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ACCOUTING DEPARTMENT

INVESTIGATION INTO HOW DELTA BEVERAGES KWEKWE MALTINGS CAN REGAIN ITS EXPORT MARKET

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DECLERATION

I, Memory Dhliwayo do here by declare that this work is my own original work, that it has not been plagiarized nor submitted for similar degree in any other University.

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DEDICATION

I dedicate this project to God Almighty who gave me the breath and good health to finish this dissertation. It was not by chance but through his grace, he has taken me this far. I also dedicates this work to my beloved husband Felix and son Tapiwa. Their support and encouragement gave me strength to move on. Thank you for the resources you parted with for the sake of this research.

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ABSTRACT

Companiees strive to be competitive in the products they produce in both the domectic and export market. It is easy to penetrate in the doemstic market than it is in the export market as companies will be operating within extremely diverse economic condotions. Exports ares vital for the business and thecountry at large. It is in this view that this research focuses on the decline of the export market for Delta Beverages KweKwe Mlatings. Data was collectec through interviews, questionnaires and from finnacial statements of the entity. It was further anlaysed to reach certain conclusion. The findings of this study inidicate that the Maltings business faces challenges of low capacity utilisation emanating from low export sales caused by uncompetitive malt price. Absorption cost per unit is high and the major raw material for barley malting, barley, is costly compared to the average price within the region. The cost of the product is further upped by offsite storage and transportation costs as the entity has no enough storage for barley. Therefore the cost of sale for Kwekwe Maltings is essential for the entity to be profitable.

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ABBREVIATIONS AND ACRONYMS

KKM	:	KWEKWE MALTINGS
FIG	:	FIGURE
ABCM	:	ACTIVITY BASED COST MANAGEMENT

1.0 Introduction

This chapter presents the motivation to do an investigation on the lack of competitive advantage of export market at Delta Beverages Kwekwe Maltings (KKM).Covered in this chapter are background of study, statement of the problem together with objectives for conducting the research. Following this are relevant questions and sub questions to help in information gathering. It ends by looking at the definition of terms, significance of study, research delimitations and limitations that may be encountered in the course of the research.

1.1Background of study.

Delta Beverages KweKwe Maltings is a subsidiary of Delta Corporation. As a controlling stake in KweKwe Maltings, Delta Beverages acquires its barley malt from the entity. It has a capacity to produce and sale 47000 tonnes of barley malt which is sufficient for the local and export market. As a manufacturing entity producing to sale also in the export market it is faced with issues that influence pricing for export and pricing strategies in a global competitive market. The trend for export volumes for the period 2005 to 2009 where 14 798, 9 869,15 009, 0, and 2100 metric tonnes of barley malt respectively.

It has been suggested by Okowo et al (2012) that the contributor to challenges encountered by manufacturing companies is the rising of input and manufacturing costs which eat away industry return resulting in continuous closure of manufacturing plants. The Equity Research report (2006) also alludes to the main threat to the malting industry as the rising of cost of raw materials. In the case of Kwekwe Maltings (KKM) it has been observed from the firms Total Cost of Manufacturing report that raw barley is the firm's major input in the manufacturing of barley malt and contributing 70%, is acquired at a high price. The 2014 barley price of USD425 set by the government compared to a regional price of USD250 has influenced the firm's competitive advantage in the export market. This is supported by Alex (2008) who argues that if firms are to procure local raw materials at prices well above their market prices, they put these firms at a relative disadvantage to their competitors in export markets.

Further still Yin Xia (2003) concluded that packaging, storage and transportation costs are major contributors to high costs of barley malt in Southern Africa. In line with this notion, perusal of KKM Management Accounts (2010-2014), show that the landed cost of barley has also been upped by the storage and transport costs as the entity has no enough capacity to store raw barley received from farmers. The storage and transport costs are USD25 and USD36 per tonne which leaves the landed cost of barley at USD486. Da Silva and DaRocha (2000) have the view that companies are forced to increase the price of the product in order to absorb the extra cost. This includes transportation and storage costs which can make the product less attractive in the foreign market. Musonera (2010) suggests that for world-wide markets, valuing exports is one of the most vital essentials of promoting products, earning revenue and defining a company's continued existence. Musonera nevertheless thinks that researchers have not put effort to research on global pricing of goods and services. Myers, Cavusgil, and Diamantopoulos, (2002) is in support of this view when he echoed that export-pricing literature is characterized by a distinct lack of sound theoretical and empirical works. They further states that pricing has received the least attention in research despite the continued identification of pricing competitiveness which is an important problem area for firms engaged in export marketing.

Information relating to KKM export market as reported in their financial reports for 2010-2014 show that the entity only sold 140,280,180,250 and 1533 tonnes of malt respectively. The trend has left the entity with a challenge of capacity utilisation. It has also been noted from inspection of KKM Production Stock sheets (2010-21014) that the capacity utilisation was 43%, 50%, 66%, 52% and 48% for the mentioned years.

Drury (2008) argues that as quantity increases the average fixed costs decrease and the inverse is equally true that if quantity decreases the absorption cost per unit increases. The cost of producing barley malt has been further increased forcing the entity to charge a price enough to absorb costs. According to Martin (2010) the world barley malt ranges between USD583 and USD649 per tonne.KKM's malt price is USD945 which is higher than the average barley malt price. Majeed (2011) suggests that firms having margin in cost competency relative to their

rivals as low built-up, low manufacture cost, low cost of goods sold have practiced relatively better performance.

On this basis it can be confirmed that KKM is no longer competitive on export market and that the entity has to strategise in order to regain its competitive advantage.

1.2 Statement of the problem

The Maltings business faces challenges of low capacity utilisation emanating from low export sales caused by uncompetitive malt price. Absorption cost per unit is high and the major raw material for barley malting, barley, is costly compared to the average price within the region. The cost of the product is further upped by offsite storage and transportation costs as the entity has no enough storage for barley. This research therefore seeks to establish how KKM can regain its competitive advantage.

1.3 Research Objectives

1.3.1 By use of primary data the research intends to establish ways of regaining the firm's competitive advantage in the export market.

1.3.2 Through interviews the research intends to evaluate the export pricing strategy used by the firm.

1.3.3 Through use of primary data, the research intends to establish the feasibility of importing barley at a lower cost.

1.3.4 Using interviews the research intends to identify avenues of negotiating for a lower barley price.

1.3.5 Through use of primary data the research intends to establish measures that can be put in place to reduce storage, transport costs and operating costs.

1.3.6 Through primary data the research wants to establish the factors that have influenced the reduction of export volumes.

1.4 Main research question

What can be done to regain KKM's export competitive advantage?

1.5 Sub research questions

- 1.5.1 What is required to resuscitate the foreign market competitive advantage?
- 1.5.2 What are the exports pricing strategies used by firms?
- 1.5.3 Is it feasible to import barley and at what cost?
- 1.5.4 Is the barely price negotiable and what other avenues can be used to lower its price?
- 1.5.5 What measures can be put in place to reduce storage and transport costs?
- 1.5.6 What are the factors that have influenced export decline?

1.6 Justification of the study

1.6.1 The student

The study is done in partial fulfilment of the requirement of the Bachelor of Commerce Honours Degree in Accounting at Midlands State University.

1.6.2 To Delta Beverages-Kwekwe Maltings

If the research findings are accepted, the study seeks to improve the future costing of barley malt and regain competitive advantage in the export market.

1.6.3 To the Midlands State University

If the research is found to be useful, it can be used as future reference for other related studies of the university.

1.7 Delimitations of the study

The study is limited to Delta Beverages -Kwekwe Maltings and information will be gathered from key personnel in production, finance and engineering departments and covering the period from 2010 to 2014.

1.8 Limitations

1.8.1 Financial constraints such as telephone expenses, printing, internet and travelling expenses hindered the researcher on efforts to gather all relevant information.

The researcher resorted to the use of emails for communication and use of work internet facility.

1.8.2 The research was carried out in conjunction with other modules and work commitments thus time was a limiting factor.Permision was sort and granted by the Finance Manger –Malting to do the research and other duties were shared among other finance personnel at the same level and the researcher had to work beyond normal hours.

1.8.3 Confidentiality

Research data was confidential but however the researcher assured the entity that it was only going to be used for academic purposes and the researcher also made use of triangulation.

1.9 Definition of terms

Competitive Advantage

It is the advantage that a firm has over its competitors allowing it to retain more customers than its competition.

Barley Malt

It is germinated barley grains that have been dried in a process known as malting. Barley is immersed into water for it to germinate and is later dried up with hot air in a process procedure termed kilning.

Price Control System

Is the establishment and maintenance of price levels.

Capacity Utilisation

Capacity utilisation is the percentage of total capacity that is actually being achieved in a given period.

Absorption cost

A full costing where fixed and variable costs are allocated to the cost manufacturing a product.

Parity pricing

It refers to making prices of a commodity in one location equivalent to the same commodity in another location usually in a different country.

Export parity price

Is the price of a product sold at a certain place in a foreign country but priced in the country from which it is manufactured.

Import parity price

Is the price of a product bought from another country in a location within the country usually the port of entry.

Acronyms

KKM-Delta Beverages Kwekwe Maltings

1.10 Summary

This chapter provided the basis behind the researcher's need to undertake the research which include the continuous decrease in capacity utilisation resulting from low export sales mainly influenced by the uncompetitive price of barley malt. The objectives of the research, sub research questions and definitions of major terms have also been highlighted .The chapter paves way to the next chapter which is the review of literature related to the topic under study.

2.0 LITERATURE REVIEW

Introduction

The previous chapter looked at the basis of conducting the research and how the research intends to meet its objectives. This chapter reviews the literature concerning the research area regarding the impact of input costs, low capacity utilisation, competition and uncompetitive prices and their effects on the export market. A review of both the theoretical and empirical literature on the research objectives would be the prime focus of this chapter.

Competitive Advantage

Competitive advantage provides organizations an advantage over their competitors and capability to make a better value for the business. Barney (2002) .The more viable the competitive advantage the tougher it is for players in the same industry to weaken the benefit. Porter (2004) put forward that competitive advantage as the core responsibility of a company's survival in competitive markets and survival is anchored in sustainable competitive advantage. Zekiri and Nedelea (2011) supports this by confirming that business strategy is all about competitive advantage. Businesses need strategies in order to ensure that resources are allocated in the most effective way.

2.1 Pricing Strategies

Export pricing strategies are the means by which a firm responds to the interplay of internal and external forces that affect export pricing decision in order to meet the goals of the export ventures. Myers, Cavusgil and Diamantopoulos (2002) .Below are strategies that can be used in the export market

2.1.1 Benchmarking

According to Azhar and Omar (2008) the development of management accounting has even sparkled specifically with the introduction of strategic management accounting. The emphasis is on the generation and analysis of information that supports managers in making decisions that develop, enhance and protect an organisation's competitive advantage. Azhar and Omar (2008)

These decisions can be made in the most effective and efficient manner when comparisons are made between the measures used in an organisation or business unit and some other organisations or business units. Azhar and Omar (2008). Organisational benchmarking is one of the tools for management accounting. Azhar and Omar (2008)

Benchmarking is a regular hunt for best practices, creative ideas and extremely feasible working processes, Besterfield et al (2011). It helps firms to copy certain strengths of work processes from other firms in the same line of trade to improve their own . Besterfield et al (2011) confirms that benchmarking has turned out to be more and more vital and generates new avenues in the market. Luu et al (2008) and Henderson et al (2006) supports that the use of benchmarking as a survival tool has been utilized by organizations in various industries. These consist of building, education, manufacturing, banking, financial services, insurance, healthcare services, and government amongst others. Luu et al (2008) and Henderson et al (2006). Another school of thought, Zairi and Ahmed (2002) noted that benchmarking is testified to be the third most common organizational technique used universally and the most used in the United Kingdom. Further still Attiany (2009) in his research of Jordanian industrial companies listed in Amman Stock Exchange, the study results reinforced the theory that benchmarking has a bearing on survival of an entity in a highly competitive environment.

There are two classes of benchmarking which can be centered on what something is being equated to and what is being equated. Andersen (1999) .These consists of internal, competitive, functional and generic benchmarking. Andersen (1999).

Internal benchmarking

This is evaluation in contrast to the top player in a similar industry. Andersen (1999). Maleewan, Pornthep and Sooksmarn (2012) argue that internal benchmarking is convenient in data collection since the data is gathered in company's own process. The difference in performance from other organisations is used as a lead to an adjustment of production process to achieve better effectiveness and efficiency. Maleewan, Pornthep and Sooksmarn (2012). Common performance measures are often related to quality, time, and cost. Maleewan, Pornthep and Sooksmarn (2012).

Competitive benchmarking

This is an assessment against the finest direct competitors. Andersen (1999). This type of benchmarking is used to position a company's own range of products, services and business according to other competitors. Babović, Raičević, and Carić (2012). Reliable data is slowly collected and it takes means of research to gain an objective insight into the processes and business of the competitors. Babović, Raičević, and Carić (2012). Secondary data is used as well as data from the environment and the results of marketing research to compare processes. Babović, Raičević, and Carić (2012).

Functional and generic benchmarking

This is an appraisal with companies that are not rivals but that undertake similar tasks within the same economic and technical environment. Andersen (1999). Dragolea and Cotîrlea (2009) also points out that companies use this to improve their processes or activities by benchmarking with other companies from different business sectors or areas of activity but involved in similar functions or work processes. A company will focus its benchmarking on a single function in order to improve the operation of that particular function. Dragolea and Cotîrlea (2009), emphasizes that the success of benchmarking comes from the implementation and not the collection of data. Below are successful cases of benchmarking in the brewery industry.

Beverage Industry Environmental Roundtable (BIER) is an organisation of different breweries that has consistently accomplished yearly measurable benchmark statistics to analyse water usage in the beverage business since 2007. Benchmarking water usage has provided great value to BIER members in helping individual members assess their performance across the region and has served as a basis for individual target setting.(Trends and Observations, Beverage Industry Environmental Roundtable Water Use Benchmarking in the Beverage Industry (2012).

Heineken has managed to improve quality of its products through the commitment to compare their performance against those in the same industry. (Heineken N.V. Sustainability Report, 2013, p.24) They have succeeded through benchmarking performance against other companies in the sector and publishing and sharing their results and findings for continuous improvement. (Heineken N.V. Sustainability Report, 2013, p.24)

According to Goncharuk (2009), a research was carried out on Ukrainian Breweries to establish the use of competitive and international performance benchmarking in relation to estimating efficiency. Goncharuk (2009).The research also covered implementation of benchmarking to determine full reserves of inputs reduction and potential growth efficiency for brewing companies. Goncharuk (2009). The research findings concluded that the international benchmarking allows widening of the capability of reduced consumption of various inputs and provided considerable benefit to industry efficiency. Goncharuk (2009).

Table 2.1 below gives an indicator of some of the benchmarks KKM is to achieve.

Key Performance Indicator	DECEMBER 2014 ACTUALS(KKM)	BEST IN CLASS(OCTOBER 2014)
Water Usage Ratio	5.1	3.29 (Caledon)
Energy Usage Ratio	5578	2762(Saris)
Total Emissions	527	142.21(Saris)
Cost of Maintenance	14.78	5.67(Pilzen)
Macro Maltings Loss	16.8	1.9(Saris)
Conversion Loss	7.27	4.66(Jinja)
Factory Efficiency	83.13	118.18(JInja)

Table 2.1Benchmarks Indicators

Source: KKM 2014 3rd Quarter Review

Information in the table above shows some of the key performance indicators that can be benchmarked in the malting industry. The benchmarks clearly indicate that there are a lot of opportunities for KKM to improve its operations especially the cost aspect. The key issue is to turn around the declining export malt sales volumes through the use of competitive benchmarking.

2.1.2 Marginal Costing

Musonera (2010) argues that coming up with prices for global trade is a difficult responsibility. Decisions to do with product, price, and allocation of resources for universal markets are exclusive to each economy. Similarly, Zaribaf (2008) also points out that price besides generating revenue contribute in increasing competitive advantage in the market. In support of this Myers, Cavusgil, and Diamantopoulos (2002) echoed that businesses competing internationally must develop an effective pricing strategy as this is a critical factor in their operation. Musonera (2010) further suggests that businesses may decide using marginal costing for pricing its products to make sure that their goods are competitively priced. Marginal costing disregards the fixed cost. The thinking is that that these expenses will be expended with local sales anyway whether or not the company exports. Musonera (2010).Only variable overheads need to be taken into consideration when determining export prices. Disregarding fixed overheads will obviously cut total costs allowing lower prices to be set. Musonera (2010)

2.1.3 The Right Optimum Price

The optimum pricing policy for a good or service must meet the demands of both the consumer and the supplier. Musonera (2010) .If the price is right, profits will skyrocket and business will prosper. Musonera (2010). The customer agrees to a price by considering the benefits from the product and the seller considers how the business's return matches the competition. Musonera (2010) .The seller will also decide on the price that will take full advantage of profits while considering the greater picture of a business .This include strategies like selling at a high price but pushing low volumes or selling at a lower price and striving to push high volumes. Musonera (2010). The company should be able to cover production overheads, advertising and distribution costs and still record high returns. Musonera (2010).The liberty of changing prices is within the power of the consumer and the supplier.

Another school of thought argues that government control can also influence the liberty to change prices and the desired profits can be compromised. Zaribaf (2008) .In an economy that is experiencing severe financial problems and is in the centre of a financial crunch government officials are compelled to take certain unfavourable decisions. Zaribaf (2008). Governmental decisions in the case of tough economic difficulties include use of broad or discriminating price

controls, prepayments for imports, customs duties for imports, value added tariffs and increase of tight rules and regulations. Zaribaf (2008). All of these measures are against exporting pricing when a firm wants to export goods to an importing country which is under control of the government. Zaribaf (2008). The more the regulations put in place by a government the more the barriers of entry to that country's market. Zaribaf (2008). In support of this view, Acklin (2012) points out that the dynamics of world malt trade are not only driven by supply and demand but are influenced by political interventions and agricultural policies in some of the key malt producing regions of the world.

Contrary to this view Boland, Manhattan and Brester (2004) thinks that government initiatives can on the other hand be supportive in the export market. They cite Coors malting's industry in the United States which succeeded to position its self well in the brewing industry through European subsidies. Boland, Manhattan and Brester (2004) .This has resulted in the European Union competing with Canada as the largest malt barley exporter. Boland, Manhattan and Brester (2004). The application of the Canadian/United States Trade Agreement (CUSTA) and the North American Free Trade Agreement (NAFTA) necessitated the integration of the malt barley market between the United States and Canada. Boland, Manhattan and Brester (2004).Import limitations were minimized and the Canadian Wheat Board implemented a pricing policy of selling to Canadian maltsters at the Minneapolis cash price less transportation costs. Boland, Manhattan and Brester (2004).This eliminated price protection for Canadian maltsters. The United States and Canada continue to contribute to the European Union's export support programs for barley malt.Boland, Manhattan and Brester (2004).

2.1.4 Parity Pricing

Import and export parity prices are used to evaluate the benefits to trade as well as the motivation to produce a product which competes universally with other manufacturers and traders. Import/Export Parity Price Analysis (2008).Parity price analysis is an important tool in that it can be used to make a decision to manufacture a product or to import it from other countries if it is still profitable to do so.It allows suppliers and producers evaluate on whether to make or buy certain products within the home country or outside depending on the returns this can offer. Import/Export Parity Price Analysis (2008).Table 2.2 below shows regional prices of malt

Table 2.2 Regional prices of Barley Malt

Description	Zimbabwe –KKM	Mozambique	Swaziland	Zambia
Ex-works malt cost(Euro malt prices are to port of entry only)	945	478	465	482
Supply chain costs	38	167	219	417
Process charge		65	68	90
Landed cost at brewery	983	710	752	989

Source: KKM 2014 3rd Quarter Review

Information tabled above show the parity prices of barley malt. The malt supplied from Zimbabwe cost USD983 compared to Euro Malt landing at USD710,USD752 and USD989 to Mozambique, Swaziland and Zambia respectively. Zambia has recently resorted to local barley contract farming which reduces the supply chain costs.

2.2 Cost Management

Dunk (2012) argues that cost management is a further factor likely to enhance competitive advantage. Consistent with Potter et al. (2009) and Horngren, Datar, and Foster (2006) who proposed that cost management comprises the short-run and long-run planning and control decisions made by managers that increase value for customers and lower the cost of products. Davila and Wouters (2004) supports this notion that cost reduction opportunities resulting from cost management should also facilitate firms in generating larger profits. Underscoring this point, Janz and Westkamper (2007) concluded that the ability of a company to compete effectively in the increasingly competitive global market is influenced to a large extent by the cost of its products. Further still Booker, Drake, Heitger (2007) is also of the view that the development of products that meet customer needs in a cost-effective manner should be a key strategic objective of many organizations.

According to Zaribaf (2008) if a firm's rivals are producing or obtaining raw materials at a lower cost it may be important to make a decision to reduce prices in order to survive in the market. In support of this, Porter (1985) recommends that an effort to manufacture at a low cost is an influential competitive approach in markets where consumers are sensitive to price. The objective is to build up a sustainable cost advantage over rivals and then use lower cost as a basis for offering a lower price or gaining market share at their expense or getting a higher profit margin selling at the current market price. Porter (1985)

Porter (1985) added that to attain a cost advantage, a company's total costs across its activity cost chain need to be lower than rivals' total costs. The author alludes to two ways of achieving this. This comprise of improving efficiency and adjusting costs along the existing production cost chain or changing the firms process cost chain to avoid unnecessary costs. Porter (1985)

According to Felzensztein and Gimmon (2014) in a case study of the world's second largest producing country Chile. Findings show that executives preferred competitive strategy of cost reduction rather than differentiation. Consistent with Beheshti (2004) who commented that competitive advantage can be attained if the firm is able to attain an overall cost leadership without overlooking quality and service. If a company is able to reduce their costs there are able to get average returns even in an environment that is competitive. Beheshti (2004).It allows them to increase their margins.

In order to produce at low cost, companies must scrutinise their cost processes. Beheshti (2004).The analysis should be done on the value chain of the company so that improvement of operating costs can be done were possible. Beheshti (2004).Cokins (1996) suggests the use of (ABCM) activity-based cost management. The main objectives of ABCM system is to eliminate or minimize low value-adding costs, to find root causes of problems and correct them and to introduce efficiency and effectiveness and thus streamline the value-adding activities that are executed in business processes to improve yield. Cokins (1996) further suggest that firms that are developing the low cost competitive advantage must have accurate cost information in order to become the low cost producer.

In light of efforts to reduce operating costs, malting industries can take advantage of economies of scale. According to Boland, Manhattan and Brester (2004) in the study of Coors Brewery which is the third biggest brewer in the United States retaining only 11 percent of the market is not as viable compared with primary United States brewers, Anheuser-Busch with a 50 percent market share and SAB Miller with a 20 percent market share. This is majorly because these brewers have better resources in terms of finance, marketing, production and distribution. They have a better chance of competing in the market as they have enough resources compared to their rivals. Moreover their capacity affords them to operate and enjoying the benefits of economies of scale. Their geographic structures reduce the need for other small centers to redistribute the products hence it also reduces delivery and shipping costs. In addition, Coors has higher cost per batch of malt produced because it is a single-site brewery. Boland, Manhattan and Brester (2004)

In support of this view, Shepherd and Berning (2015) in his research of the second largest malting company in the United States, Cargill, noted that Cargil has control of an estimated 59.3% of the United States market. Other large industry players include Rahr Malting and Briess Industry as well as large scale breweries such as ABInbev (ABI) that produce their own malts. Shepherd and Berning (2015) .The current malting industry can thus be characterized as one with significant economies of scale. That is large volume production allows maltsters and brewers to achieve lower costs. Shepherd and Berning (2015). Shepherd .Above this larger firms take advantage of technology to improve operational efficiency. In addition to more efficient production, larger firms have greater bargaining power. Shepherd and Berning (2015). This allows them not only to negotiate better prices but to develop supply contracts to ensure consistent inputs in production. Shepherd and Berning (2015).Larger maltsters also have the ability to access available inputs by locating facilities in favourable growing regions. Given these conditions, there are relevant barriers to entry at a large scale. Shepherd and Berning (2015) Most of the maltings in Europe are highly automated which is in contrast to KKM whereby a lot of the operations need manual labour.

Galitsky et al (2003) as part of cost savings suggested that energy is a major cost for a barley malt industry therefore firms should put in place measures to control energy usage. They suggest the use of equipment such as motors, pumps and compressors. Galitsky et al (2003). These

require continuous maintenance, revamping the machinery with more efficient models were possible. This is mainly because if the machinery is not efficient, operating costs are upped by repairs and maintenance costs. Galitsky et al (2003). The most important thing for energy management requires the control of all the equipment that provides power to the production process. Galitsky et al (2003). Another crucial area is the proper and competent operation of the the production process. Process optimization and making sure that machinery that is in place is more efficient and helps to save energy during a production process. Galitsky et al (2003). Energy management systems (EMS) and programs have also been highlighted as key measures to energy usage. An energy management system generates an establishment for enhancement of low operating costs and gives direction for controlling energy during a production process. Galitsky et al (2003). According to Mahidara (2001), Maltenia Pampa Agerntinas largest malt producer had to shift from intensive chemical processes saving \$30 000 per month and introduced an energy conservation system leading to cost reduction. Briggs et al (2000) in their study of malting industries also noted that the cost of energy has increased substantially and malting and brewing industries have responded by making the plants more efficient in the use of power. Other savings includes increased insolation, energy load shedding, and reclying of hot water and long term capital investments. Briggs et al (2000).

In the study of Montana Breweries, the results supports the above view of capital investment by noting that traditional malt houses in Europe were very simple yet effective. Gaya1, Struwig and Smith (2013).Many micro malt houses evolving today are making use of some of these old-style systems to minimise keep production overheads were possible. Other mechanical and programmed equipment enables greater malt consistency and less labour inputs. Gaya1, Struwig and Smith (2013).The country's commercial and industrial malt houses are highly programmed and engineered in order to have good quality products even when producing very large volumes. Gaya1, Struwig and Smith (2013). Smaller and mid-sized malt houses use a mixture of automated and manual malting equipment. They have come up with systems to assist them in producing small barley malt batches. They appreciate the need for well-maintained machinery for production processes. Gaya1, Struwig and Smith (2013). Gaya1, Struwig and Smith (2013) also recommended, listed below cost saving initiatives in the malting industry not cited by other authors which were successful at Montana Breweries.

Craft Malting

Craft Malt is defined as a finished malt product produced from a variety of grains including but not limited to barley. The growing trends of small sized breweries and craft beer production have seen the growth in the need for specialty malts. Gaya1, Struwig and Smith (2013) .Craft malting has penetrated in the market as breweries are hunting for exceptional, quality driven malt that is not common in breweries.This has attracted the attention of industries and more small-batch malt systems are now offering to produce these special batches of barley malt.Gaya1, Struwig and Smith (2013)

Water Conservation micro

Malt producers have been stressed to commit themselves to introduce systems that save water. These water saving measures has helped Montana Brewery to be competitive with regards to operating costs. This had made the brewery to be at the top in terms of production of malt barley even if the production of barley is done in dry lands.Gaya1, Struwig and Smith (2013).

Locating closer to source

More malting firms are locating near the source of the major raw input barley. As the need for barley malt is now emerging from different parts of the world far from the brewing industries, malting firms are reducing shipping costs by locating near contracted farms. Most of the malting industries are contracting farmers to plant barley to guarantee themselves with supply. They offer contracts to farmers that are closer to the malting plant in order to minimise transportation costs.Gaya1, Struwig and Smith (2013) In the case of Zambian breweries below it has proved to be a success.

Zambia a landlocked country like Zimbabwe has its nearby port nearly 2,000 km from the breweries. Farming Better Futures SABMiller, (2010). Shipping costs are expensive as these can be twice as much more compared to other countries close to the ports. This have a negative impact on the landed cost of malt and also the financial performance of breweries and also on the challenges of poor handling and lead time as a result of the distance between the supply and the breweries. Farming Better Futures SABMiller, (2010). This challenge saw Zambia launching a

local barley programme where the local farmers were given an opportunity to grow barley. Farming Better Futures SABMiller, (2010). The programme was successful and it demonstrated that the country has the ability to produce high quality malting barley in the region. Farming Better Futures SABMiller, (2010). Moving away from imported raw materials and sourcing from local farmers, Zambian Breweries is not only able to improve the supply of barley but the move will help to also improve the economic conditions of the country. In line with this, the living standards of people are also bettered as this has created employment. (Farming Better Futures SABMiller, 2010.p.12)

Logistics

Locating a mid-sized specialty malting plant in Montana had a number of benefits which include its closeness to one of the continent's major malt barley growing regions. Gaya1, Struwig and Smith (2013).Montana's barley malt has the highest quality parameters for brewing because the barley is grown under an environment that is best for barley production. If the barley is of a good quality it also means that chances of producing high quality malt are also high. Brewers are very sensitive to the quality of malt and hence malsters have to ensure that all quality parameters are met. Gaya1, Struwig and Smith (2013). Montana barley is already in high demand, increasing opportunities in the market for a special malt demand of such in future. They are able to increase their capacity and move form operating at a low scale. Gaya1, Struwig and Smith (2013). The gradual increase of prices introduced by Montana malting barley has been welcomed by producers and has improved the state's agricultural economy, but has given rise to an increase in production overheads for brewers and customers . Locating a specialty malting facility near the source barley would reduce costs and the finished product will not be expensive such that it burdens both the brewers and the customers ,Gaya1, Struwig and Smith (2013).

2.4 Summary

This chapter reviewed existing literature on the subject of competitive advantage .The strategies used by other firms in regaining competitive advantage was also addressed. These include the pricing strategies, reduction of costs and the implications of government invention in grain pricing. Literature on parity pricing of barley was also looked at as it has an effect of on the barley and malt price. The next chapter focuses on the research design and procedures.

RESEARCH METHODOLODGY

3.0 Introduction

The last chapter looked at the literature related to the topic and paved way for this chapter which looks at the research methodology. The chapter explains the different methods used by the author to gather data. The researcher discussed and justified the choice of methodology, research design, targeted population, sampling techniques, and data collection methods and instruments.

3.1 Research Design

Research designs are plans and procedures for research that span the decisions from broad assumptions to detailed methods of data collection and analysis. Creswell (2008). Burns and Grove (2003) views a research design as a blueprint for conducting a study with maximum control over factors that may interfere with the validity of the findings.Polit et al (2001) points out that a research design overally helps the researcher in answering the research question or testing the research hypothesis.

There are several research designs such as survey, observational study, case study, experimental, co hort study, longitudinal study and descriptive study. In this research the author made use of descriptive study.

3.1.1 Descriptive Research Design

According to Burns and Grove (2003), descriptive research is intended to give a picture of an event as it is experienced. It may be used to explain current practice and make a conclusion and to come up with theories. The ultimate goal of a descriptive design is to generate opinions and views of the respondents about the phenomenon studied (Burns & Grove 199). It is concerned not only with the characteristics of individuals but with the characteristics of the whole sample thereof. Burns and Grove (2003). It provides information useful to the solutions of local issues or problems. Survey may be qualitative or quantitative in verbal or mathematical form of expression; such studies are factual and hence supply practical information. Salaria (2012)

There are three main types of descriptive methods which include observational methods, casestudy methods and survey methods. Jackson (2009).

3.1.1.2 Survey Method

Surveys involve collecting information usually from fairly large groups of people by means of questionnaires and other techniques such as interviews or telephoning may also be used. Anwar (2005). Another school of thought, Creswell (2009) also think that a survey entails the collection of data by using questionnaires to discover the opinions of a population based on a sample. The most straight forward type is administered to a sample of people at a set point in time. Anwar (2005). Another type of survey is the before and after survey which people complete before a major event or experience and then again afterwards. Anwar (2005).

3.1.1.3 Experiments Method

This method involve individuals taking part or asked to complete various tests to measure their cognitive abilities for example word recall, attention, concentration and reasoning ability usually verbally, on paper or by computer. Anwar (2005). The results of different groups are then compared. The aim of these tests is not to judge people or measure intelligence but to look for links between performance and other factors. Anwar (2005).

3.1.1.4 Case Study Method

Case study research involves an in-depth study of an individual or group of individuals. Case studies often lead to testable hypotheses and allow us to study rare phenomena. (Anwar (2005) Case studies should not be used to determine cause and effect and they have limited use for making accurate predictions. (Anwar (2005)

3.1.1.5 Observation Method

A research which entails the process of observing people can be put into two classes. These are, participant observation and non-participant observation. Anwar (2005).In participant observation research, the researcher is part of the population to be observed. This demands the researcher to fit in, gain the trust of the population he or she is working with but not diverting from the main goal of carrying out the research. The researcher should not be carried away and

allow bias to distort the findings of the study. Anwar (2005) .In non-participant observation study, the researcher is not part of the population being studied. The researcher chooses in advance exactly what kind of behaviour is suitable for the study and can be genuinely and ethically observed. Anwar (2005).

For the purposes of this research the researcher made use of the survey method. This was administered through interviews and questionnaires and people were asked to participate in answering the questions. A survey has been accepted as a scientific and accurate way of collecting data to quantify gathered information and some aspects of the data might also be qualitative.Zikmud (2003).As highlighted by Zikmud (2003) the use of quantitative and qualitative research methods are employed in a survey research, below are explanations of the quantitative and qualitative research methods.

3.1.1.6 Quantitative research

A quantitative approach is one in which the investigator primarily uses post claims for developing knowledge and employs strategies of inquiry such as experiments and surveys. Data is collected on predetermined instruments that yield statistical data. Creswel (2003) .Another school of thought ,Aliaga and Gunderson (2000) purports that quantitative research is explaining phenomena by collecting numerical data that are analysed using mathematically based methods.

3.1.1.7 Qualitative Research

According to Creswel (2003) a qualitative approach is one in which the inquirer often makes knowledge claims based primarily on constructivist perspectives. It also uses strategies of inquiry such as narratives, phenomenologies, ethnographies, grounded theory studies, or case studies. Burns and Grove (2003) define a qualitative method as research approach used to explain life experiences and events to give them meaning.

Qualitative research concentrates on the skills of people as well as emphasizing the maintenance of different views of people. Parahoo (1997) .Holloway and Wheeler (2002) also notes that it also focuses on the way people interpret and make sense of their experience and the world in which they live. Researchers use the qualitative approach to explore the behavior, perspectives, experiences and feelings of people and emphasize the understanding of these elements

In both quantitative and qualitative methods, concepts can be imprecise and open to interpretation. Salomon (1991) contends that the concern is not about what to use between quantitative and qualitative approach but whether one is taking an investigative approach to comprehend a few controlled variables, or a an approach to appreciate the relations of variables in a complex environment. Firestone (1987) opines that a quantitative study influences the reader through de-emphasizing ones judgment and emphasizing the use of reputable processes, leading to results that are common to populations. On the other hand qualitative research is put across through rich explanations and calculated assessment across cases in so doing overpowering the abstraction inherent in quantitative studies and allowing generalization to theory (Yin, 2004).

3.1.1.8 Mixed Research Methods

Mixed methods approach is one in which the researcher tends to base knowledge claims on pragmatic grounds. Creswel (2003). It employs strategies of inquiry that involve collecting data either simultaneously or sequentially to best understand research problems. Creswel (2003). The data collection also involves gathering both numeric information as well as text information so that the final database represents both quantitative and qualitative information. Creswel (2003). In other words mixed method studies attempt to bring together methods from different paradigms. Spratt, Walker and Robinson (2004).

In this research both qualitative and quantitative methods were used as qualitative research normally respond to research questions that answers the how and why whereas quantitative research usually respond to how often and how many. Creswell (2003). When qualitative and quantitative research is used at one goal, they both give a better appreciation of the research problem and collection of relevant data. Mallina (2010).

3.2 Population and Sample 3.2.1 Population

Population is the totality of all subjects that conform to a set of specifications, comprising the entire group of persons that is of interest to the researcher and to whom the research results can be generalised. Polit and Hungler (1999).

The study population is eighty four (84). These are all permanent employees of KKM. However these are divided into departments as detailed in Table 3.1 below

Department	Study Population	Percentage
Production	33	39%
Engineering	25	30%
Finance	11	13%
Quality Control	6	7%
Human resources	8	10%
Other(GM's office)	1	1%
Total	84	100%

 Table 3.1 Study Population

Source: Human Resources Headcount Report (2015)

3.3 Sample

Burns and Grove (2003) refer to sampling as a method of choosing a group of people, events or actions with which to carry out a study. Polit et al (2001) also endorse that sampling is a percentage that reflect the behaviour for the whole population from which it is selected. LoBiondo-Wood and Haber (1998) describe a sample as a portion or a subset of the research population selected to participate in a study representing the research population.

Sampling was used as the researcher had limited time to study the whole population.

3.3.1 Sampling Methods

In conducting research there are several sampling methods techniques that can be used. These include quota sampling, convenience or opportunistic sampling, random sampling, systematic sampling, stratified sampling, cluster and judgmental sampling. Below are some of the sampling methods explained in detail that can be administered.

3.3.1.1Quota sampling

Quota sampling is a skill for sampling whereby the researcher adopts in advance on certain key features which should be used to stratify the sample. Mathers, Fox and Hunn (2009)

3.3.1.2 Convenience or opportunistic sampling

This is a process of choosing participants only because they are available. Whilst this method is unpopular with quantitative researchers, it is considered as a suitable method when using a qualitative design since generalisability is not the goal of qualitative approaches. Mathers, Fox and Hunn (2009).

3.3.1.3 Random Sampling

In this method, each item in the population has the same probability of being selected as part of the sample as any other item. Linda Westfall (2008). Random sampling can be done with or without replacement. If it is done without replacement, an item is not returned to the population after it is selected and thus can only occur once in the sample. Linda Westfall (2008)

3.3.1.4 Systematic Sampling

A systematic sample is obtained by selecting a random start near the beginning of the population list and then taking every unit equally spaced thereafter. Bellhouse (2005).

3.3.1.5 Stratified Sampling

This is used when representatives from each subgroup within the population need to be represented in the sample. Westfall (2008) .The first step in stratified sampling is to divide the population into subgroups (strata) based on mutually exclusive criteria. Westfall (2008)

Random or systematic samples are then taken from each subgroup. The sampling fraction for each subgroup may be taken in the same proportion as the subgroup has in the population. Westfall 2008.It can also sample an equal number of items from each subgroup. Westfall (2008).

3.3.1.6 Cluster Sampling

In cluster sampling, the population that is being sampled is divided into groups called clusters. Westfall (2008).Instead of these subgroups being homogeneous based on a selected criterion as in stratified sampling, a cluster is as heterogeneous as possible to matching the population. Westfall (2008).A random sample is then taken from within one or more selected clusters. Westfall (2008)

3.3.1.7 Judgmental Sampling

In judgmental sampling the person doing the sample uses his or her knowledge or experience to select the items to be sampled. Westfall (2008)

In this research, the author made use of judgmental, quota and stratified sampling. Sample was selected from key persons in production, quality control, finance and engineering who have knowledge of the challenges the company is facing in the export market. It required key characteristics in terms of knowledge of the trend in export market, export pricing methods being employed, customer satisfaction, product quality and cost management measures at present. These were a major predetermination of the sample to be selected. Equal representation of the organisation was also considered important hence the use of stratified sampling to ensure full representation of management and general staff.

3.3.2 Sample determination

Stratified probability sampling was used to come up with a relevant sample size for engineering staff and production as these are the majority of the entity. Formula employed in this research is as follows

P=F/N x n Kothari (2001) Where F=Number in the category N=Total Population P=Number of respondents in the category obtained from the group n=Total number of the respondents

For service departments namely quality control and finance judgmental sampling was used. For finance the whole population was used as these have more knowledge of the research. In Human Resources department the researcher decided to use 1/3 of the population in the category. Gall and Borg (2004).

Department	Study Population	Sample Size	Sampling technique
Production	33	13	Stratified Sampling
Engineering	25	8	Stratified Sampling
Finance	10	10	Judgmental
Quality Control	6	5	Judgmental
Human resources	8	3	30% of population in category
Other(GM's office)	1	1	Judgmental
Total	83	40	

3.4 Sample size

3.5 Sources of data

To collect data, researchers use a number of different data collection strategies. Common data sources are primary data and secondary data.

3.5.1 Primary Data

Primary data is commonly assumed as data collected from the source and which has not gone through scrutiny before being incorporated in the needs assessment. Acaps (2012).Primary data is gathered straight from the affected population by the research team through field work. It is frequently obtained through face to face interviews or dialogues with members of the affected population but can also be collected through phone conversations, radio communication, emails, and direct interaction. Acaps (2012). The purpose of using primary research is to study about something new that can be supported by others and to minimise the researcher's preconceptions and personal judgement in the process. Driscoll (2010).

The following advantages and disadvantages were encountered in the use of primary data.

Advantages of primary data:

- The primary data is original and relevant hence the degree of accuracy is very high.
- Primary data collection was done in different ways. Through interviews, telephone and questionnaires,
- Primary data provided current information hence gave a realistic view to the researcher about the topic.
- Very reliabe as data was collected from the population affected.

Disadvantages of primary data

- Primary data from the interviews conducted, one of the management had a busy schedule so could not cover the sample intended.
- More time and effort is required for data collection.
- Some respondents did not give timely responses

3.5.2 Secondary Data

Secondary data is information that is gathered by researchers not involved in the current research and has gone through at least one level of analysis prior to inclusion in the needs assessment. Acaps (2012) .Secondary data can consist of published research, internet materials, media reports and data which has been cleaned, analysed and together for a purpose other than the needs assessment,Acaps (2012).Secondary data sources is information already available .Researchers may select variables to use in their analysis from one secondary data source or may combine data from across sources to create new datasets. Margaret, Harrell, Bradley (2009).

Advantages

- It saves time, process is simplified and information can be obtained via search engines.
- It's easy to access, a simple click is sometimes more than enough to obtain vast amount of information
- It is much less expensive than other ways of collecting data.
- Secondary data assist in coming up with new insights from previous scholars

Disadvantages

- Secondary data sources may provide vast amount of information not relevant yet primary data is collected with a concrete idea in mind hence more appropriate.
- Lack of control over data quality
- Secondary data raised issues of authenticity and copyright.
- Secondary data is collected by a third party hence had to verify reliability and accuracy of data

In this research the researcher made use of both primary and secondary data. The use of primary data was important for gathering information directly from the affected population and secondary data was used to get a wider view of different scholars on the research topic.

3.6 Data Collection Instruments

A data collection instrument is a device used to gather data. Parahoo (1997).In carrying a research there several research instruments, described below are some of the common research instruments used.

3.6.1 Questionnaires

The questionnaire is a well-established tool within research for acquiring information on the topic under investigation (Bulmer, 2004). Polit and Hungler (1997) also points out that a questionnaire as a method of gathering information from respondents about attitudes, knowledge, beliefs and feelings.

There are now many types questionnaires which can be used for different scenarios. Mathers, Fox and Hunn (2009). Some questionnaires allow people to complete individually, and others are conducted by the interviewer. Mathers, Fox and Hunn (2009). There are noticeable benefits to using such questionnaires, including the fact that many of these would have been checked and tested for dependability and may well be data accessible as a reference to compare results .Mathers, Fox and Hunn (2009)

Questions are designed in different forms and these include closed ended questions and open ended questions.

3.6.1.1 Closed –ended Questionnaire

Closed ended questions include all possible answers or prewritten response categories, and respondents are asked to choose among them. Examples are multiple choice questions and scale questions .**Dawson (2002).**

3.6.1.2 Open-ended Questionnaire

Open-ended questions allow respondents to answer in their own words. Questionnaire does not contain boxes to tick but instead leaves a blank section for the responded to write in an answer. **Dawson (2002)**

The researcher used the Likert scale questionnaire which is a form of a closed ended questionnaire. The advantages enjoyed in the use of closed ended questions listed below were convincing enough to use this type of questions.

Advantages of Closed Ended

- It is easier and quicker for respondents to answer.
- The answers of different respondents were easier to compare.
- Answers were easy to code and analyse statistically.
- The response choices clarified question meaning for respondents
- There were fewer irrelevant or confused answers to questions
- Less articulate and literate respondents were not disadvantaged.

3.6.1.3 Likert scale questionnaire

Likert scales are developed by utilizing the item analysis approach where a particular item is evaluated on the basis of how well it discriminate between those objects whose total score is high and those whose score is low. Dane Bertram (2013). The participant is asked to answer questions guided by several degrees.

When objects are asked to express opinion, for example, whether the object considers their job quite pleasant, the respondent may respond in any one of the following ways; Dane Bertram (2013).

1) Strongly agree, 2) Agree, 3) Undecided, 4) Disagree and 5) Strongly disagree.

These five points constitute the scale. At one extreme of the scale there is strong agreement with the given statement and at the other, strong disagreement, and between them lie intermediate points. Dane Bertram (2013).

Advantages of using Likert scale

- It was relatively easy to construct the scale
- It was more reliable because respondents answer each statement in the instrument.
- It provided more information
- The researcher could easily study how responses differ between people

Limitations of Likert scale

- It was easy to analyse whether participants were agreeing or disagreeing to a statement or question but was not able to quantify how much they did.
- There is no scientific proof that the five positions provided by likert scales are equally spaced.
- The total score of an individual respondent has little clear meaning since a given total score can be secured by a variety of answer patterns.
- Some respondents answered according to what they feel rather than the facts on the ground
- Some of the questionnaires were not returned.

3.6.2 Interviews

Interviews are discussions usually one-on-one between an interviewer and an individual meant to gather information on a specific set of topic. Interviews can be conducted in person or over the phone. Harell, Bradley (2009). Phellas, Bloch and Seale (2011) views interviews as more advantageous over self-completion questionnaires. The interviewer can explain questions that the respondent has not understood and can ask for further elaboration of replies. However Phellas, Bloch and Seale (2011) think that interviews are more time consuming for the researcher and it may be the case that interviewer bias, where the interviewer influences the replies by revealing their own opinions, can be avoided by self-completion questionnaires.

Interviews can be put into three different classes namely structured interviews, semi-structured interviews, and unstructured interviews (Fontana & Frey, 2005).

3.6.2.1 Structured interviews

A structured interview involves one person asking another person a list of predetermined questions about a selected topic. The person asking the questions is allowed to explain things to the person responding to the questions if he or she does not understand or finds confusing. www.sociology.org.uk/methsi.pdf.

Advantages

- Gives the interviewer chance to make the interviewee understand certain concepts by giving examples.
- It is easy to obtain data specifically relating to the study as the questions will be predetermined.
- The environment is friendly and encourages the interviewee to provide information.
- There is direct feedback from respondent and assurance that the responses are from the person intended
- There is opportunity to probe the respondents for further explanations.
- Observation can be used to evaluate responses
- Respondents are able to describe meaningfully using their own words

Disadvantages

• The interviewer can get the wrong signals through the communication style used by the interviewee.

• There is no room for the interviewee to give responses to questions not predetermined by the interviewer unless asked to

3.6.2.2 Unstructured interview

Punch (1998) explains unstructured interviews as a way to appreciate the complex behavior of people without restricting them to predefined questions. Patton (2002) defined unstructured interviews as a normal observation where the interviewer uses observation as a tool to direct his or her question relation to what is being observed. In an ideal situation in an unstructured interview, the interviewer is guided by the interviewee's answers and comes up with questions based on his or her thoughts on that narration. Patton (2002. It is accepted, however, that the structure of the interview can be roughly guided by a list of questions to guide the interviewer. (Minichiello et al.,(1990); Briggs, (2000); McCann & Clark, (2005).

Advantages

- Allows interviewee to give out information without being limited by responses provided by the interviewer
- The researcher can obtain detailed data as he respondents are not limited to specific responses.
- The environment is relaxed hence it helps the interviewee to open up and express ideas in a relaxed manner and usually provided more reliable information.
- The interview is not rigid hence the interviewer can change the style or questions as he or she conducts the interview.

Disadvantages

- Interviewees can go astray when giving answers as they are not guided by any responses
- The interview takes longer than expected as there are no predetermined questions and the interviewee as the freedom to express ideas anyhow.

- Interviewees have freedom to respond anyhow and this poses challenges in comparing data from various respondents as these are not standard.
- It is time consuming .There should be enough time to scheduling the interview, conducting and inputting notes for analysis.
- Interviewers need to be prepared and have knowledge of the subject matter and able to conduct the interview.
- Factors such as tone of voice, the way a question may be rephrased, voicing an opinion, inadequate note taking, even the gender and appearance of the interviewer may lead to errors and bias
- Analysis may be difficult as interviews can produce a lot of data in a short amount of time

3.6.2.3 Semi structured interviews

The interviewer and participants take part in an official interview where the interviewer is guided by predetermined questions normally known as an interview guide. Cohen, Crabtree (2006). All the expected objectives, subjects and questions related to the study are listed down before hand to serve as a guideline when conducting the interview. The interviewer follows the guide, but is not obliged to cover all in the guide. He or she assess the situation and is allowed to ask and elaborate on some points not on the guide. Cohen, Crabtree (2006).

Advantages

- Questions are prepared beforehand hence the researcher has enough time to comprehend them and is in a position to elaborate on any if the respondents need further clarification.
- It allows the interviewer to be equipped and confident during the interview.
- Participants have the freedom to express themselves using their own style.
- R reliable, comparable qualitative data is obotained.

3.6.2.4 Face-to-face interviews

Advantages

• The presence of an interviewer allows for complex questions to be explained, if necessary, to the interviewee.

- Interviews can generally be longer than when self-completion techniques are used as interviewees are less likely to be put off by the length or to give up halfway through.
- Visual aids can be used
- There is room to ask open questions as the interviewee do not have to write
- The interviewer can control the context and the environment in which the interview takes place.

Disadvantages

- There is limited size of population and geographical coverage of the survey.
- Interviewers can introduce bias which will affect the reliability of responses.
- Such bias might emerge from the way in which questions are asked, or in the personal
- Interviewee can avoid to give information for fear of victimization

Considering the advantages related to face to face interviews, the researcher made use of these in conjunction with the structured interview questions.

3.7 Reliability and Validity

3.7.1 Reliability

Reliability is the extent to which results are consistent over time and an accurate representation of the total population under study. Joppe (2000). In other words reliability is when the results of a study can be reproduced under a similar methodology, then the research instrument is considered to be reliable.

Kirk and Miller (1986) identify three types of reliability referred to in quantitative research, which relate to the degree to which a measurement, given repeatedly, remains the same , the stability of a measurement over time and the similarity of measurements within a given time period .Crocker and Algina (1986) note that when a respondent answer a set of test items, the score obtained represents only a limited sample of behaviour. As a result, the scores may change due to some characteristic of the respondent which may lead to errors of measurement. These kinds of errors will reduce the accuracy and consistency of the instrument and the test scores. Golafshani (2003). It is the researchers' responsibility to assure high consistency and accuracy of the tests and scores.

In this research the author made sure that the questionnaires and interview questions were phrased carefully to avoid ambiguity and that they lead respondents to a particular answer hence the use of closed ended questions. Secondly, in conducting the questionnaire the researcher included demographic information of the working experience and position of the respondents. This was to assist to measure the reliability of the participants.

3.7.2 Validity

Validity determines whether the research truly measures that which it was intended to measure or how truthful the research results are. Joppe (2000).

Twycross and Linda Shields (2004) also thinks that validity means that a tool measures what it sets out to measure .There are several measures of validity that provide evidence of the quality of a study. Internal and external validity relate to the overall study design. (Carter and Porter 2000). Internal validity relates to the extent to which the design of a research study is a good test of the hypothesis or is appropriate for the research question (Carter and Porter 2000). External validity relates to whether or not research findings can be generalised beyond the immediate study sample and setting. (Carter and Porter 2000).

In ensuring validity and reliability of research instruments, Patton (2001) advocates the use of triangulation. Data triangulation involves the use of different sources of data or information. Guion (2002).In support of this Bryman (2012) point out that triangulation makes use of more than one approach to the investigation of a research question in order to enhance confidence in the ensuing findings.

According to Perone and Tucke (2003) triangulation provides confirmation and completeness and is just a process of simply combining different types of data but it attempts to relate the two types of information so as to leave the validity of each type of information intact. It allows researchers to capture a more complete, holistic and contextual portrayal and reveal the varied dimensions of a given phenomena with each source contributing an additional piece to the puzzle. Perone and Tucke (2003). Denzin (1970) distinguished four forms of triangulation namely:

Data triangulation, which entails gathering data through several sampling strategies so that slices of data at different times and social situations as well as on a variety of people are gathered. Denzin (1970).Theoretical triangulation is making use of more than one theoretical position in interpreting data. Denzin (1970).Methodological triangulation which refers to the use of more than one method for gathering data and investigator triangulation, which is the use of more than one researcher in the field to gather and interpret data. Denzin (1970).

In this research triangulation was employed. In using triangulation, bias was minimized and validity enhanced. The researcher was able to gather information that was confidential and sensitive.

3.8 Data presentation and analysis

Data presentation and analysis are procedures used to gather facts for the researcher to be able to analyse and interpret data.

3.8.1 Data presentation

The method used for data presentation was in the form of tables, bar charts, pie charts and percentages based on the data analysed from responses from questionnaires and interviews. The use of these was to provide information in a more presentable and understating way. It made easy for the researcher to narrate, analyse and interpret data. Properly drawn chart or graph can answer a number of questions in a minimal amount of space.

3.8.2 Data Analysis

This is the process of extracting, compiling, and modeling raw data for purposes of obtaining constructive information that can be applied to formulating conclusions, predicting outcomes or supporting decisions in business, scientific and social science settings. www.investorwords.com. In line with this notion Lacey and Luff (2007) argue that mass of words generated by interviews or observational data needs to be described and interpreted

The researcher made use of mean, mode and percentiles to interpret and analyse data.

3.9 Ethical Considerations

Ethics has become a cornerstone for conducting effective and meaningful research. As such, the ethical behavior of individual researchers is under unprecedented scrutiny (Best & Kahn (2006), Field & Behrman (2004), Trimble & Fisher (2006). A researcher has the primary responsibility to participants for clarity, obtain consent, protect from harm, and ensure privacy. Drew (2007) Guided by this, the researcher created an environment were ethical issues were put into consideration.

Consent was sought form the respondents of questionnaires and interviews. Individuals were allowed to choose whether or not to participate in the study. The researcher's task was to ensure that participants have a complete understanding of the purpose and methods to be used in the study, the risks involved, and the demands placed upon them as a participant (Best & Kahn,2006; Jones & Kottler, 2006). It was made clear to participants that they were allowed to withdraw from the study at any time. Furthermore the participants were assured that any information they will give was strictly confidential and for academic purposes only. Lastly the respondents were asked not to reveal their identity on the questionnaires hence information given was not traced to the participant.

3.10 Summary

This chapter described the research methodology. The purpose of a research design is to maximise valid answers to a research question. This was achieved by use of qualitative and quantitative research desgns. The researcher was the main data collection instrument. Data was collected by means of interviewing, questionnaires and use of secondary data. Chapter 4 discusses the data analysis and findings.

CHAPTER 4

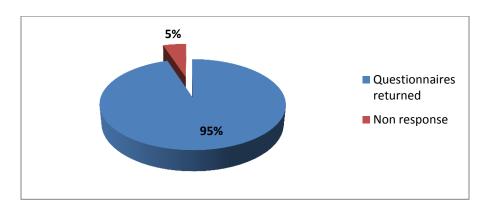
DATA ANALYSIS AND PRESENTATION

4.0 Introduction

The last chapter looked at research methodology used to collect data. In this chapter, the researcher will firstly highlight on response rate of the population. Thereafter the researcher gives a presentation on findings gathered through the questionnaire and interviews. The researcher consistently fused information gathered from secondary research with the primary data on the analysis of the findings. Data was effectively presented through the use of the SPSS software. Lastly the chapter ends with a secondary data collected and the summary.

4.1 Questionnaire Response rate

The questionnaires drafted were dispatched to a targeted population of forty participants and the responses are presented below.



Questionnaire Response Rate

Fig 4.1: Questionnaire Response Rate

Of the 40 questionnaires sent 38 participants responded representing 95% of the dispatched questionnaires, whilst 2 participants did not respond, representing 5% of the total questionnaires.

4.2 Data Analysis

This is the process of evaluating data using analytical and logical reasoning to examine the data provided. Data from the various sources was gathered, reviewed and then analyzed to form

findings to be discussed in the next chapter. The author looked at each question and summaries for each section in analyzing responses from questionnaire.

4.2.1 Questionnaire Analysis

4.2.1.1 Section A-Analysis of respondents.

The objective of working experience was to match information given and the experience of the respodents. This research is also based on a trend of export from 2010, hence was crucial to get information from respondents who were with the company then as they can relate to any changes.

Below are tables that show the nature of the respondents.

	Working years								
		Frequency	Percent	Valid Percent	Cumulative Percent				
Valid	5-10 years	2	5.3	5.3	5.3				
	5-10 years	12	31.6	31.6	36.8				
	10 and above	24	63.2	63.2	100.0				
	Total	38	100.0	100.0					

Table 4.1 Working experience of respondents.

Source: Research data 2015

95% of respondents have at least five years working experience. This was an advantage to the researcher as the responses given were coming from experienced people who have knowledge of the trends of export market.

Position held by the respondents

This was necessary as to achieve a fair representation of all classes in the entity.

	Position held in the company							
		Frequency	Percent	Valid Percent	Cumulative Percent			
Valid	Middle Management	7	18.4	18.4	18.4			
	General Staff	4	10.5	10.5	28.9			
	Supervisor	27	71.1	71.1	100.0			
	Total	38	100.0	100.0				

Table 4.2 Designation of Respondents

Source: Research data 2015

71% supervisors, 7% middle management was a good representation as these people are central in the research as they have knowledge of the operations of the entity. This was an advantage as information provided was more reliable and accurate.

Department of respondents

The sample technique used, stratified random sampling was necessary for respondents to indicate the department to ensure that the sample size was achieved.

Table 4.3 Department of respondents

Department in the company								
				Valid	Cumulative			
		Frequency	Percent	Percent	Percent			
Valid	Finance	10	26.3	26.3	26.3			
	Engineering	8	21.1	21.1	47.4			
	Quality Control	5	13.2	13.2	60.5			
	Human Resources	3	7.9	7.9	68.4			
	Production	12	31.6	31.6	100.0			

Source: Research data 2015

Departments were well represented for the research and the sample size was achieved.

4.2.1.2 Section B: Performance of Zambia Toll Malting.

The objective of the questions in this section was to establish the continuation of Zambia Toll Malting which is part of KKM's export volumes. This would indicate if future exports of the entity will either continue to decline or increase. The profitability of the Tolling was also important as this would assist in decision making of contracting with other foreign customers for the same arrangement. The graphs represent the data collected and analysis is given for each graph in this section.

Toll malting period

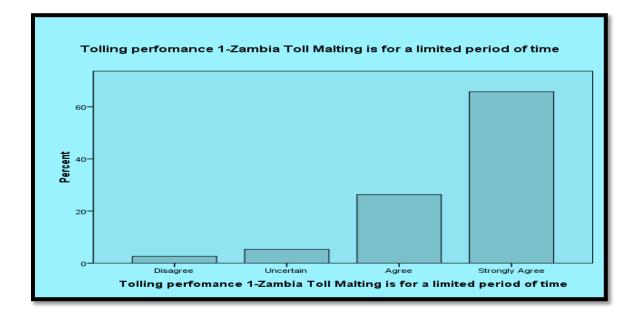


Fig: 4.2 Period of Toll Malting Source: Research data 2015

70% of the respondents acknowledged that toll malting arrangement is for a limited period of time. This means that the export sale (tolling arrangement) for KKM is not a permeant solution to the decline of export sales hence strategies should be put in place to permanently solve the problem.

Profitability of the Toll Malting arrangement

This was a necessary to establish if KKM can expand toll malting to other export customers if its profitable to improve profitability and increase volumes. Below is graph illustrating responses on the profitability of Toll Malting.

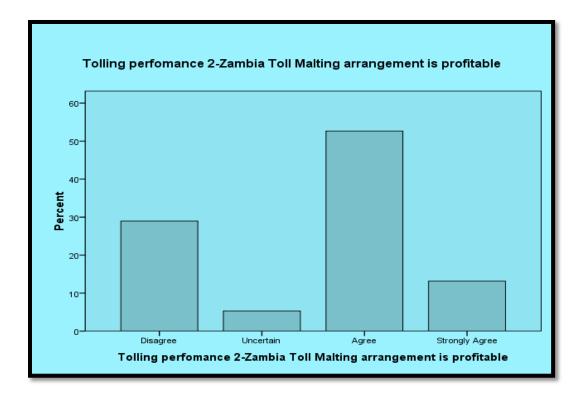


Fig 4.3 Profitability of Toll Malting Source: Research data (2015)

The graph indicates that Zambia Toll Malting is profitable, 65% of the respondents are in support of this statement. This also highlights issues of cost of the raw material because the tolling arrangement, raw material cost is born by the customer. If it is profitable, raw material cost for KKM has a significant influence on profitability.KKM have potential to also influence its other customers to the same arrangement as it is beneficial.

Analysis of the existence of Malting Plant in Zambia

The first graph analysis responses of whether there will be a malting plant in Zambia and the following on the continuation of tolling in the next two years. These two are centered on the plan of whether to include tolling for Zambia in the future plans or the implication on the competitiveness of this plant to further worsen export market capacity for KKM.

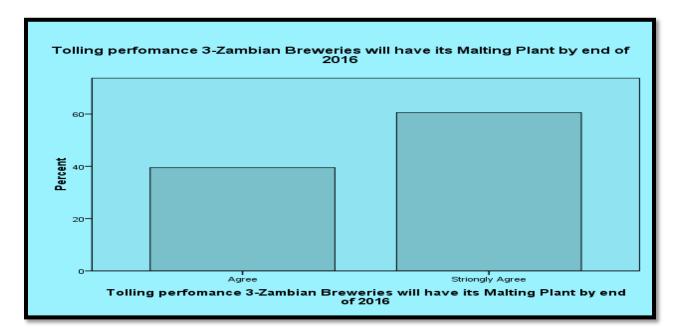
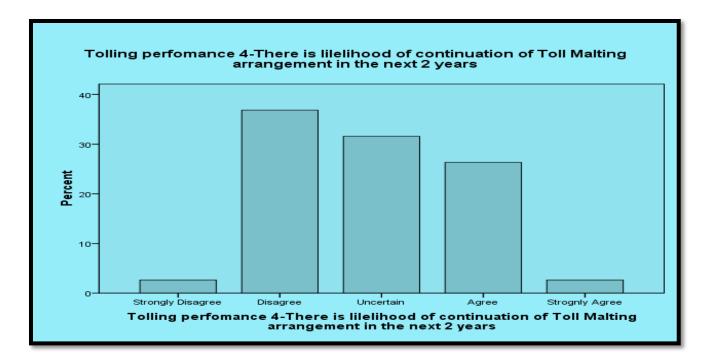
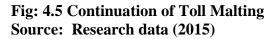


Fig: 4.4 Establishment of malting plant in Zambia Source: Research data (2015)

All the respondents agreed that Zambia will have its Malting plant by end of 2016. This leads to the next question on the continuation of the tolling arrangement. Fig 4.5 below shows that 62% of the respondents think that KKM will not be providing malting services to Zambia in the next 2 years. This will also lead to a further decline of the export volumes as other customers may decide to order from Zambia increasing pressure for KKM. In enquiry with management in the interviews, the plant has a capacity of 250000 metric tonnes which is sufficient to cover Zambia and other breweries in the region without any constraints.





4.2.1.2 Section C: Performance of Export market

The objective of this section was to find out if KKM's export market has declined and if the entity is able to expand its market. The root causes of the decline if any was important as this would help to find solutions to the challenges. Lastly if the malting price offered by the entity is competitive enough to penetrate into the market and also the performance of the current export sales would assist in investigating on the challenges the entity is facing so that decisions are made to solve them if feasible.

 Table 4.4 Statistics of questions relating to the export performance.

	Statistics									
						5-i) Decline				
		KKM				in export				
		export	It is easy			volumes have				
		volumes	for KKM	KKM malt	Current	been				
		have	to expand	price is not	export	influenced by	5-ii)	5-iii)		
		declined	its	competitive	sales are	lack of	Low	High		v)Lengthy
		since	Foreign	in the export	not	market	export	shipping	iv)Payment	export
		2010	market	market	profitable	demand	price	costs	problems	procedures
N	Valid	38	38	38	38	38	38	38	38	38
M	ean	4.50	2.53	4.42	4.03	3.18	3.29	3.16	2.71	2.84
M	ode	5	2	5	4	4	4	2	2	2
Ste De	d. eviation	.647	1.224	.758	.944	1.333	1.374	1.197	1.334	1.326

Source: Research data (2015)

Analysis of the data provided in Table 4.4 show that it is evident that the export sales of the entity has declined since 2010 as most of the respondents indicated a 5(strongly agree) as represented by the mode that volumes have declined and that the malt price is not competitive. Further to this majority also have the view that it is not easy for KKM to expand its foreign market as shown by the mean of 2.53 .Mode of (4) show that majority of the respondents agree that the current export sales the entity is selling are not profitable, price not favourable and the decline in demand of malt. Lastly, the mode of (2) indicates that the decline in export volumes for KKM has not been influenced by payment problems, export procedure nor shipping costs.Lastly,an average standard deviation of sd1.1, show that the respondents are well informed about the performance of the export market.

It is clear that the major contributor to the decline of export volumes is majorly to do with lack of demand the competitiveness of the malt price. Issues to do with the price of malt were further probed through interviews with management. Management indicated that the price of malt is on the high side and hence the current malt sale at USD700 is not profitable as the total cost of manufacturing is at an average of USD781-USD820 before accommodating overhead recovery costs. The major cost driver is the raw barley.

4.2.1.3 Section D: Cost of Manufacturing

This section concentrated on the structure of the manufacturing cost of the entity. This is a follow up to the previous section on the competitiveness of the malt price and export sales profitability. It looked at the major costs which will then help to come up with solutions to these costs in the next chapter. Graphs following after this are for questions relating to cost of manufacturing barley malt. Analysis is given per each graph

Analysis of cost of barley

Barley is the major raw material to the manufacturing of barley malt. It was necessary to investigate on the cost of barley as this is a major contributor. Fig 4.6 illustrate the responses regarding the cost of barley

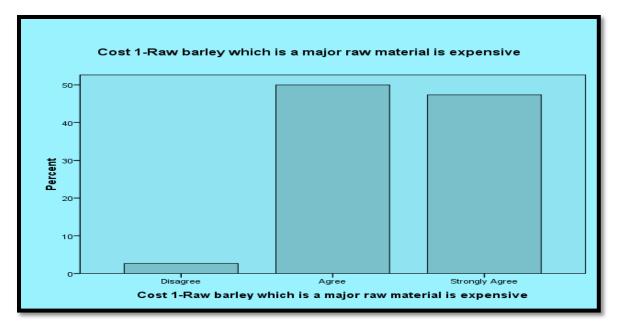


Fig: 4.6 Cost of raw material (Barley) Source: Research data (2015)

98% of the respondents agreed that the raw barley which is raw material of barley malt is expensive. This supported by Alex (2012) who argues that if firms are to procure local raw materials at prices well above their market prices, they put these firms at a relative disadvantage to their competitors in export markets. This is a clear indication that cost of barley need to be revisited and plans should be considered to reduce its cost.

Competitiveness of the barley price

This is a follow up question to Fig 4.6 above. If the barley is expensive, the important thing is also to evaluate its pricing to the average in the region. Fig 4.7 below show the response of KKM barley price in comparison to the regional prices.



Competitiveness of barley price

Fig: 4.7 Competitiveness of the price of raw barley. Source: Research data (2015)

Following the previous question it also shows that the expensive raw barley has lead the entity to be uncompetitive in the regional market. This is the view of 95% of the respondents. This definitely has a negative impact on the price of malt and becomes a barrier to entry in the export market. Okowo et al (2012) support this finding as he concluded that the major challenge in manufacturing industries is that input costs are expensive. This will influence the price of the end product. If the price is high, demand for the product becomes low and firm begin to experience low returns. This is the same scenario with KKM.

Analysis on the control of barley price

Barley price being the major contributor to the cost of malt, it was necessary to establish the degree of control on the decisions to the pricing system. This would enable the researcher to concentrate of the possible areas of improvement in the pricing system.



Analysis on the control of barley price

Fig 4.8 Analysis on the control of barley price Source: Research data (2015)

70% indicated that KKM do not have control over the barley price whilst 25% think they have control on the price of barley. If the entity has less control of the pricing system of barley, other avenues have to be considered to reduce the cost of the end product. The following question relates to other influencers of barley price which the entity may be able to improve.

	Statistics									
		, U	ii)Government intervention in			v) Storage and transportation	Ageing plant have significance influence to high operating costs			
N	Valid	38	38	38	38	38	38			
M	ean	4.13	3.95	4.58	3.95	3.82	4.42			
M	edian	4.00	4.00	5.00	4.00	4.00	4.00			
M	ode	4	4	5	5	4	4			
Ste De	d. eviation	.811	1.012	.858	1.272	1.182	.500			

Table 4.5: Statistics of questions relating to causes of high cost of barley

Source: Research data (2015)

Information tabled in table 4.5 above indicates a mode of 4(Agree) and 5(strongly agree) in all the scenarios influencing the pricing of barley. The pricing of barley is influenced by high cost of farming inputs, government intervention, cost of production, low yields, storage and transport costs.Latsly the ageing plant which increases the operating costs as machinery is repaired more frequently. This mean that all the elements need to be addressed so that eventually the barely price is reduced.

4.2.1.4 Section E: Benchmarking

The objective of the benchmarking section was to find out if KKM is practicing benchmarking with other malting plants in the region and how they compare in their operating costs. This will be a follow up of the previous section of operating costs in that if KKM operating costs are high, they are able to benchmark and improve were possible.

Benchmark of costs and product pricing

Benchmarking has seen other malting industries succeeded in terms of operating costs reduction as discussed in Chapter 2 of this research. The researcher was eager to know if this was also a practice of KKM, if not it will be advisable to implement it.



Fig 4.9 Benchmark of costs and product pricing Source: Research data (2015)

60% have the view that KKM benchmarks monthly with other Malting plants in the region and 35% do not agree to this notion and 5% are not certain.

Benchmarking profitability

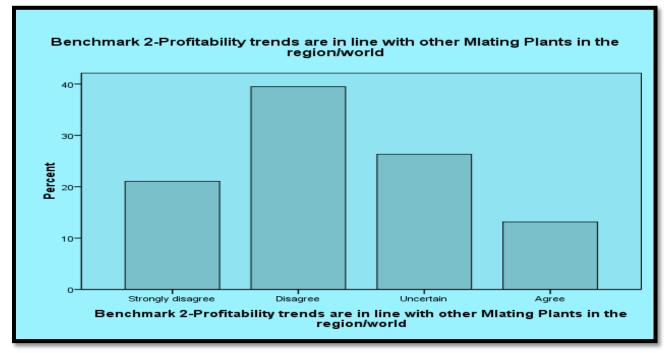


Fig 4.10 Benchmarking profitability Source: Research data (2015)

In relation to the previous question, majority agreed that KKM benchmarks with other Malting Plants. The statistics in Fig 4.10, 65% of the respondents show that profitability trends for KKM are not in line with other plants. This might suggest that although efforts for benchmarking are being done they are theoretical rather than practical. According to Dragolea and Cotîrlea (2009), the success of benchmarking comes from the implementation and not data. Implementation is not being done consistently.

Benchmarking plant machinery

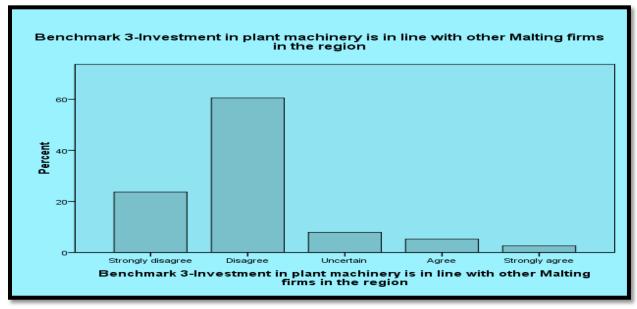


Fig 4.11 Benchmarking plant machinery Source: Research data (2015)

80% is of the view that plant machinery in use at KKM's plant is not in line with other malting plants. This is supported by the previous section were the majority highlighted that the ageing plant had significant influence on the increase of operating costs. Management view is also that the entity has fallen short in line with present technology hence the frequency breakdowns of machinery. They also highlighted that repairs and maintenance costs have also gone up and currently there is no enough financial stamina to revamp the plant.

Benchmarking costs

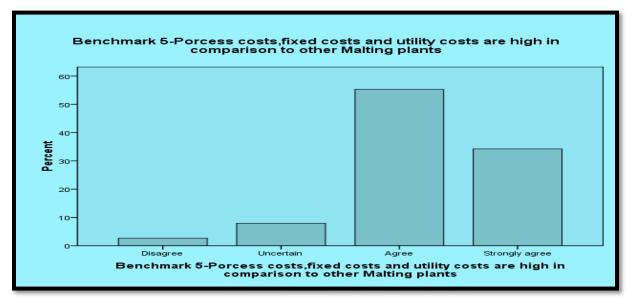
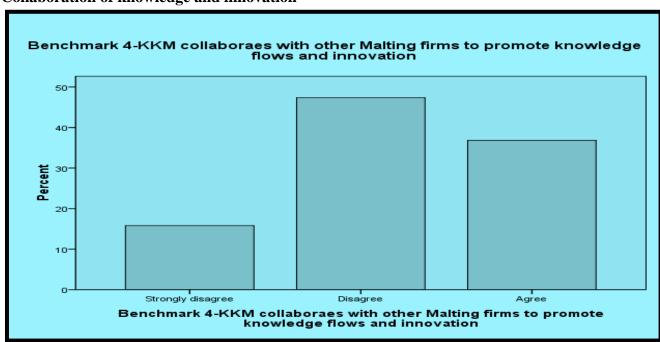


Fig 4.12 Benchmarking costs Source: Research data (2015)

Operating costs for KKM are high compared to other Malting plants in the region and this is shown in Fig 4.12 above were 90% of the respondents agree to the notion.



Collaboration of knowledge and innovation

Fig 4.13 Collaboration of knowledge and innovation

Source: Research data (2015)

The sharing of knowledge and innovation with other malting plants has been disagreed by 60% of the respondents. This is against the first question in this section were 60% of the respondents agreed that KKM benchmarks monthly. This suggests that they do benchmark but the sharing of knowledge to improve operations is not being done.

Conclusively, KKM should thrive to use information from benchmarking statistics to improve their operation.

4.2.1.5 Section F: KKM profitability and capacity utilisation

The purpose of this section was to establish the impact of capacity utilisation and operating costs on KKM's profitability.

	Profitability since 2010 are in line with budget							
		Frequency	Percent	Valid Percent	Cumulative Percent			
Valid	Strongly Disagree	8	21.1	21.1	21.1			
	Disagree	14	36.8	36.8	57.9			
	Uncertain	4	10.5	10.5	68.4			
	Agree	7	18.4	18.4	86.8			
	Strongly agree	5	13.2	13.2	100.0			
	Total	38	100.0	100.0				

Table 4.6 Profitability since 2010

Source: Research data (2015)

Analysis of Table 4.6 above demonstrate that 57% agreed to the notion that profitability trends have declined since 2010. This means that the decline in export sales ,unprofitability of current export sales and high operating costs have significantly influenced the performance of the entity.

It is	It is profitable to import barley and convert into malt than to purchase the									
	barley locally.									
		Frequency	Percent	Valid Percent	Cumulative Percent					
Valid	Strongly disagree	1	2.6							
	Disagree	6	15.8	15.8	18.4					
	Uncertain	14	36.8	36.8	55.3					
	Agree	16	42.1	42.1	97.4					
	Strongly Agree	1	2.6	2.6	100.0					

Table 4.7 Feasibility of importation of barley

Source: Research data (2015)

The data tabulated in Table 4.7 above show that 16 respondents has the view that it is profitable to import barley and malt it, whilst 14 respondents were uncertain of the outcome. The researcher made effort to ask the senior management through interviews on this matter. The management had the view that considering that Toll Malting is profitable this would also imply that importing cheaper barley will be economic compared to using the local barley but issues to do with indigenization have to be considered before making a decision to import as this will cripple the agriculture sector.

	Capacity utilisation has declined since 2010								
				Valid					
		Frequency	Percent	Percent	Cumulative Percent				
Valid	Disagree	9	23.7	23.7	23.7				
	Uncertain	2	5.3	5.3	28.9				
	Agree	14	36.8	36.8	65.8				
	Strongly agree	13	34.2	34.2	100.0				
	Total	38	100.0	100.0					

Table 4.8 Analysis of capacity utilisation

Source: Research data (2015)

27 out of 38 respondents indicated that capacity utilisation for the entity has declined since 2010. The causes of lower capacity utilisation from the management point of view was due to the

reduction in both export and domestic demand. This has even resulted in malt storage constraints and the entity had to hire extra storage facilities. This further increases the cost of the malt as costs of rentals, labour and security are being chaptalized into the product.

4.2.1.6 Section G-Customer Satisfaction, quality of product and Proximity to raw materials

This section dwelt on customer satisfaction and product quality. The objective was to find out if these are also other factors that have influenced the decline of the export market. Table 4.8 below show statistics tabulated for questions relating to product quality, customer satisfaction and proximity to raw materials.

	Fig 22: Statistics								
		produces at KKM is satisfactory to		KKM plant is located closer to its raw materials					
N	Valid	38		38					
Mear	1	4.39	3.37	3.37					
Mode	e	4	4	2					
Std. I	Deviation	.495	.942	1.195					

Table 4.9 Analysis of capacity utilisation

Source: Research data (2015)

Data tabled in Fig 22 above indicates that KKM produces quality malt which is satisfactory to its customers and are able to compete due to customer loyalty. In terms of proximity to raw materials (barley) it is not close to its major supplies. This will result in increase in transport and storage costs as highlighted in the section of cost of manufacturing.

4.3 Interview Response Rate

Interviews were conducted face to face. Below is an analysis of the interview response rate. Below is a presentation of the interview response rate.

Interview Response Rate

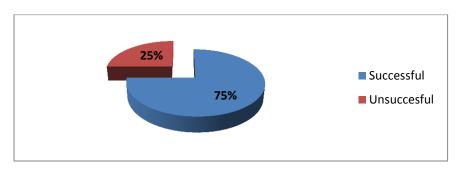


Fig 4.14 Interview response rate Source: Research data (2015

There were four (4) participants in interviews and three (3) of them were interviewed representing 75%. This was due to 1 of the management staff who could not be interviewed due to busy schedule and this represented 25% of target population.

4.3.1 Interview data analysis

Analysis of data collected through interviews.

1) Question: In your opinion what is required to resuscitate the foreign market competitive advantage?

Response

Challenges being faced by the division are not in the management control to push for resuscitation of the foreign market. The supply side of barley is with the Agricultural Service, a division of Delta Corporation responsible for growing barley.KKM would want resuscitation of the foreign market but it will be very difficult to do so since the prices of malt are higher compared to the international market.

2) Question: What are the exports pricing strategies being used by the firm?

Response

- Cost plus pricing strategy
- Negotiated prices, willing buyer buying seller

3) Question: Is the barely price negotiable and what other avenues can be used to lower its price?

Response

KKM has no control of the price but the following can be done to reduce the price.

- Increase yield per hectare
- Negotiate with farmers on a contract price before the setting of grain prices, that is farmers will be bound by the agreement

4) Question: What measures can be put in place to reduce storage and transport costs?

Response

- Have major barley suppliers located closer to the plant
- Built in more storage silos on site but the challenge is that currently there are no funds to build additional silos

5) Question: Are there any initiatives to reduce energy and water usage costs?

Response

- There are plans to invest in energy saving projects in future
- Investigations on water usage are still in process not yet certain of what causes high water usages however the entity has invested in an effluent system to recycle water.
- 6) **Question:** What are the factors affecting the profitability of the division?

Response

- High cost of raw material
- Low export and domestic demand
- High operating Costs

7) Question: Are there any capital investments lined in future?

Response

• Capital investments are limited at the moment

4.4 Analysis of Secondary Data 4.4.1 Capacity Utilisation

In conducting the research, information was also gathered from the entity's financial reports. Tabled below is information relating to the capacity utilisation of KKM since 2010.

tuble hitor it were multings plant atmoution since 2010								
Market	2010	2011	2012	2013	2014			
Local	20,017	23,300	24,071	16, 549	14,737			
Export	140	280	180	250	1,533			
Tolling-Zambia	-	-	6,671	7,840	6,396			
Total	20,457	23,580	30,922	24,639	22,666			
Capacity Utilisation	43%	50%	66%	52 %	48%			

Table 4.10: Kwekwe Maltings plant utilization since 2010

Source: Yearend Kwekwe Maltings Financial Reports (2010, 2011, 2012, 2013, and 2014)

The improvement in capacity utilisation from 2012, 2013 and 2014 was due to tolling agreement between Zambia Breweries and Kwekwe Maltings which started in 2012. This is an arrangement were Zambia Breweries exports it's barley and Kwekwe Maltings converts it into barley malt. Overally the results show that capacity utilisation is very low.

4.4.2 Profitability trends

Year	2010	2011	2012	2013	2014
Gross profit margin %	39	38	28	26	29
Operating profit margin %	19	11	9	1	3

Source: Yearend Kwekwe Maltings Financial reports (2010, 2011, 2012, 2013, 2014)

The decline in gross profit margin from 39% to 29% in 2010 to 2014 and operating profit from 19% in 2010 to 3% in 2014 has been highly influenced by the reduction in local, tolling sales and zero margins realized from sale of exports coupled with high operating costs.

4.4.3 Barley prices

Table 4.12: Barley Prices from 2010 to 2014

Year	2010	2011	2012	2013	2014
Barley price	410	460	460	460	435

Source:KKM Barley reports

The summary of barley prices show that the price of barley is averaged at USD445. This is expensive when compared to average regional price of USD250. Equity research report (2010). This has already been concurred to in the responses of both the questionnaires and interviews.

4.4.4 Barley against wheat prices

Table 4.12 Barley prices against wheat prices since 2009.

Supplier (Barley)	2009	2010	2011	2012
Local (\$)	410	420	460	460
Wheat (\$)	520	460	466	470

• Source: Delta Agricultural Services quarterly reports (December 2009, 2010, 2011 and 2012)

The wheat price is controlled by the government and influences the barley price in that commercial farmers prefer growing crops that have a higher return. In practice, according to one of the management interviewed, the barley price is only announced after the wheat price. If the offer of barley price is lower than the wheat many instances farmers tend to withdraw from barley. This put pressure on the decision to have an attractive price to lure farmers in order to be guaranteed with enough barley for the season.

4.4.5 Import Parity prices

Table below show the French Origin barley prices landed at KKM

Table 4: 13 Current prices of French C	Drigin Barley (FOB Creil Port)
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Туре	Variety	2014 FOB Price \$/t	2015 FOB Price	% Price
		(September)	\$/t (September)	Change
6 row winter	Esterel	203	176	(13.3)
2 row spring	Prestige	231	201	(12.9)

Source: F16 Q2 Board Pack

• Import parity prices for 2 row and 6 row barley ex-France landed Kwekwe Maltings are calculated as per FOB prices given above is \$464.66 and \$435.14 per tonne respectively. The analysis mean that the local barley is seriously overstated and importing barley would almost be equivalent to the local barley price.

4.5 Summary

The data collected was sufficient to meet the objectives of the research and enabled the researcher to draw meaningful conclusions. The respondents gave relevant and valuable data on the analysis of KKM's export market. The data analysis in this chapter helped show the areas of emphasis in export market and the problems being encountered by Delta Beverages Kwekwe Maltings in utility costs containment and lower profitability. It is thus possible to draw meaningful conclusions and make necessary recommendations in the next chapter, making use of the information obtained.

CHAPTER 5

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 INTRODUCTION

The previous chapter does analyse the findings of the research. This chapter seeks to summarize the detailed research undertaken, give recommendations and the overall conclusion. Major findings from the study will also be discussed against the major aims of the research study. The recommendations and conclusion will be based on the data drawn from the primary and secondary research.

5.1 SUMMARY

The major goal of this research was to investigate on the decline of export market for KKM and the competitiveness of barley malt in the region.

The first chapter discussed the mission of KKM and the background of the trend of export market in the past years. The researcher also highlighted the objectives of the research and possible areas of attention forwarded by different scholars on the decline of export market in the Malting industry.

Chapter two was based on review of the past publications on the topic and related material. The researcher's emphasized on strategies being implemented or in use at other malting plants in the region to cab competitiveness. Case studies of such were highlighted for use for recommendation in this chapter if such have not been implemented at KKM. The chapter was also used as the basis of the questionnaire as the researcher was interested to gather data on the findings of other scholars.

In chapter three both qualitative and quantitative research designs were employed. The target population was 83, 40 people was the sample frame and only 38 responded. The sample size was derived from the use of stratified random sampling and judgemental sampling. Primary and secondary data was also used to complement data from interviews and questionnaire.

Chapter four covered the presentation and analysis of data that was used in coming up with the research findings and recommendations given in this chapter. Graphs, tables and pie charts were used to present information in a more profound way.

This chapter covers chapter summaries, major research findings, conclusion, recommendations, and areas for further research.

5.2 MAJOR FINDINGS

1) High cost of barley price

The price of barley was noted as the major driver to low profitability. The farmers were said to be demanding not less than \$490 per ton compared to international prices, for example barley is being sold at \$250 per ton in Europe. This makes the end product less competitive.

Factors influencing the cost of barley

- The storage costs at Grain Marketing Board and Northern Products were also noted to be on the high side and prove too unsustainable. These are charged at \$10 per tonne per day of barley stored. If the silo is not full, it is charged per capacity at a cost of \$3 150 per month regardless of capacity utilization.
- Transport costs from the off-site warehouses at \$36 dollars per tonne also contribute to the landed cost of barley. The other issue is that major barley suppliers are not close to the malting plant as alluded to in the questionnaires. This further increases the landed cost of barley in that farmers are given an extra \$10 per tonne for transporting the barley to KKM or at times offload at GMB Norton, Marondera and Northern Products and these are later transferred to KKM. Of the interviewed management, both agreed that an extra 14 000 tones additional silos would be required at Kwekwe Malting so that the off-site storage charges could be eliminated.
- Low yields. The country lost experienced farmers to new farmers who are producing low yields. If there are low yields per hectare, the farmers tend to ask for high prices to cab their operating costs.

- High cost of inputs. The Equity Research report (2010) also alludes to the main threat to the
 malting industry as the rising of cost of raw materials .The cost and availability of utilities in
 our country is very expensive compared to competitors from Europe. The major ones include
 electricity and water which are a major contributor. The availability of these is also a
 challenge in that farmers have to revert to alternative sources for example of power in the use
 of generators which is very expensive.
- Barley is in competition to a controlled grain, wheat and this have influenced its pricing. Maltings is in contract farming and in the event that the wheat price is higher than the barley prices all the farmers will grow wheat and there will be no barley grown for Maltings to remain in business. In 2011 one of the biggest barley grower, Louville Estates, who normally deliver 4,000 tons per year opted to grow wheat because the price of barley was US\$420 per ton in 2010 against wheat price of US\$460 per ton the same year. The wheat price is normally arrived at arbitrarily, never the less Maltings follows suit.

2) High Malt price

 KKM's malt price is USD945/ton which is higher than the average barley malt price. According to Martin (2010) the world barley malt ranges between USD583 and USD649 per tonne.

The high price of barley malt is majorly influenced by the following:

• High maintenance costs being incurred as a result of the old plant and the respondents had the view that there was need for investing more on the plant to be able to be benchmarked by other malting plants in the region. A large part of the machinery is in need of replacement, renovation and or refurbishment. The plant has been experiencing high frequency of breakdowns and downtimes. This has an overall effect on production volumes and prevents the company from meeting production targets. On average, Kwekwe malting is incurring \$22 per ton malt produced and sold on maintenance whilst the standard should be about \$10-\$15 per ton malt produced and sold. Lack of adequate capital to invest in latest technology to

improve on quality and reduce cost of converting barley to malt is further increasing the malt price.

- Utilities (coal, water and electricity) usages were also noted to be major variables negatively affecting profitability of the division. Actual coal usage was at 0.2 tonnes per ton malt produced on average against 0.15 tons per ton malt produced standard on average since 2009. Actual water usage was at 6 cubic meters on average per ton barley steeped against a standard of less than 5 cubic meters per ton barley steeped. Actual electricity at 325 Kilowatt hour per ton malt produced against a target of 280 Kilowatt hour.
- Malt storage costs. In the process of doing the research, it was also noted that the entity has also started to incur malt storage costs which was not there in the past. This emanated from the high barley stocks the entity has. The fear is that the barley will lose its maltability leading to the entity losing stocks. They have decided to malt and store the malt as there are fewer takers. The company has had to rent warehouses in Kwekwe and Gweru to accommodate the accumulating finished product. This has presented further problems like transportation costs incurred in the process of moving the product to and from the plant and the warehouses. Extra manpower has had to be hired as a result. This further increases the cost of malt.

3) Import substitution

 KKM has a contract with Zambian Breweries to malt their barley. The contract according to data collected ends in March 2016. There are no plans to export to Zambia as Zambia will now have established its own malting plant.

4) KKM not benchmarking

It was noted from the respondents that KKM on record make effort to benchmark its financial, operational performance with other Malting plants in the region yet there is no improvement in the operating costs and profitability of the entity. The major challenge is the sharing of knowledge and implementation of ideas for improvement.

5.3 RECOMMENDATIONS

Based on the findings to this research, the researcher recommends the following:

Increase storage capacity at Kwekwe Malting with additional four silos of 3 500 tons each to
eliminate storage charges at Grain Marketing Board and Northern. Would suggest building of
metal silos if concrete is expensive, it is an investment of a life time and will be able to turn
the cost into profit.

• Source Locating

Contracting farmers who are very close to the malting plant so as to reduce transport cost. KKM should consider contracting with farmers that are closer to the malting plant to

minimize distribution costs which will at the end up the cost of barley.

- Influence farmers to concentrate and improve their yields and lower their prices. Negotiations will centre on the point that they are provided inputs and given loans by the entity which will be recovered after months without interested being charged. Interest is only charged when they fail to deliver. Free loan interest should be compensated by the reduction in the barley price so that both the entity and the farmers gain from contract farming. Model for improving barley yield should be introduced so that pricing of the product becomes competitive and only engage farmers that are capable and willing to improve yield per hectare
- For some markets for example Mozambique, overseas malt suppliers are more competitive as it is easy to deliver malt as most of its breweries are on the sea front. For markets like this KKM should aim for much lower profit margins through the use of principles of marginal costing just to maintain its position in the market
- Invest in machinery. Most of the maltings in Europe are highly automated which is in contrast to KKM whereby a lot of the operations need manual labour.
- Need to manage fixed costs and improve on utility usages especially water and coal as well as barley to malt conversion ratio. These can be achieved through benchmarking and reduction of costs in the activity chain. Below are cases briefly highlighted discussed in Chapter 2, of how this can be achieved.

- i. Water usage management. This can be achieved through benchmarking with other breweries and learn on how others have achieved to overcome this challenge. For example being a member of Beverage Industry Environmental Roundtable (BIER) which consists of breweries around the world who share knowledge, solutions on how to manage water usages. This has helped its members to assess their processes and come up with innovative ideas to solve challenges of over usage of water in production processes.
- A research was carried out on Ukrainian Breweries to establish the use of competitive and international performance benchmarking in relation to estimating efficiency. Goncharuk (2009). The research findings concluded that the international benchmarking allows widening of the capability of reduced consumption of various inputs and provided considerable benefit to Ukrainian breweries and industry efficiency. Goncharuk (2009)
- iii. Porter (1985) recommends that to attain a cost advantage, a firm's production costs across its value chain should be lower compared to its rivals. This can be done through improving process and work efficiencies to reduce operating costs or taking time to scrutinize the production process and find ways to do away with unnecessary costs.
- iv. Beheshti, (2004) and Cokins (1996) suggest the use of (ABCM) activity-based cost management. The goal is to track the cost drivers of the production process. After doing this, the costs trends analyzed to ensure that these costs are being incurred in line with certain standard. If the costs are way above the expected rate, investigations should be done to correct the situation.KKM should also develop accurate cost information in order to compare with others or with standard.
- v. Implement systems to reduce energy usage. Mahidara (2001), commented that Maltenia Pampa Agerntinas largest malt producer introduced an energy conservation system which resulted in a saving \$30 000 per month leading to cost reduction. Briggs et al (2010) in their study of malting industries also noted that the cost of

energy has increased substantially and malting and brewing industries have responded by making the plants more efficient in the use of power. Other savings include increased insolation, energy load shedding, and reclying of hot water and long term capital investments. Briggs et al (2010).

- Implementation of results from Bechmarking.KKM should consistently consider benchmarking with other maltings plants and implement findings to improve on operating costs and profitability. According to Dragolea and Cotîrlea (2009), the success of benchmarking comes from the implementation and not data. Heineken has managed to improve quality of its products through the commitment to compare their performance against those in the same industry. They have succeeded through benchmarking performance against other companies in the sector and publishing and sharing their results and findings for continuous improvement.(Heineken N.V. Sustainability Report, 2013, p.24)
- Diversification.KKM should try and diversify its product. This has worked for Montana breweries. This can be done through craft malting. Craft Malt is defined as a finished malt product produced from a variety of grains including but not limited to barley. Uniqueness of product will attract customers attention and might be a way to penetrate the export market.

5.4 CONCLUSION

The researcher's main objective was to investigate in the way export market for KKM can be resuscitated. Complementing this were objectives to identify the pricing strategies in use, factors influencing the decline in the export volumes and the control of input costs. Based on the analysis of data, it is concluded from the study that decline of export volumes have been majorly influenced by the high price of barley and uncompetitive barley malt price due to high input and operating costs. Although the entity has no much control over the barley price, efforts can be put in place to reduce the pricing through influencing farmers to produce high yields and eliminating or reducing storage and transport costs by increasing storage facility and contracting with farmers closer to the plant. The entity also need to seriously and consistently benchmark and implement findings from other malting plants. If other maltings plants are operating efficiently it is easy to copy than to invert new ideas.

5.5 SUGGESTION FOR FURTHER RESEARCH

The scope of this research was only to determine the factors affecting the export market and suggestions of strategies to be implemented. Further research studies could be commissioned on the analysis of the process costing system of KKM in totality to achieve a low cost producer and the investigation on the effectiveness of contract farming as this is a major contributor to the costing of the end product

5.6 SUMMARY

The research objectives have been achieved as the research was able to identify the cause of the decline in export sales. The study also highlighted the major cost drivers influencing the cost of barley and barley malt. Finally the study was able to give recommendations to solve these challenges which were successfully implemented in other countries.

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APPENDIX I

Permission to conduct the study

Permission to conduct the study was sought from and granted by the Finance Manager (see Appendix A and B).



Midlands State University Faculty of Commerce Department of Accounting P Bag 9055 Gweru.

Tel: +263 54 227411, Fax: +263 54 227420

August 2015

The Human Resources Manager Delta Beverages – Kwekwe Maltings Kwekwe

Dear Sir

Ref: Application for authority to carry out an academic research with your organization.

I am a student at the Midlands State University pursuing a Bachelor of Commerce Honors Degree in Accounting. It is a prerequisite that I carry out a research study in partial fulfillment of the requirements of the degree Programme. I am carrying out a research entitled;

An Investigation into how Kwekwe Maltings can regain its export market

I hereby apply for authority to carry out this study in your organization. All information to be given will solely be used for academic purposes and high degree of confidentiality will be exercised. For further clarification you may contact the university using the above numbers. Your assistance will be greatly appreciated.

Yours faithfully,

Memory Dhliwayo Registration number R13496H

APPENDIX II

QUESTIONNAIRE COVER LETTER



Midlands State University Faculty of Commerce Department of Accounting P Bag 9055 Gweru.

Tel: +263 54 227411, Fax: +263 54 227420

September 2015

Dear Sir / Madam

RE: Request to collect data through questionnaire

I am a final year student at Midlands State University undertaking a Bachelor of Commerce Honours Degree in Accounting. Pivotal to my studies is the undertaking of a research project on a topic of my choice which the university approves. I am undertaking a research on the topic:

An Investigation into how Kwekwe Maltings can regain its in export market

I therefore request the sparing of a moment of your valuable time to respond to the questions in the questionnaire provided. May you please kindly assist by providing relevant information to this research. There are no correct or wrong answers; it is only your factual response that matters. The views, responses you provide shall be for academic purposes only and it shall be treated with utmost confidentiality. For confirmation on the use of the information, you may contact the Head of Accounting Department.

Your co-operation will be greatly appreciated.

Yours faithfully

Memory Dhliwayo Registration number R13496H

Appendix: III QUESTIONNAIRE

Instructions

1.Do not write your name on this questionnaire

2.May you please attempt all the questions

3.Place a tick ($\sqrt{}$) in the box of your preferred answer

SECTION A: Demographics and general information

- 1. Gender: male [] female []
- How long have you been working for the company?
 1-5 years [] 5-10 years [] 10 years and above []
- What position do you hold?
 Middle Management [] General Staff [] Supervisor []
- 4. Section/Department

Finance	Engineering	Quality Control	Human Resources	Production	GM

SECTION B: Performance of Zambia Toll Malting Arrangement

		strongly disagree(1)	Disagree (2) uncertain/ not applicable (3)	Agree (4)	strongly agree (5)
1.	Zambia Toll Malting is for a limited period of time.				
2.	Zambia Toll Malting arrangement is Profitable				
3.	Zambian Breweries will have its malting plan by end of 2016.				
4.	There is a likelyhood of continuation of Toll Malting arrangement in the next two years.				

SECTION C: Performance of the export Market

			strongly disagree(1)	Disagree (2)	uncertain/ not applicable (3)	Agree (4)	strongly agree (5)
1.		Kwe Maltings (KKM) export volumes have ed since 2010.					
2.	It is ea	asy for KKM to expand its foreign markets.					
3.	KKM marke	malt price is not competitive in the export et.					
4.	Curre	nt export sales are not profitable.					
		line in export volumes have been influenced following: Lack of market demand					
	ii.	Low export price					
	iii.	High shipping costs					
	iv.	Payment problems					
	v.	Lengthy export procedures					

SECTION D: Cost of Manufacturing

		strongly disagree(1)	Disagree (2) uncertain/ not applicable (3)	Agree (4)	strongly agree (5)
1.	Raw barley which is the major raw material is expensive.				
2.	Raw barley price is not competitive regionaly.				
3.	KKM has control over the barley price.				
4.	Causes of high cost of barleyi. High cost of farming inputsii. Government intervention in price setting				
	 iii. High cost of utilities, machinery in barley production iv. Low yields resulting in increased price to cab costs v. Storage and transportation costs 				
	5.Ageing plant has significance influence to the high operating costs.				

SECTION E: Bench Marking

		strongly disagree(1)	Disagree (2)	uncertain/ not applicable (3)	Agree (4)	strongly agree (5)
1.	KKM always benchmark its operating costs, product pricing with other malting plants monthly.					
2.	Profitability trends are in line with other Malting plants in the world.					
3.	Investment in plant machinery is in line with other Malting plants in the region					
	4. KKM collaborates with other Malting firms to promote knowledge flows and innovation.					
	5.Process costs, fixed costs and utility costs are high in comparison to other Malting Plants					

SECTION E: KKM profitability and capacity utilisation

		strongly disagree(1)	Disagree (2)	uncertain/ not applicable (3)	Agree (4)	strongly agree (5)
1.	Profitability trends since 2010 are commendable.					
2.	It is profitable to import barley and convert into malt than to purchase the local barley.					
3.	Capacity utilisation has declined since 2010.					

SECTION F: Customer satisfaction, quality of product, proximity to raw material

		strongly disagree(1)	Disagree (2)	uncertain/ not applicable (3)	Agree (4)	strongly agree (5)
1.	The quality of malt produced at KKM is satisfactory to regional customers.					
2.	KKM has potential to compete with other malting plants in the region due to customer loyalty.					
3.	KKM plant is located closer to its major suppliers of barley.					

Thank you for your co-operation.

APPENDIX IV

INTERVIEW GUIDE

Interview questions for senior management

- 1) In your opinion what is required to resuscitate the foreign market competitive advantage?
- 2) What are the exports pricing strategies being used by the firm?
- 3) Is the barely price negotiable and what other avenues can be used to lower its price?
- 4) What measures can be put in place to reduce storage and transport costs?
- 5) Are there any initiatives to reduce energy and water usage costs?
- 6) What are the factors affecting the profitability of the division?
- 7)Are there any capital investments lined in future?

Thank you for your time.