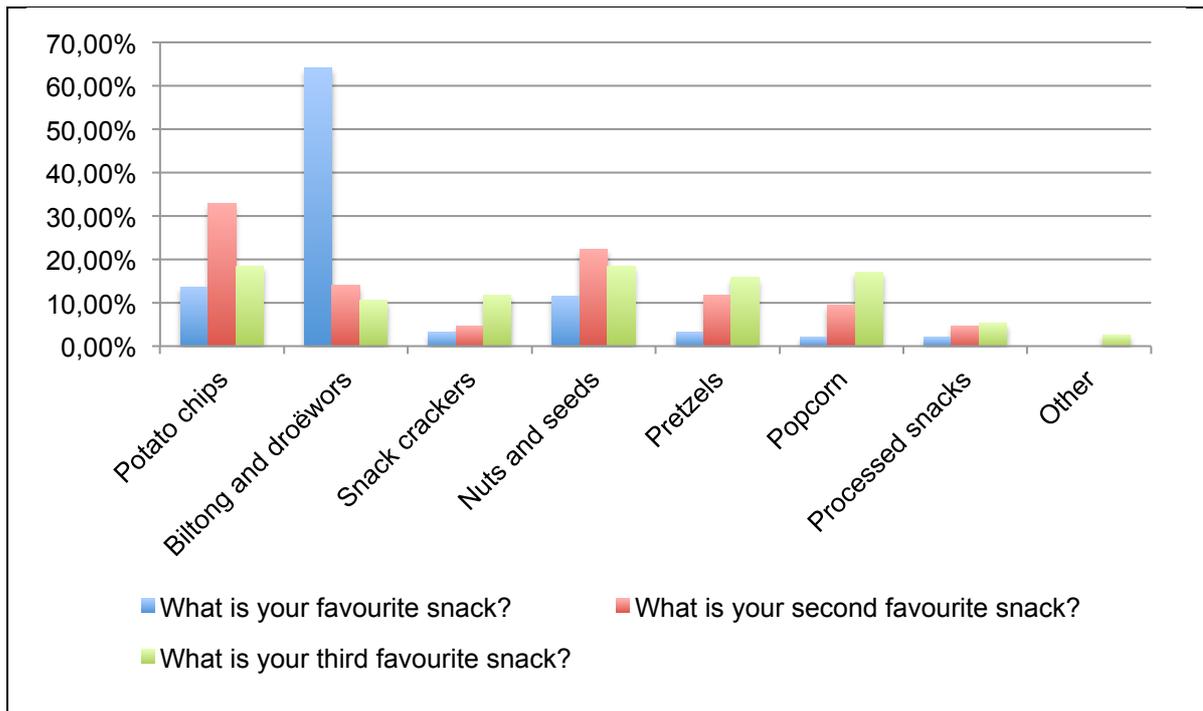
4.2.3 Section 3 - Substitute products and purchase behaviour

Section 3 begins by establishing which substitute snack products are most favoured by respondents. This is followed by a measure of how often the respondent purchases snacks and finally the average amount spent on snacks per month.

4.2.3.1 Substitute products

Respondents were asked to rank their top 3 favourite snacks from a list that included potato chips, biltong and droëwors, snack crackers, nuts and seeds, pretzels, popcorn and processed snacks. Biltong and droëwors is the respondents' favourite snack (64,21%), potato chips is the second favourite (32,94%) and nuts and seeds the third (18,42%).

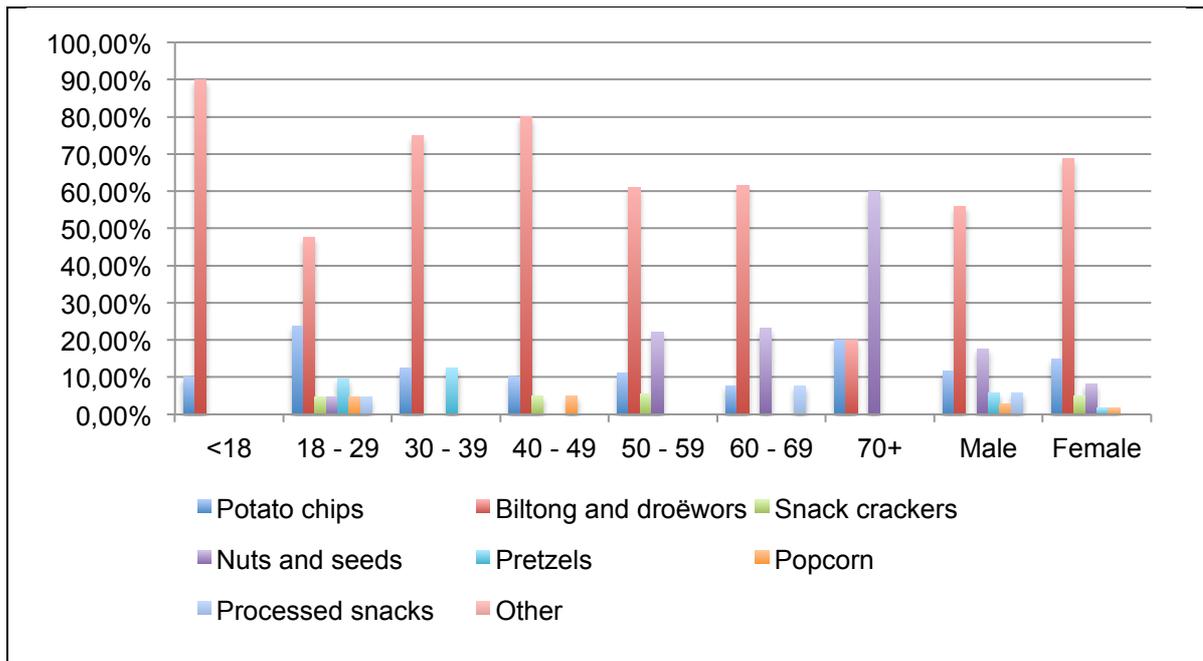
Table 4.13: Substitute products for all respondents			
	Favourite snack	Second favourite snack	Third favourite snack
Potato chips	13,68%	32,94%	18,42%
Biltong and droëwors	64,21%	14,12%	10,53%
Snack crackers	3,16%	4,71%	11,84%
Nuts and seeds	11,58%	22,35%	18,42%
Pretzels	3,16%	11,76%	15,79%
Popcorn	2,11%	9,41%	17,11%
Processed snacks	2,11%	4,71%	5,26%
Other	0,00%	0,00%	2,63%
Total	100%	100%	100%



The predominant preference for biltong and droëwors as a snack among respondents is a positive indication for Chechil, which can be compared not only in terms of similar palates, but also in the manner the products are packaged and distributed. While most respondents specified biltong and droëwors as their favourite snack, it is interesting to note that potato chips still hold the largest share of the snacks market in South Africa (table 2.2).

When segmenting snack preferences, table 4.14 indicates that men prefer nuts and seeds considerably more (17,65%) than women (8,2%), while women are more inclined to purchase biltong and droëwors (68,85%) than men (55,88%).

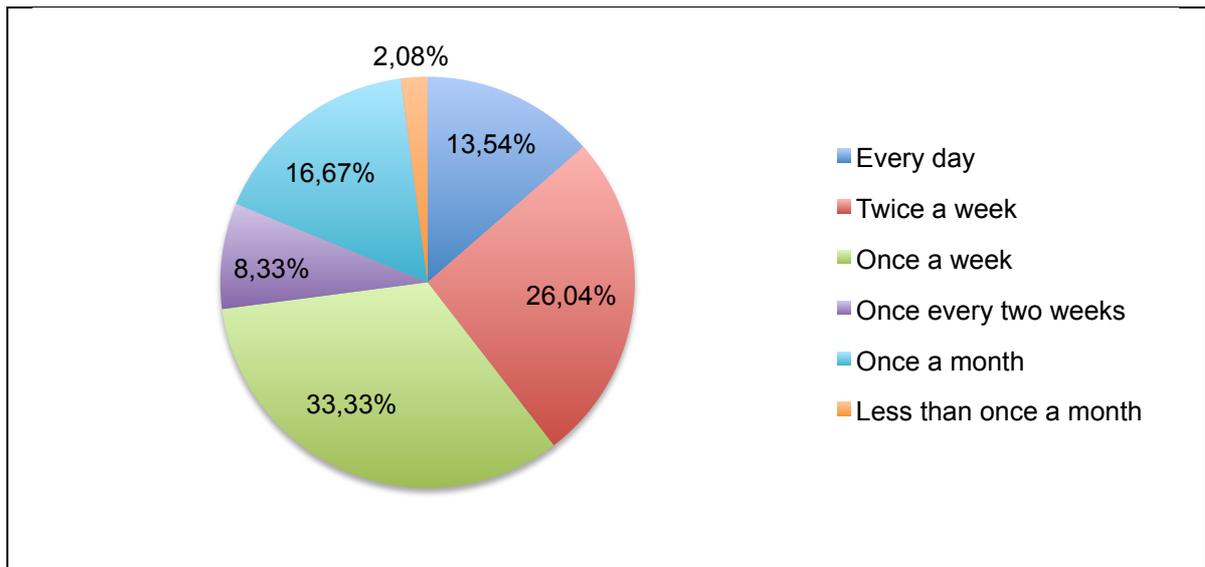
	<18	18-29	30-39	40-49	50-59	60-69	70+	Male	Female
Potato chips	10,00%	23,81%	12,50%	10,00%	11,11%	7,69%	20,00%	11,76%	14,75%
Biltong and droëwors	90,00%	47,62%	75,00%	80,00%	61,11%	61,54%	20,00%	55,88%	68,85%
Snack crackers	0,00%	4,76%	0,00%	5,00%	5,56%	0,00%	0,00%	0,00%	4,92%
Nuts and seeds	0,00%	4,76%	0,00%	0,00%	22,22%	23,08%	60,00%	17,65%	8,20%
Pretzels	0,00%	9,52%	12,50%	0,00%	0,00%	0,00%	0,00%	5,88%	1,64%
Popcorn	0,00%	4,76%	0,00%	5,00%	0,00%	0,00%	0,00%	2,94%	1,64%
Processed snacks	0,00%	4,76%	0,00%	0,00%	0,00%	7,69%	0,00%	5,88%	0,00%
Other	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%



4.2.3.2 Frequency of snack purchases

Since Chechil is manufactured from dairy and the product therefore has a limited shelf life, the frequency with which respondents would likely purchase the product is an important consideration. A third of the respondents purchased snacks, on average, once a week (33,33%), followed by 26,04% of respondents purchasing snacks, on average, twice a week. Since the product would be available for an estimated 30 days in the retail environment, the majority of respondents (72,91%) would consider purchasing the product more than 4 times during each cycle.

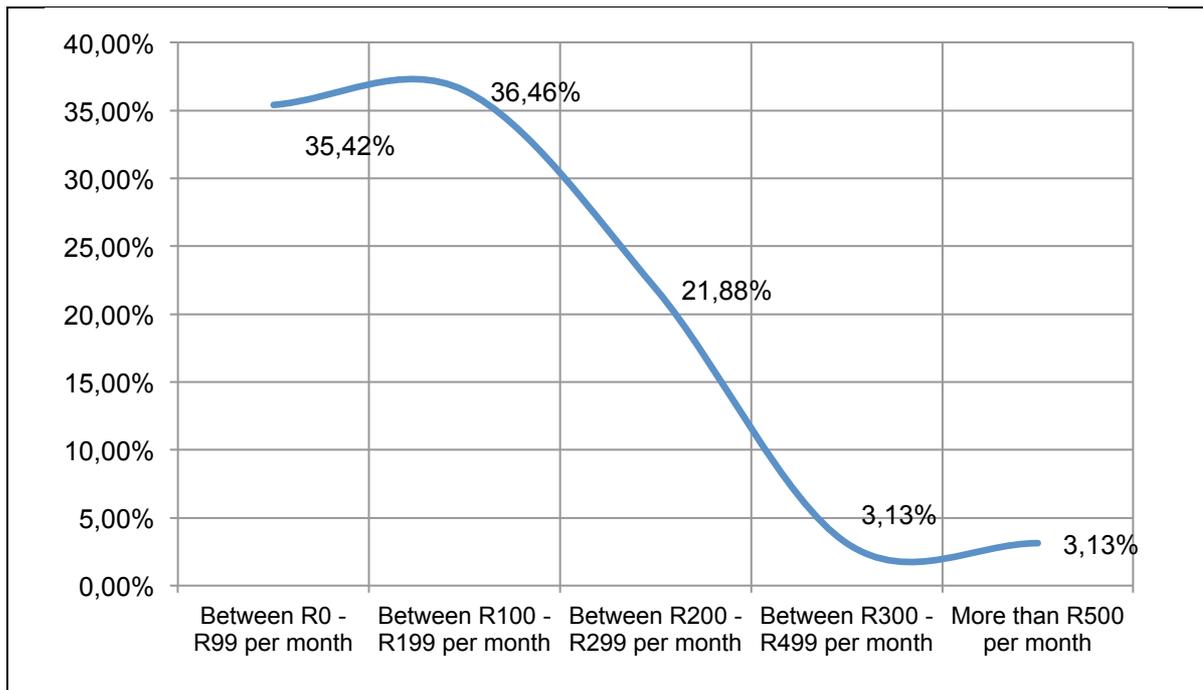
Frequency	Percentage
Every day	13,54%
Twice a week	26,04%
Once a week	33,33%
Once every two weeks	8,33%
Once a month	16,67%
Less than once a month	2,08%
Total	100%



4.2.3.3 Average spending on snacks

The overwhelming majority of respondents spend, on average, between zero and R199 on snacks per month (71,88%), with 21,88% of respondents spending, on average, between R200 and R299 per month.

Table 4.16: Average spending on snacks per month for total respondents	
Between R0 - R99 per month	35,42%
Between R100 - R199 per month	36,46%
Between R200 - R299 per month	21,88%
Between R300 - R499 per month	3,13%
More than R500 per month	3,13%
Total	100%



Assuming the product is introduced between the R30 and R45 price points and respondents continue with their current spending habits, approximately a third of respondents could therefore afford to purchase the product twice every month (35,42%), approximately a third could purchase it 4 times per month (36,46%) and 21,88% could purchase it 6 times per month.

Table 4.17: Average spending on snacks per month in terms of age and gender

	<18	18 - 29	30 - 39	40 - 49	50 - 59	60 - 69	70+	Male	Female
R0 - R99 per month	40,00%	38,10%	22,22%	35,00%	27,78%	38,46%	60,00%	26,47%	40,32%
R100 - R199 per month	60,00%	38,10%	33,33%	40,00%	33,33%	15,38%	40,00%	47,06%	30,65%
R200 - R299 per month	0,00%	19,05%	33,33%	15,00%	33,33%	38,46%	0,00%	23,53%	20,97%
R300 - R499 per month	0,00%	4,76%	11,11%	0,00%	0,00%	7,69%	0,00%	2,94%	3,23%
> R500 per month	0,00%	0,00%	0,00%	10,00%	5,56%	0,00%	0,00%	0,00%	4,84%
Total	100%								

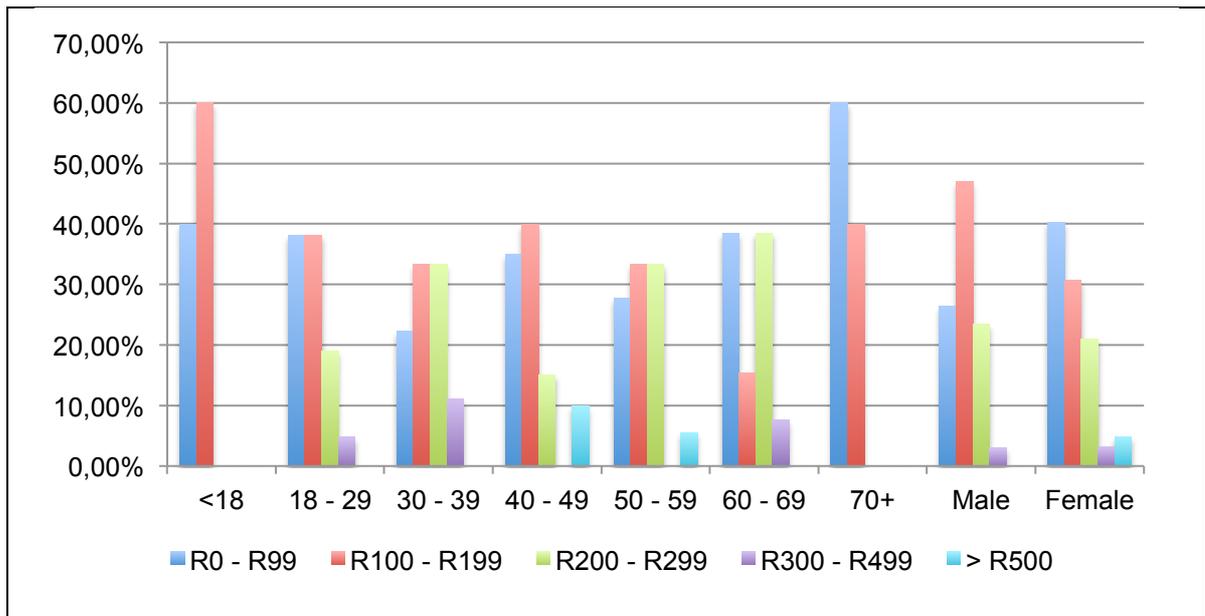


Table 4.17 presents the average spending on snacks per month in terms of respondents' age groups and gender. While more female respondents spend in the lowest bracket per month (40,32%) than men (26,47%), they are also the only respondents who spend more than R500 on snacks per month (4,84%).

4.3 Conclusion

This chapter presented findings from the primary research. Results indicate a predominantly positive impression of Chechil, with consumers demonstrating relative insensitive price elasticity for prices between R30 and R45, but becoming sensitive at prices between R45 and R60. Positive impressions of the product was strongly reinforced with 91,67% of respondents indicating that they would recommend the product to a friend, colleague or relative. It was interesting to note that respondents mentioned the salty, smoked flavour of the product repeatedly - both as a positive and a negative attribute.

CHAPTER 5 - RECOMMENDATIONS AND CONCLUSION

5.1 Introduction

The primary aim of this study was to determine demand of Chechil cheese in Bloemfontein. When launching a new product, a multitude of critical factors contribute to the success or failure of the product. In addition, various decisions must be made by the business when launching a new product, including production capacity, marketing requirements, legal considerations, financial implications and human resources. Many of the risks associated with these decisions can be minimised by basing them on accurate data. This study aimed to present such information to a new business by forecasting demand for a new product.

This final chapter unpacks the findings of the research in terms of the primary and secondary objectives defined in chapter one. Recommendations to apply the findings and limitations of the research will conclude the study.

5.2 Major findings

5.2.1 Demand for Chechil in Bloemfontein

The demand for Chechil in Bloemfontein was measured according to three criteria. First, respondents were asked to what degree they liked or disliked the product on a five point scale. An overwhelmingly positive response was recorded, with 58,33% of respondents indicating that they liked the product a lot, and 29,17% of respondents indicated that they liked the product. With such encouraging results (87,5% of respondents reacted positively), it can be inferred with confidence that the population is very interested in Chechil. Of all the age groups included in the study, only respondents older than 70 years didn't like the product. All other age groups reacted positively and relatively equally.

Second, respondents' reaction to the product was reinforced by determining whether they would recommend the product to a friend, colleague or relative. Once again an overwhelmingly positive reaction was recorded, with 91,67% of respondents indicating that they would recommend Chechil. As a snack comparable to biltong and droëwors in terms of its positioning, packaging and expectation to be used most often in social settings, this majority recommendation bodes well for the

adoption of the product. Since respondents indicated that they liked the product and that they are comfortable with consuming it by recommending it to a friend, colleague or relative, the last factor considered is price.

Respondents were asked to indicate the likelihood that they would purchase 100g of the product at R30, R45 and R60. While respondents were naturally more inclined to purchase the product at R30, movements in price between R30 and R45 resulted in a smaller decrease in quantity demanded than the increase in price, while movements between R45 and R60 resulted in a larger decrease in quantity demanded than the increase in price. The inelastic demand between R30 and R45 (0,75), compared to the elastic demand between R45 and R60 (1,07), establishes this finding. It is therefore advisable to not launch the product at a price above R45 since the quantity demanded of Chechil at this price would not result in optimal revenues for the business. The cumulative purchase intent, or the weighted intention to purchase of all respondents, is 70,3% at R30, which⁴ decreases to 48,7% at R45. If, through further internal analysis, this demand curve can be compared to the business' supply curve, the optimal price point can be established to launch Chechil.

5.2.2 Market

Westal (Pty) Ltd. is planning to introduce Chechil as a snack product that competes directly with potato chips, snack crackers, biltong and droëwors, nuts and seeds and so forth. When respondents were asked which of these snacks they preferred, they prioritised biltong and droëwors (64,21%), followed by potato chips (32,94%) and lastly nuts and seeds (18,42%). Since the snack market is dominated by large companies, some of which have international footprints, a small-scale entry should focus on artisanal production techniques or unusual ingredients (MarketLine, 2012:16). The production of Chechil requires a large degree of experience and is closely guarded. So, too, the unusual smoked, salty flavour of the product enhances the chances that it will demand attention in the market. Furthermore, although there are a multitude of substitute snack products available, Chechil's natural low fat content, no preservatives and sugar-free composition positions it favourably with regards to the recent drive towards healthy living.

Most respondents (22,92%) described the product as nice (*“lekker”*) and that they simply enjoyed the taste. Words like “salty” were used by 19,79% of the respondents in a positive manner and by 9,37% of respondents as a negative. So, too, the word “smoked” or “smoky” was used by 12,5% of respondents as a positive attribute and by 2,08% of respondents as a negative. The words “different” and “unique” was used by 10,42% of respondents to describe the product in a positive manner.

Since Chechil has a limited shelf-life, the frequency with which consumers would purchase the product is an important consideration. The majority of the respondents indicated that they purchase snacks once or twice a week (59,37%). Most respondents also indicated that they spend, on average, between R100 – R199 per month on snacks (36,46%). The only respondents that spend more than R500 per month on snacks are between 40-59 years old, while the majority of women spent more conservatively than men.

5.3 Recommendations

Businesses are consistently attempting to predict demand of new products in order to assess the viability of the product and the optimal initial investment required to bring the product to market. The three considerations of successful new product forecasting, as described in chapter 2, are analytics, behaviour and strategy. This study aimed to provide accurate demand data to be used as the quantitative foundation in terms of the new product forecast. Further analysis regarding the individual and organisational behaviour as well as the strategy of the business is required in order to complete the holistic new product forecast.

Since the demand for Chechil has been established by this study, the following key areas should be considered in order to ensure that the product has the highest likelihood of adoption in the market.

5.3.1 Distinct proposition

In order for Chechil to establish a foothold in the competitive snacks market, it is crucial to define a value proposition that is enticing to consumers. The value

proposition of Chechil can be defined as the benefits offered to consumers minus the cost (Barnes, 2009: 28). The terms used to describe the product in a positive manner, including its saltiness, smoked flavour and unique taste, as well as the optimum price as described in section 5.2.1, is a good starting point. Additional benefits like no preservatives, low-fat and sugar-free composition are important considerations.

It is crucial that this value offering of Chechil is clearly communicated to consumers in the crowded snacks market. A clear, concise message should describe the product's mission statement through its packaging and/or labeling, as well as through all promotional activities.

5.3.2 Credibility

Consumers should be convinced that the value offering of Chechil is credible, and that it is worth the expense. Creating a trustworthy brand is a long-term process that encompasses all of the activities of the business.

5.3.3 Distribution

Crucial to Chechil's adoption is the degree to which the product is available in the market. Many challenges, including a very competitive retail environment, the product's limited shelf life as well as logistics and packaging, will need to be addressed.

5.3.4 Consistency

Echoed as one of the factors contributing to creating credibility, the consistency of all of the elements involved in the consumer's experience of the product is crucial to adoption and repeat purchases.

5.4 Limitations of the study

With the rapidly evolving business environment, it is important to note that demand forecasts are short-term measurements of the market. New substitute or

complimentary products, changing economic factors and the general preferences of consumers may change considerably over time. The results of this study should therefore be considered within the timeframe that the surveys were completed.

Many more women than men completed the surveys. In addition to this the predominant ethnicity of respondents was white, meaning that the results may not be a true representation of the entire population.

5.5 Conclusion

This study aimed to determine market demand for Chechil cheese in Bloemfontein in order to inform decisions made by the business Westal (Pty) Ltd. during the new product development and launch process. Chapter 1 presented the research proposal, introducing the study and the methodology that was to be used. Chapter 2 provided a comprehensive literature review of the savoury snacks market in South Africa and internationally. Additionally, secondary data was provided to contextualise the market within which Chechil aims to compete. Chapter 3 offered an in-depth investigation of the methodologies that have been used most often when forecasting demand for a new product. This chapter also served as the theoretical framework within which the study was conducted. Chapter 4 presented the findings of the primary research that was conducted by means of surveys. 192 surveys were completed. Finally, chapter five concluded the study by describing the major findings of the research and offering recommendations for its application.

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7. Addendum - Questionnaire

PURCHASE INTENTION SURVEY

Please mark a "x" in the shaded area of each question.

1.1 Indicate your age group:	
Younger than 18	
18 - 29	
30 - 39	
40 - 49	
50 - 59	
60 - 69	
70+	

1.2 Indicate your gender:	
Male	
Female	

1.3 Indicate your ethnicity:	
White	
Black	
Indian	
Asian	
Other	

2.1 How would you rate this snack?				
I don't like it at all	I don't really like it	I'm not sure whether I like it or not	I liked it somewhat	I liked it a lot

2.2 Give a reason for your answer:	

2.3 Would you recommend this product to one of your friends, colleagues or relatives?	
Yes	
No	

2.4 How likely will you or some other member of your immediate family purchase 100g of this product at the following prices?	
--	--

R45 for 100g	
Absolutely certain that I would purchase	
Almost sure	
Possible	
Very slight possibility	
Absolutely no chance at all	

R30 for 100g	
Absolutely certain that I would purchase	
Almost sure	
Possible	
Very slight possibility	
Absolutely no chance at all	
R60 for 100g	
Absolutely certain that I would purchase	
Almost sure	
Possible	
Very slight possibility	
Absolutely no chance at all	

3.1 Please indicate a "1" next to your favourite snack, a "2" next to your second favourite snack, and a "3" next to your third favourite snack:	
Potato chips	
Biltong and droëwors	
Snack crackers	
Nuts and seeds	
Pretzels	
Popcorn	
Processed snacks	
Other	

3.2 How often, on average, do you purchase snacks?	
Every day	
Twice a week	
Once a week	
Once every two weeks	
Once a month	
Less than once a month	

3.3 How much, on average, do you spend on snacks per month?	
Between R0 - R99 per month	
Between R100 - R199 per month	
Between R200 - R299 per month	
Between R300 - R499 per month	
More than R500 per month	

Thank you for taking the time to complete this survey.