

**EFFECTIVENESS OF COMMODITY PRICING ALONG THE PORK
VALUE CHAIN IN ZIMBABWE: A CASE OF MASHONALAND CENTRAL
PROVINCE**

BY

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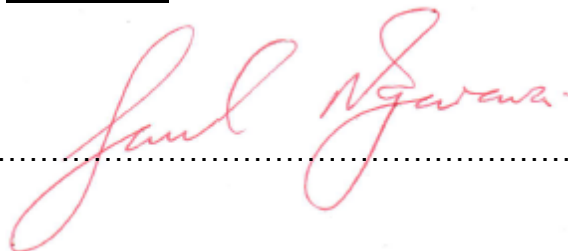
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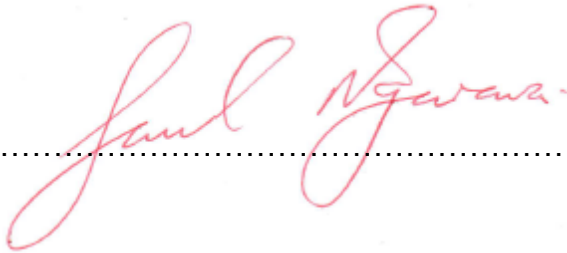
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DEDICATION



I dedicate this thesis to my new born daughter, Layla, for whence you were conceived, so too was this thesis. Let it radiate just like the first smile you proffered to me when I held you for the first time.

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“Suffering produces perseverance ... perseverance creates character ... character fashions hope”

ABSTRACT

The main objective of this study was to give a reflection of the pricing strategies, articulate organizational attitudes, feelings and behaviour regarding these strategies and how they all influence value creation within agribusinesses in the Zimbabwean pork industry. The research hypothesis is that the particular pricing objectives, strategies and policies utilised have an indirect influence on how organizations create value. Specifically, the research sought to determine influence of marketing in value creation, establish influence of price in marketing mix, ascertain pricing strategies, determine influence of attitudes, feelings and behaviours and measure pricing efficiency.

Utilising interview-administered-questionnaires, the study sought responses from strata of producers, abattoirs and retailers in Mashonaland Central Province of Zimbabwe totalling a sample size of 226 respondents. The study utilised a cross sectional survey research design and quantitative research methods. The study utilised correlation analysis, ANOVA analysis, MANOVA analysis, multiple regression analysis and marketing margin analysis in establishing correlations, mean differences, influences and efficiencies in pricing.

The study found out that marketing is not an influential value creating activity within the pork industry at $P < 0.05$. Price was also not the most influential marketing mix component within the industry. Most industry players were utilising formula prices, pursuing profit oriented pricing objectives through a one price policy, aiming for a low penetration price level policy, with no discount policy and managing a profit to cost ratio of between 0% and 4%. The most significant feeling was of being indifferent to a price change as it is offset by changes in units sold. Attitudes of industry players disregarding pricing mechanisms as long as it covers costs of production as well as substitute products determining prices were significant in influencing pricing objectives. Pricing within the industry was inefficient.

The study recommends leveraging on the most influential industry value creating activity, which is production and processing, to take advantage of the myopic pricing objectives, lack of discount policy and avoiding substitutes. Also recommended is

leveraging on the most influential industry marketing mix component, which is the product, to take advantage of lack of premium pricing, inefficient pricing and avoiding substitutes. Evading the low profit to cost ratio in the industry through utilising price flexibility policies and vertically integrating were also recommended.

Key words: *value creation, marketing mix, pricing, pork industry, Zimbabwe*

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ACRONYMS

AGRITEX	Agricultural Extension
AMA	Agricultural Marketing Association
ANOVA	Analysis of Variance
ESAP	Economic Structural Adjustment Programme
FAO	Food Aid Organization
FAOSTAT	Food Aid Organization Statistics
FTLRP	Fast Track Land Reform Programme
GCC	Global Commodity Chain
GDP	Gross Domestic Product
GMO	Genetically Modified Organism
GS	Governance Structures
LMAC	Livestock and Meat Advisory Council
MANOVA	Multivariate Analysis of Variance
MT	Metric Tonne
PIB	Pig Industry Board
QMS	Quality Management Systems
SPSS	Statistical Package for Social Scientist
UN	United Nations
WTO	World Trade Organization
ZIMSTAT	Zimbabwe National Statistics

CHAPTER ONE

INTRODUCTION

There has been an upswing in the direction of increased consumption of animal-based foods worldwide (Robinson, Wint, Conchedda, Van Boeckel, Ercoli, Palama, Cinardi, D'Aiotti, Hay and Gilbert, 2014). This has resulted in the meat sector growing at an average of 5.1% in developing countries since 1970 (Alexandratos and Bruinsma, 2012). Pork is the world's most consumed meat (McGlone, 2013; Moeller and Crespo, 2013), with 40% of the world's population consuming it followed by chicken (29%) and beef (24%) (USDA Foreign Agricultural Services, 2008).

In Africa, Pica-Ciamarra, Baker, Morgan *et al* (2013) forecast that by 2050, the meat market would be at 34.8 million tonnes, a 145% increase from the 2005/07 levels, with such increased consumption being fuelled by urbanization, rapid population growth and gains in real per capita income (McGlone, 2013; Von Braun, 2010). Furthermore, pork production will increase to levels of 1.5 million tonnes in Africa with estimate consumption of 3.5 million tonnes. This represents a 3.3% increase during the same period. Southern Africa will increase production by 2.9 % by 2050 from levels of 2005/07, and constitute 37.1% of Africa's market share (Pica-Ciamarra *et al*, 2013). Effective positioning and formulation of effective livestock sector strategies, policies and institutional changes is thus an *a priori* requirement if individual countries, and industries are to take advantage of such increased consumption, business and market opportunities (Swanepoel, Stroebel and Moyo, 2010).

One of the major strategies that pork industry players need to pursue to capture the value of likely increased consumption of pig meat is effective pricing. This research addresses assertion, focusing on identifying the influence of agricultural pricing on value creation in the Zimbabwean pork industry. It zeros in on which particular pricing model is being utilized. In the process, addressing attitudes, feelings and behaviors directed towards pricing models by players and assessing whether the pricing mechanism is efficient, at the backdrop of value chains and value creation within the industry. DaSilva and Filho (2007) opined that understanding how this

value is created is a major step in improving performance of the agricultural, food and fibre sectors. To achieve this, the study is divided into six (6) chapters. This chapter covers diverse sections including the introduction and background of the study, formulation of the research problem, objectives, and hypotheses, thesis statement, assumptions, delineation, justification, limitations and thesis organization capped off by the chapter summary. The background discussion is given more precedence next.

1.1 BACKGROUND

Porter (1985) defines value chain as a depiction of an organization's value adding conduct, with a foundation in pricing and costing configuration. This depicts the tangible and prospective areas of competitive advantage for the organization (Rich, Baker, Negassa and Ross, 2009). Anderson and Hanselka (2009) and Boland (2009) coin the term value-added as the addition of value to a raw product by progressing it to the next stage in the business cycle. Boland (2009) goes further to say that it is the process of transforming or changing a product from its original state to a more valuable state. For instance, Reclies (2001) opines that value chain analysis in this regard is an appraisal of how and which particular activity adds value to an organization's products or services. Moreover, the idea was built upon the foresight that there are systems and systematic aspects to creating something for which customers are willing to part their money, rather than a haphazard compilation of money, machinery, people and equipment. If only these things are arranged systematically will something that customers are prepared to pay a price be produced (Recklies, 2001). Value reflects the relationship between the benefits received from and the price paid for a product (Anderson and Hanselka, 2009). Leat and Revoredo-giha (2013) concur and state that the value associated with pricing stems from the economic and technical benefits in addition to the service and social ones. In this regard, value creation tends to accommodate pricing decisions (Leat and Revoredo-giha, 2013).

Price makes available income, directs the quantity supplied and demanded, signals to customers and shifts possession (Uva, 2009). Commodity pricing is a fundamental but yet overlooked aspect of best practice of any business. Making sound pricing

decisions is critical for business success (Dodor, 2013). Whilst there has been a myriad of debates on determinants of food pricing (Bakucs, Falwoski and Ferto, 2013), setting a price is for the most part an exigent undertaking when developing for example meat products (Myers, 2013). Farmers often have difficulty with pricing because it can be subjective (Dodor, 2013). Pricing strategy is a key part of an agribusiness decision making and is strongly influenced by the competition environment. If all agribusinesses are small and have no room for exercising bargaining power, the organizations are faced with identical price strategies. If competition is otherwise monopoly or oligopoly, price is set by the agribusiness and in a strategic way (Chikweche and Fletcher, 2012).

Price development is considered to be the most demanding undertaking for marketing managers (Chikweche and Fletcher, 2012). This is particularly true for businesses within the agricultural sector. The agricultural sector is a big player in the Zimbabwean economy (Mapfumo, Mushunje and Chidoko, 2012), accounting for an average of 13.92% of Gross Domestic Product (GDP) (ZIMSTAT, 2012). The average growth rate of agriculture's contribution towards GDP is 4.1% (African Statistics Yearbook, 2014) and the sector accounts for 30.4% of value of goods exported and 23.7% of value of goods imported. This represents a contribution of 6.7% to the trade balance. The sector employs the largest number of people within the economy averaging 56.9% (Zimbabwe National Statistics Agency (ZIMSTAT, 2014a).

In as much as it is a significant contributor to the economy, the Zimbabwean agriculture sector has however been currently facing major constraints and challenges (Richardson, 2013; Dawes, Murota, Jera, Masara and Sola, 2009). These emanate from the continued disruptions due to former farm owners and land reform beneficiaries' disagreement as well as scarcity of foreign and domestic direct investment. The poor infrastructure (roads, rail and irrigation), lack of bankability of the new land tenure fixed assets and insufficient financial support for the agrarian restructuring have also been identified as affecting the Zimbabwean agricultural sector. Further to that, inadequate farmer training programs for sound business skills acquisition, incapacity to undertake research and extension services, especially for resettled farmers and inefficient markets as a result of capital deficiency and poor

infrastructure have also impacted the Zimbabwean agricultural sector; Socio-economic variables such as gender disparity in the right to control and use resources and a high HIV/AIDS prevalence compromising labour quality have been major impediments within the Zimbabwean agricultural sector. Environmental phenomenon such as erratic weather (drought susceptibility) as well as unaffordable inputs, low capitalization levels [and rent seeking behaviour] (World Trade Organization (WTO), 2011; Anseeuw, Kapuya and Saruchera, 2012).

The Zimbabwean livestock sector has itself not been spared by these economic ills. It remains one of the significant categories of agricultural production in Zimbabwe, contributing 15% to 25% of total agricultural output (WTO, 2011; Tawonezvi, Makuza, Moyo and Nengomasha 2004). However, the sector has been affected by declining demand, unregulated imports, lack of finance for production and processing, rising costs of feed and rising costs of compliance (Livestock and Meat Advisory Council (LMAC), 2014). Augmented by the major changes attributed to the land reform program, vagaries of weather and significant oscillation in macro-economic performance, resulting in noteworthy changes in possession, utilization, management, marketing and production (WTO, 2011; Sayila, 2008), the livestock sector has witnessed number decline by 24% of national herd for cattle, 79% for the dairy herd and 56% for the national sow unit from 2002 to 2009 (Mutambara, 2013a). The sector consists mainly of 5.6 million beef and dairy cattle, 4.4 million goats, 295 938 sheep and 378 172 pigs (ZIMSTAT, 2014a). Livestock sales and their associated products are an important source of farm income which contribute significantly to foreign currency earnings for the country (Upton, 2004). They are also important to food supply and nutrition and are an important dietary source of protein, minerals, vitamins and micro-nutrients (Chikangaidze, 2011).

The pork subsector is an important part of the Zimbabwean livestock sector, though not as significant as the beef and chicken subsectors (Mutambara, 2013b). The subsector accounts for 3.5% of total livestock assets in the country (Food Aid Organization Statistics (FAOSTAT), 2014) compared to 52.5% cattle, 41.22% goats and 2.8% sheep. Communal farmers account for the largest number of pig producers in Zimbabwe, 88.2%, contributing significantly to the total livestock chattels, meat production and guaranteeing food security (FAOSTAT, 2014; Chazovachii, 2012). In 2012, there were 680 000 producing pigs and a total output of 31 900 tonnes of pork

at a value of US\$580 000 (FAOSTAT, 2014). Furthermore, the sector contributes to employment creation and the fiscal through taxes in addition to downstream industry operations (Pig Industry Board (PIB), 2014). The industry also offers a market for upstream players such as maize and soya bean producers as well as stock feed producers.

According to Mutambara (2013a), livestock stakeholders in Zimbabwe have been expressing a number of views in diverse forums concerning critical issues of competitiveness, expansion and development in the sector especially after dollarization which has brought stability to the economy. Mutambara (2013a) identified competitiveness as being affected by both endogenous and exogenous factors and highlighted that price is one of the exogenous factors that influences the industry. Comments by Khumalo (2014) concurred and opined that government should take steps to make local meat more price-competitive and attractive to external markets. Zimbabwe's Industry and Commerce Minister further added the need to monitor and investigate price trends and at the same time benchmarking local commodity prices against those in the region and globally (Sunday Mail, 2015).

This research is designed to bring out the pricing strategies employed by agribusinesses in the pork industry in Zimbabwe and highlight their efficiencies and competitiveness through value creation. This is likely to assist players within the subsector on strategizing on using the best alternative pricing models.

1.2 PROBLEM STATEMENT

Major yesteryear transformations in the livestock sector brought about by the land reform in terms of producer base, livestock possession, figures and marketing structures call for an assessment of the current production and marketing systems. The major problem in the pork industry is that price modelling has been based on the yesteryear, economic circumstances, and the players have knowingly or naïvely integrated this into a new dispensation. This has however reduced competitiveness due to reluctance in inducing good strategic and sustainable agribusiness practice and economic objectives.

Problem indicators

1. Local pork products are unable to compete with global products on the local market due to their uncompetitive prices. Pork price is 25% higher than in South Africa (Chamboko and Erasmus, 2014).

Table 1.1: International Competitiveness of the Pig and Pork Sector

Country	Live weight prices (\$/kg)	Dressed weight prices (\$/kg)
Kenya	1.38	1.83
South Africa	1.56	2.02
Argentina	1.22	1.55
UK	1.60	2.10
USA	1.19	1.68
Zimbabwe	2.30	2.70

Source: (Chamboko and Erasmus, 2014)

2. The industry has been bombarded by stern competition from substitute meat products imported from South Africa, Canada, USA and Brazil (Mutambara and Chingozho, 2011) which are imported at lower prices.
3. There has been reduced demand for locally produced pork products because of local substitute competitive pricing.
4. There has been a reduced export of pork products which cannot compete globally.

Despite the production costs influencing price competitiveness, disposable income impacting local pork demand and other non-economic factors such as political orientations and sanctions having an impact into the pricing process in Zimbabwe, much have been instigated pre-dollarization. Once dollarization and macro-economic stability were factored in, maintaining such price dynamics appeared unjustified.

The roles of farmers, cooperatives and agro-processing businesses are well recognized in addressing food security, job creation and economic development objectives. Limited processing infrastructure significantly restrains effort by farmers to satisfy local meat demand. The livestock is readily available, demand is at hand but processing is the bottleneck (Gwin and Triboumery, 2013). This limit and bottleneck is quite evident to processors within the pork processing subsector who are engaging in uncompetitive agribusiness practices of profiteering. Agro-processing industries within the pork subsector are not utilizing “best pricing

practices” to attain their pricing objectives. This has in turn held the pork subsector to ransom as the players within this industry are colluding in decision making.

Inability to adapt to changes was termed “marketing myopia” by Levitt (1975) where organizations were identified riding on yesteryear conditions being unable to plan and adapt to the changing environment. Liberalizations and globalizations coupled with technology advances have exposed industry to conditions with which the players thought unattainable in the economy (Kotler, 2002). Mussell, Grier and Westgren (2003) opine that mechanisms in pricing must evolve as the nature of agricultural and food markets evolve.

Theoretical significance

Carricano (2014) furthered Levitt’s (1975) myopia theory by incorporating it into pricing systems. In his study of pricing myopia, Carricano (2014) states that changing pricing formula is an inevitable foundation for profit improvement. Price has received modest academic exploration (Hinterhuber, 2004). Pricing is for the most part a multifaceted decision facing any organization. Coupled with lack of academic consideration in the pricing field, this has led to the supremacy of simplified, cost-based *modus operandi* when conveying prices (Indounas, 2006).

The decision to price a product is one of the difficult tasks facing any agribusiness. Pricing cannot be scrutinized in seclusion from the other fundamentals of an organization’s marketing strategy which is based on the marketing mix notion (Indounas, 2006). Ajala and Adesehinwa (2007) opine that prices are generated within marketing systems. Porter (1985) identified marketing as one of the primary pillars of creating value in any organization. His framework however, did not go further to expand the relative influence of each particular value creating activity. More so, within marketing itself, Porter (1985) fell short of identifying the particular marketing component essential for effective value creation.

It is against this background that this research aims to identify the current pricing strategies being employed within the pork subsector, and the theoretical implications of how pricing as an element of a marketing mix influences value creation within the pork industry.

1.3 RESEARCH QUESTIONS

The major question the research tries to answer is what influence do pricing strategies, as an element of a marketing mix, have on value creation in the Zimbabwean pork industry? Specific questions to be answered by the research include:

- What influence does marketing have on value creation in the Zimbabwean pork industry?
- Is price the most influential marketing mix component in the Zimbabwean pork industry?
- What are the pricing strategies being utilized in the Zimbabwean pork industry?
- Do attitudes, feelings and behaviours towards pricing have an influence on attainment of pricing objectives?
- Is commodity pricing in the Zimbabwean pork industry efficient?

1.4 RESEARCH OBJECTIVES

The major objective of the study is to give a reflection of the pricing strategies, articulate organizational attitudes, feelings and behaviour regarding these strategies and how all of these influence value creation within agribusinesses in the Zimbabwean pork industry. Specific objectives to be achieved by the study include:

- to determine influence of marketing in value creation in the Zimbabwean pork industry;
- to establish if price is the most influential marketing mix component in the Zimbabwean pork industry;
- to ascertain the pricing strategies being utilized in the Zimbabwean pork industry;
- to determine the influence of attitudes, feelings and behaviour towards pork pricing to attainment of pricing objectives; and
- to calculate pricing efficiency in the Zimbabwean pork industry.

1.5 RESEARCH HYPOTHESES

The following hypotheses were formulated for testing in this study.

H₁: Marketing is the most influential primary value creating activity in the Zimbabwean pork industry.

H₂: Pricing is the most influential marketing mix component in the Zimbabwean pork industry.

H₃: Zimbabwean pork industry players utilize follow-the-leader pricing strategies.

H₄: Attitudes, feelings and behaviours towards pork pricing have an influence on attainment of pricing objectives.

H₅: Zimbabwe has an inefficient pork pricing market.

1.6 THESIS STATEMENT

Value creation is largely influenced by the marketing activities. The major marketing mix activity that amplifies this influence is pricing, its effectiveness being highly due to the pricing objectives, strategies and policies. *Ergo*, the particular pricing objectives, strategies and policies utilized have an indirect influence on how organizations create value.

1.7 ASSUMPTIONS

The research assumes that agribusinesses in the pork subsector are price setters, whereas in economically defined commodity markets, agribusinesses are price takers (Buhr, 1999). This associates competitiveness with cost efficiency. This is however applicable to perfect market conditions, undermining another assumption the research makes which is that the pork industry has an imperfect market, and thus validating the assumption of price setter. This uncompetitive behaviour allows agribusinesses discretion to set their own preferred prices

The research assumes value from the perspective of the producer. Anderson and Hanselka (2009) argue to the contrary, that, it is the customers', not the producers' perspective, that is critical.

The research also assumes an autarky economy in terms of the study area pork value chain, disregarding the fact that there exists periphery product movement within and between this value chain. The chain is influenced by external pork products coming into the area and as well as pork products moving out of it.

1.8 JUSTIFICATIONS

An understanding of price formation is vital in elucidating the dynamics of pricing ineptitude in commodity marketing (Griffith and Piggott, 1993). Understanding the impact of pricing on the choice of farming method and strategies is important in a competitive scenario (Pascucci, Capitano and Del Giudice, 2013). Equally, understanding pricing strategy leads to sustainable profits and growth of the industry. Understanding such pricing strategy in the context of value creation and value chain analysis can be priceless in efforts towards enhancing the performance of the agricultural and food system. This internal pricing analysis of industry players will tend to reveal strengths and weaknesses, aiding stakeholders and policy makers in marking out remedial measures to unleash the full industry potential. Similarly, the analysis will also tend to highlight the pricing opportunities and threats, facilitating industry players in making good, reasonable and sound agribusiness strategies, and make the industry more competitive in the wake of globalisation and liberalization.

There has been a modest, purposeful, consistent and methodical reporting of the factors that differentiate between use of successful versus unsuccessful pricing strategies (Jobber and Shipley, 2010). This is likely going to pinpoint the areas where players within the sector need to concentrate in order to competitively price their products. In spite of organization specific policy relevance, to date, no study as far as the researcher knows, has centred on scrutinizing price setting, strategies and policies in the Zimbabwean pork industry.

1.9 DELINEATION

The current research will focus only on pork producers, processors and retailers. It will not constitute other service providers that constitute the pork industry. Pork producers include pig farmers; processors include abattoirs, whilst butcheries constitute retailers. Pig farmers will constitute those who produce for sale and thus referred to as agribusiness, as are the processors and retailers. Pork products considered include meat only and not derivatives of it. The research will be done in Mashonaland Central Province in Zimbabwe.

1.10 LIMITATION

The research suggested pricing as a source of value creation in the pork industry. Value creation opportunities are enormous and this research does not pretend to be comprehensive. Production structures in agriculture are diverse (Giner, 2009). Value creation process will be at variance from one producer to the next. Standard strategies cannot be defined overall (Kokose and Ados, 2014). Price itself cannot be separated exclusively from the other marketing mix elements (Indounas, 2006). Price influences promotion, place and product, and vice-versa, price is also influenced by the other elements.

The study is also limited spatially as it incorporates only the Mashonaland Central Province pork industry which is just a part of the whole Zimbabwean pork industry. Thus, the results obtained cannot be generalized to the whole country and as such, any findings, conclusions and recommendations obtained are only pertinent to Mashonaland Central Province.

From a temporal as well as spatial perspective, the study is also limited in that it assumes an autarky micro-pork-industry economy by disregarding the fact that flow within the Mashonaland Central Province value chain is not limited to such and there are peripheral movements into and out of this chain. In reality, pork product movement goes beyond Mashonaland Central Province, to and from such markets as Harare.

1.11 ORGANIZATION OF THESIS

The thesis consists of six chapters. Chapter two highlights the Zimbabwean pork industry delineating it into its value chain, demographics, contribution of the industry to the economy in terms of multiplier and trade. Chapter three will concentrate on the various literature on value creation and value chain analysis, marketing and its component strategies contained within pricing, articulating literature related to the pricing objectives, pricing policies, price setting and the need for undertaking pricing research. Chapter four highlights the research methodology by singling out the Mashonaland Central Province study area in terms of its geographical location, demographics, settlement systems, land tenure, pig production, pork processing and pork retailing. The chapter goes on to identify the research methodology in terms of conceptual framework as well as literature on methodology utilised by other studies. The research design, methods and format are further parts of the chapter. The chapter also includes sections on the scope of the survey in terms of survey area, study unit and survey population, the sampling method in terms of the sampling technique and size. It also features data gathering techniques in terms of personal interview, cover letter and the questionnaire as well as data analysis in terms of cleaning, coding and processing of data, framework of data analysis in terms of the statistical analysis and identifying the limitations of the chosen research methodology. Chapter five will encompass the presentation of results and chapter six will close off with the discussions, conclusions and recommendations.

1.12 CHAPTER SUMMARY

The chapter outlined the background to the research. The terminology and problem statement were articulated. The research questions, objectives and hypotheses were singled out. Reasons for embarking on such a research and the organization of the research were the final parts of the chapter. The next chapter gives a detailed account of the Zimbabwean pork industry as part of a wider agricultural sector.

CHAPTER TWO

SYNOPSIS OF THE ZIMBABWEAN PORK INDUSTRY

2.1 INTRODUCTION

Agriculture is a major effective driver of economic growth in the third world countries (Chaumba, Scoones and Wolmer, 2003). It is indispensable in stimulating broad based economic growth through enhancing food security and reducing rural poverty (Musemwa, 2011; Mapfumo *et al*, 2012). It increases production for sustenance and fibre to provide for an increasing population as well as capturing surplus of labour from other business activities. Furthermore, agriculture produces net income to make available capital for investment in, and further development of, primary, secondary and tertiary industries. In addition it also delivers a market for the output of other business activities and an input into other businesses as well as earns export revenues, enabling import purchase (Malcolm, Makeham and Wright, 2005). Agricultural performance improvement of farmers and agribusinesses has potential to increase rural incomes and purchasing power for the majority of African people (Musemwa, 2011).

This chapter outlines what the Zimbabwean pork sector consists of, by first outlining the broader picture of the entire agricultural sector, subdividing it into the various Zimbabwean agro-ecological zones and then giving precedence to the livestock sector, the pork subsector and capping off with the chapter summary.

2.2 THE ZIMBABWE AGRICULTURE SECTOR

The agriculture sector is one the foremost contributors to the Zimbabwean economy as illustrated in Figure 2.1 (Musemwa, 2011; Mapfumo *et al*, 2012; United Nations (UN), 2010). It is a means of employment creation, poverty reduction and sustainable development for the country (Nyanga, 2013). The dynamics of agriculture's contribution towards GDP recognizes the seasonality and vulnerability of agricultural production. In glut years, the sector surpasses all other major economic contributors, such as was observed in the year 2001. Policy inconsistency in factors such as the land reform had major influences on the agricultural sector as

observed by the hugest slump in agricultural activity from 2002 to 2004 (Moyo and Nyoni, 2013). According to Mapfumo (2012) “the agricultural sector has a multiplier effect on any nation’s socio-economic and industrial fabric because of the multi-functional nature of agriculture”.

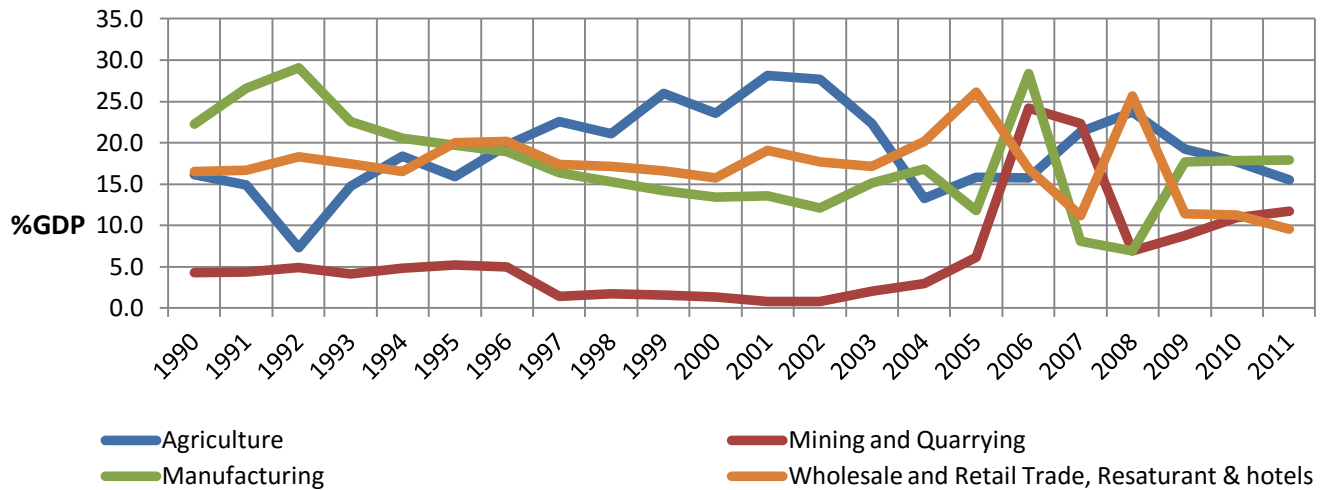


Figure 2.1: Sector contribution to GDP
Source: National Statistics Office (2012)

The agriculture sector’s contribution to GDP growth rate slumped by the highest margin of -32.2% in 2008 with the highest peak increase in 2009 of 90.0% (Figure 2.2). These slumps and jumps were precipitated by the then prevailing economic conditions of hyperinflation and subsequent introduction of the multicurrency system (Dawes, Murota, Jera, Masara and Sola, 2009; Richardson, 2013). The average growth rate of agriculture’s contribution towards GDP during the period was 2.8%. From Figure 2.2, it can also be observed that there was depressed growth rate of agriculture’s contribution towards GDP in years 1992, and 2001 throughout to 2007. These years were congruent with the Economic Structural Adjustment Programme (ESAP) of 1991 and subsequent drought (Bautista, Thomas, Muir-Lersche and Lofgram, 2002), the land reform program and the hyperinflationary environments respectively (Mutambara and Chingozho, 2011; Netherlands Ministry of Economic Affairs, 2014).

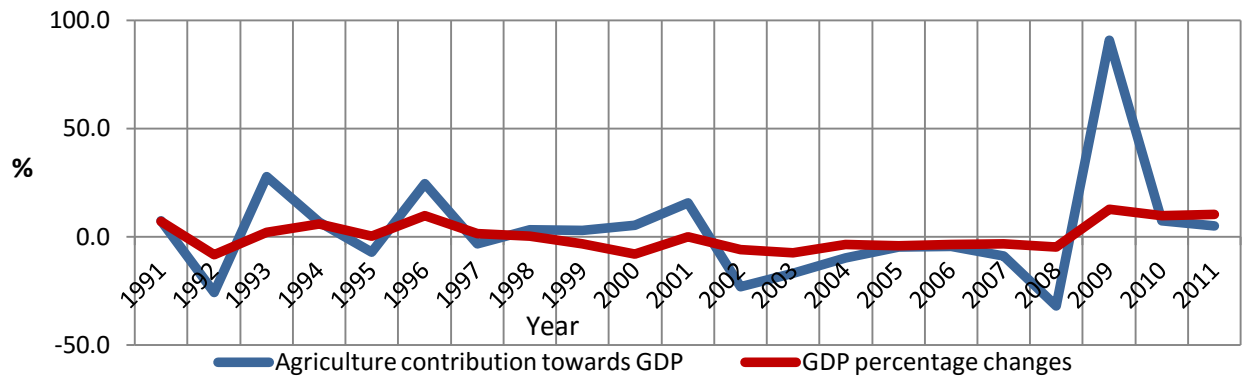


Figure 2.2: Agriculture sector contribution to GDP growth rate
Source: National Statistics Office (2012)

Improvements in the macro-economic environment spiked agriculture’s contribution to GDP (Netherlands Ministry of Economic Affairs, 2014). The spike meant that the economy managed to increase agro-based exports and reduce agro based imports as shown in Figure 2.3.

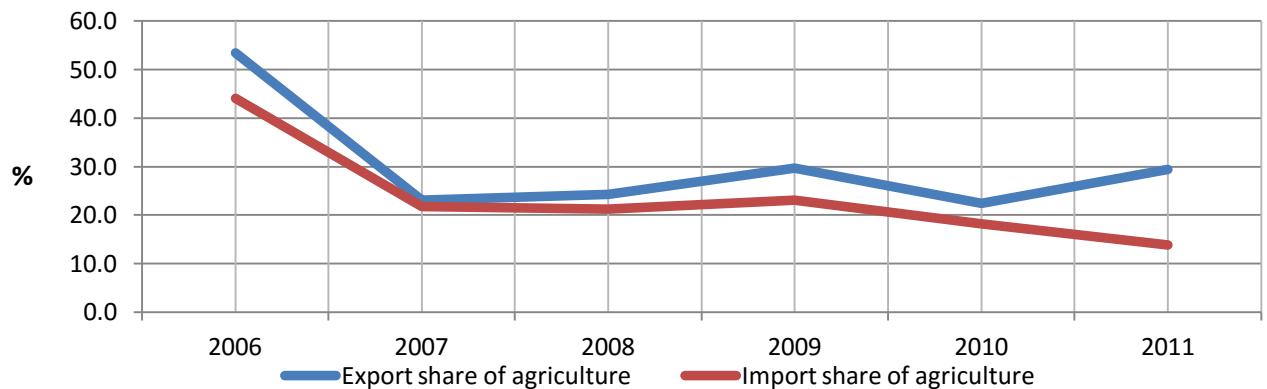


Figure 2.3: Agriculture share of trade
Source: FAOSTAT (2014)

Agricultural exports have mainly been driven by tobacco, which accounts for 23% of the country’s foreign currency earnings (Ministry of Finance and Economic Development, 2015; Indo-African Chamber of Commerce and Industry, 2014). This is at the backdrop of the country being the second largest flue-cured tobacco exporter in the world, until recently (Monyau and Bandara, 2015).

The sector employs the largest number of people within the economy (Mapfumo *et al*, 2012; Sukume, 2013) averaging 56.9%. This is at the backdrop of the country

having an unemployment rate of 85% (Nyanga, 2013). Accordingly, out of the 15% employed within the economy, half are accounted for by agriculture. The employment dynamics and movements are those observed in Figure 2.4. In as much as employment within the sector has been decreasing for the past decade from peaks of over 58% in the late 90s to 55% in 2010, the sector still employs the largest number within the economy. This decline might be due to changes in tenure dynamics within the sector, with increase of small holder systems, and also due to the depressed economic activity. Coupled with the fact that agriculture also provides manufacturing industry raw materials (Mapfumo, 2012; Tawonezvi *et al*, 2004), and thus is indirectly linked to employment within manufacturing, it is the most important and significant sector within the Zimbabwean economy. “The strong backward and forward linkages mean that a poor agricultural season has serious implications for the entire economy and this is reflected in national growth rates and private consumption” (Musemwa, 2011).

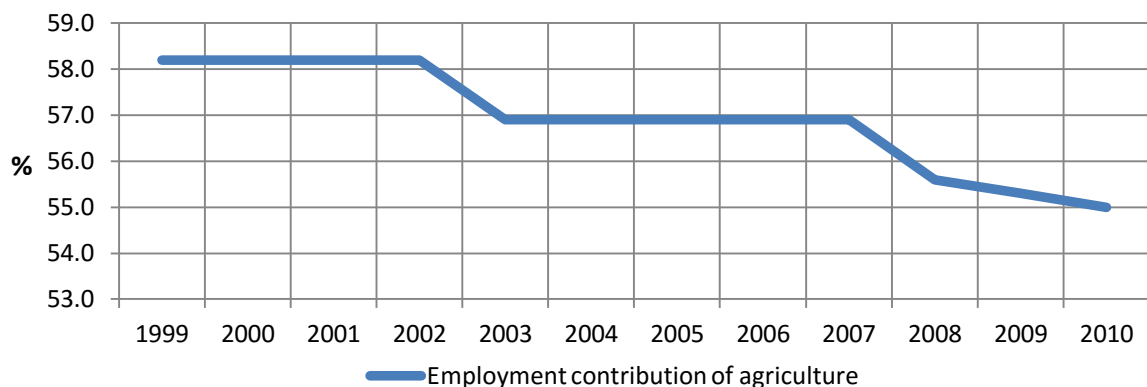


Figure 2.4: Employment dynamics in agriculture
Source: FAOSTAT (2014)

However, Luebker (2008) contends that employment is relatively made up of a higher proportion, 80%, of those in the informal sector, with lower incomes and poor working conditions. Furthermore, Nyanga (2013) argues that depressed employment uptake within the agriculture sector has been due to stigma associated with agriculture, where those employed are viewed as academically inferior to other science related professions and thus low uptake by youths. In addition, Nyanga (2013) goes on to identify the view of primitiveness of agriculture and thus reluctance

to engage in such a profession. This effectively makes the majority of those employed within the sector unskilled to semiskilled.

The agriculture sector in Zimbabwe is three tier, divided between commercial farming, small scale farming and communal farming (FAOSTAT, 2014) based on scale of agriculture. Basing on tenure, A₁ and A₂ ownership can also be added to the fold (Tawonezvi *et al*, 2004).

Seasonality of Zimbabwean agriculture is compounded by the farming regions within the country. These are climatic and land use regions which relegate agricultural production to specific areas within Zimbabwe. The next section highlights these natural farming regions.

2.2.1 Zimbabwe's agro-ecological zones

Zimbabwe covers an area of 390 000km², bordered by Zambia, South Africa, Mozambique, Namibia and Botswana (ZIMSTAT, 2014a; Tawonezvi *et al*, 2004).

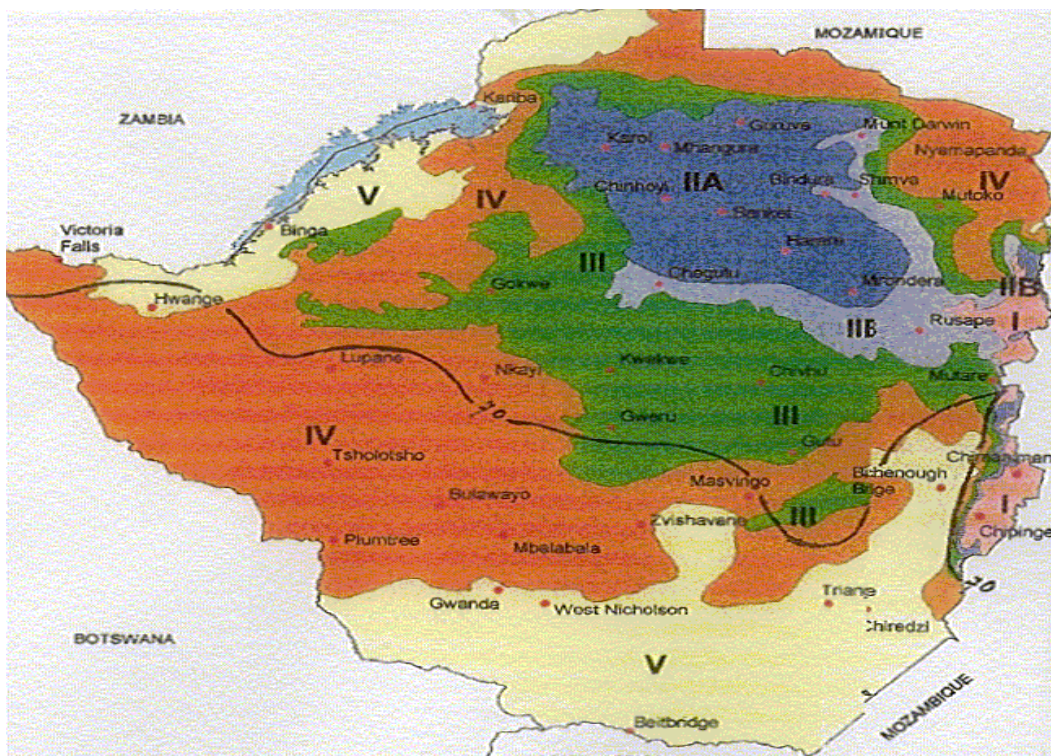


Figure 2.5: Zimbabwe's Five Agro-Ecological Zones
Source: Surveyor-General (1984) in Musemwa (2011)

The country is landlocked positioned between latitude 15 and 22⁰ south of the equator and between 26 and 34⁰ east of the Greenwich Meridian (Riddell, 1978 cited by Musemwa, 2011; Tawonezvi *et al*, 2004). It has a sub-tropical climate, with a rainy season between November and March, with reliability decreasing from north to south and also from east to west. Only 37% of the country receives adequate rainfall for agriculture. This has partitioned the country into agro-ecological zones in terms of rainfall amounts and temperatures (Musemwa, 2011; Mapfumo *et al*, 2012; Tawonezvi *et al*, 2004).

Table 2.1: Agro-ecological zones of Zimbabwe

Natural region	Area (km ²)	% of Total	Rainfall Characteristics	Type of Farming Practices
I	7000	2	More than 1 050mm annual rainfall with some rain throughout the year	Specialized and diversified farming
II	58600	15	Between 700mm and 1 050mm annual rainfall restricted to summer	Intensive farming
III	72900	18	Between 500 and 700mm annual rainfall. Sporadic heavy precipitation, subject to seasonal droughts	Semi intensive farming
IV	147800	38	Between 450 and 600mm annual rainfall, subject to recurrent seasonal droughts	Semi intensive farming
V	104400	27	On average 500mm and less annual rainfall, very inconsistent and undependable	Extensive farming

Source: Vincent and Thomas (1960) in Musemwa (2011)

Natural region I is characterised by afforestation, fruit and intensive production suitable to the high rainfall and low temperatures (Musemwa, 2011; Tawonezvi *et al*, 2004). Natural region II concentrates on maize, barley, cotton, coffee, sorghum, sugar beans, groundnuts, seed maize, flue-cured tobacco, and various horticultural crops. There is supplementary irrigation for wheat (Musemwa, 2011). Animal husbandry includes poultry, beef and dairying. These are favourable to the reasonably high rainfall. Semi-intensive farming is practiced in natural region III, characterised by modest rainfall, which is however infrequent, and high temperatures. Most of the land is used for beef production and dry-land maize (Tawonezvi *et al*, 2004). Irrigation plays a major role as it is characterised by sporadic seasonal droughts. Natural region IV practices semi-extensive farming, with moderately low rainfall totals and subject to sporadic seasonal droughts and harsh drought spells. Livestock production is the main agricultural activity in the region.

Extensive farming characterises natural region V, where rainfall is too low and unpredictable for dependable production for even drought resistant grain crops and fodder. It is characterised by cattle ranching and game ranching (Musemwa, 2011; Tawonezvi *et al*, 2004; Netherlands Economic Affairs Ministry, 2014).

2.3 THE LIVESTOCK SECTOR IN ZIMBABWE

Livestock production plays a significant role in most Southern African countries, with 70% of the population partly reliant on livestock (Maburutse, Mutibvu, Mbiriri and Kashangura, 2011), which contributes 53% of agricultural capital stock and 30% to agricultural GDP.

In Zimbabwe, the livestock sector has undergone major changes since the Fast Track Land Reform Program (FTLRP). In as much as the FTLRP has restructured access to land through equitable distribution of productive land. This was achieved by decongesting communal areas and de-racialising commercial agriculture (Tawonezvi *et al*, 2004). The program has transformed the dynamics of livestock husbandry and numbers of the various animals in the livestock sector (Mabhena, 2014). This has witnessed some livestock such as ostrich production suffering declines. The sector has a wide range of domesticated animals which include beef, dairy, poultry, pigs, goats and sheep (Tawonezvi *et al*, 2004). The current population stands at 5.6 million cattle, 4.4 million goats, 378 172 pigs, 295 938 sheep, 703 745 broilers, 1 679 030 layers, 11 494 710 indigenous chicken, 50 669 turkeys and 44 ostriches (ZIMSTAT, 2014a). The distribution of these livestock is shown in Figures 2.6 and 2.7. The communal areas consists of the largest number of all livestock with a total combined number of 8.4 million animals, consisting of more than 92% of the country's cattle (Netherlands Economic Affairs Ministry, 2014). They also account for 98% of goats, 84% of sheep and 60% of pigs (Agrisystems, 2000 in Assan, 2013a). A₁ farmers are endowed with 1.4 million animals, A₂ farmers with 563 026 animals, large scale commercial farmers with 217 002 animals and lastly the small scale commercial farmers with 178 998 animals (ZIMSTAT, 2014a). A report by the Netherlands Ministry of Foreign Affairs on Agribusiness opportunities in Zimbabwe (2014) identified the subsector as supporting 70% of the population, with potential to

increase contribution to the agricultural GDP from 19% to 36% (Tawonezvi *et al*, 2004; Swanepoel *et al*, 2010).

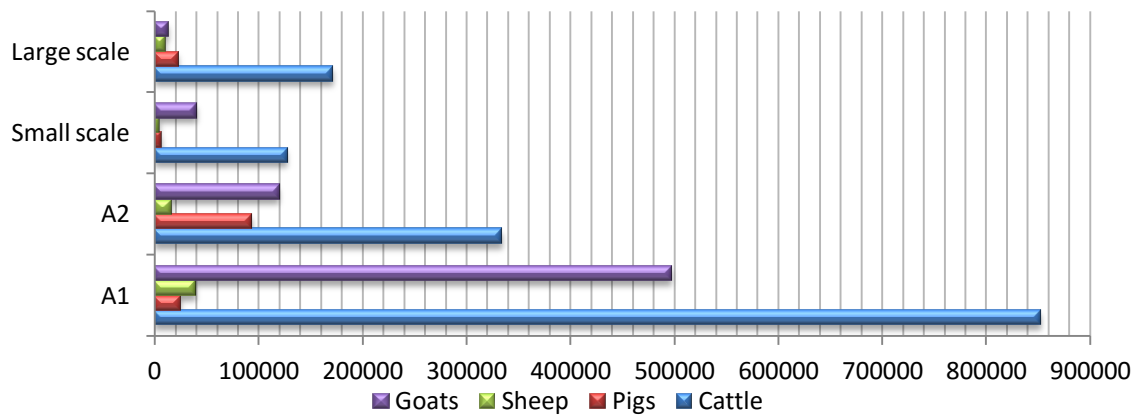


Figure 2.6: Distribution of livestock in large scale, small scale, A₁ and A₂ farms
Source: ZIMSTAT (2014a)

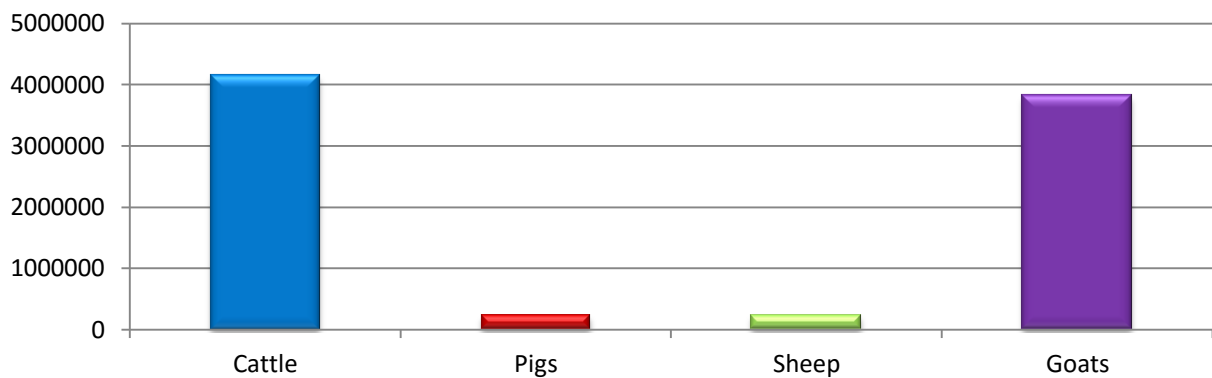


Figure 2.7: Distribution of livestock in communal areas
Source: ZIMSTAT (2014a)

Notwithstanding their dietary and economic significance, livestock also play a social and cultural role especially in communal areas (Assan, 2013a). These include accumulation and diversification of wealth, used as an indication of community status, insurance, savings and used for draught power (Tawonezvi *et al*, 2004).

2.3.1 Livestock consumption in Zimbabwe

Mutambara (2013b) opines that meat consumption in Zimbabwe is between 6 000 MT and 7 000 MT monthly, with beef and chicken accounting for more than half of

this, whilst other meat products, including pork, account for 2 000 MT. This is far below the peak levels of pre-dollarization era where a peak of between 8 000 MT and 10 000MT was envisaged, 70% being made of beef and chicken. Per capita meat consumption in Zimbabwe is 8.7 kg/year (USAID, 2010) cited by Mutambara (2013b).

The meat consumption pattern has significantly changed over the past 20 years in Zimbabwe (Sukume and Maleni, 2012). In 1992, per *capita* meat consumption was 12.4 kg/year, which decreased to 10.2 kg/year in 1997, increasing to 15.3 kg/year in 2002, with further increases to 18.6 kg/year in 2007*. In 2007, Zimbabwe was rated number 139 in the world in terms of meat consumption, with per capita beef consumption of 8.3 kg/year, poultry consumption of 4.5 kg/year, pork consumption of 2.2 kg/year and mutton and goat consumption of 1.2 kg/year†. Beef was the most consumed, averaging 13 kg/year in the 1980s. This has however currently dropped significantly, down to levels of 3.3 kg/year, the lowest in SADC. This drop has been replaced by pork and chicken consumption, with chicken now constituting 50% of all meat consumed 35% being beef and 15% shared amongst the other types of meat, pork inclusive (Sukume and Maleni, 2012). In addition, Sukume and Maleni (2012) identified the fact that meat consumption trends were influenced by the macroeconomic dynamics, as people were swayed towards cheaper protein sources during the economic turmoil of 2000 to 2008. Furthermore, changes in taste have also had an influence on the meat consumption patterns in Zimbabwe (Sukume and Maleni, 2012). Climatic variables appear to have effect on meat consumption especially where low levels were envisaged in 1992 when there was a drought coupled with the Economic Structural Adjustment Program (ESAP), but it however increased in 2002, which was also characterised by drought. The only differentiating factor between these two years was the economic transformation or economic adjustment of 1992 and land reform of 2000. Thus, meat consumption in Zimbabwe appears to be mainly influenced by the economic conditions of the country.

In a related study by Mutsikiwa and Basera (2012) which analysed the factors influencing Halal food consumption in Zimbabwe, it was identified that food consumption in the country is attributed to the socio-cultural orientations within

* www.knoema.com/search?query=meat%20consumption%20in%20Zimbabwe (accessed 31 September, 2015)

† "Kings of Carnivores", www.economist.com, April 30, 2012 (accessed 31 September, 2015)

religious groups. They highlighted that socio-cultural factors such as educational level, occupation and social stratification had little effect on consumption perception, but it was religious orientation among the affected groups which had more influence on consumption of pig meat (Mutsikwa and Basera, 2012). This offer a contentious issue to the current study as pork consumption has a religious orientation, especially given that Christians constitute 70%, traditional religions practitioners attribute 23% and Moslems account for 3% of the total country’s population (Mutsikwa and Basera, 2012). This pattern of population distribution by religion indirectly influence pork consumption.

2.4 ZIMBABWE’S PORK SUBSECTOR

2.4.1 Value chain in the Zimbabwean pork industry

Mutambara (2013b) articulates that the pork industry value chain, as depicted in Figure 2.8, consists of input suppliers, producers, farmers, processors and the end market.

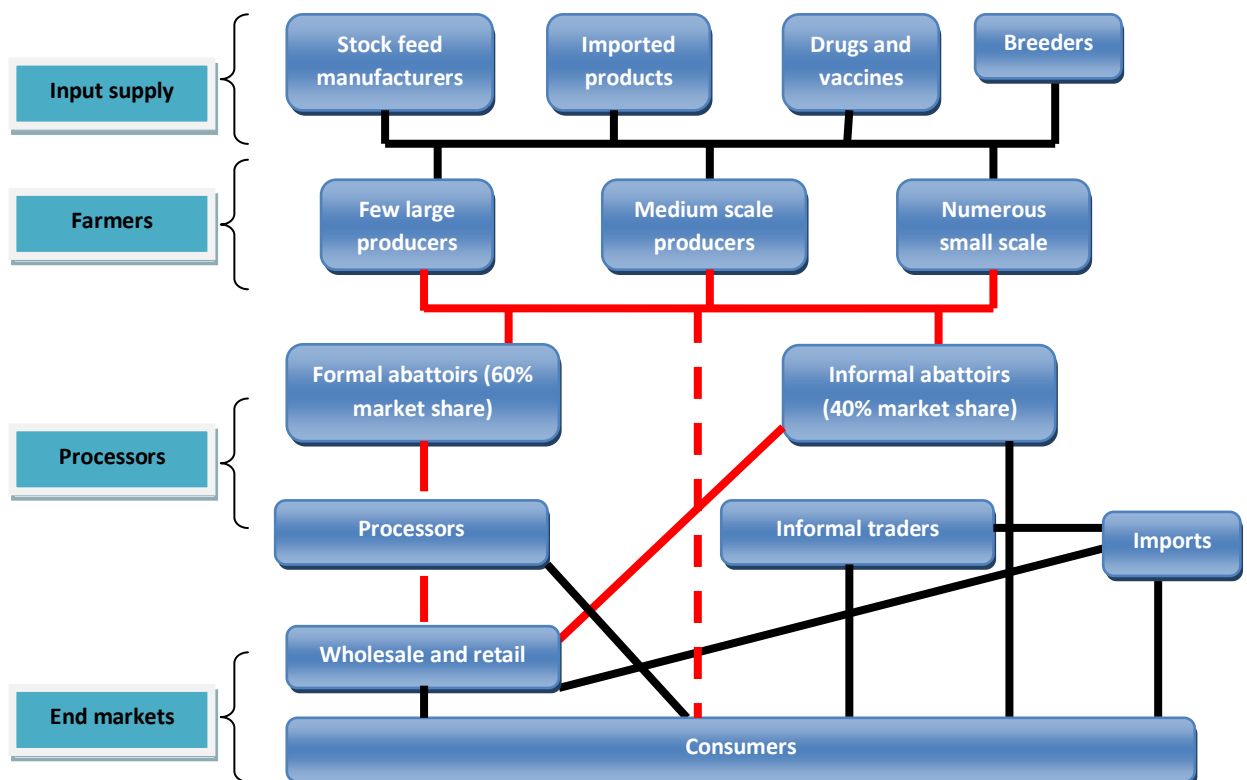


Figure 2.8: Zimbabwe pork value chain
Source: Adapted from Mutambara (2013b:63)

The input sector consists of feed manufacturers, pig breeders and veterinary services as well as vaccine and drugs producers. The production sector is composed of large scale, medium scale and various small scale producers. The processing sector is made up of abattoirs, both formal and informal, with the retail sector consisting of numerous butcheries, numerous supermarkets and other abattoirs (Mutambara, 2013b). There are other service providers like LMAC and PIB who assist in conduct along the value chain to guarantee product delivery.

The pork value chain has been influenced by utilization of genetically inferior breeds as a result of inbreeding, feed costs and the recent de-stocking which has been peculiar to the industry since 2013 (Livestock Sector Review, 2015). The current drought extremity is likely to further destock the industry and thus hinder its growth. A study by International Labour Organization (ILO) (2010) identified that the pork value chain had a limited growth potential unlike other agricultural value chains such as poultry and crop production in terms of tobacco, soya and cotton. The reliance of the industry on stock feed constituent producers for crops such as maize, soya bean and cotton seed makes the industry vulnerable to socio-economic variables and weather extremities affecting these sectors. The reduced yield in maize and its bran, soya bean, wheat bran, and other micro-nutrient sources due to factors ranging from drought, macroeconomic policies concerning indigenization, trade and VAT, which are not conducive and affect the stock feed industry, will indirectly influence the pork industry (Livestock Sector Review, 2015).

2.4.2 Pig producers in Zimbabwe

The largest number of pig producers in the country are communal farmers, numbering well over 60 000 as shown in Figure 2.9. There are far less pig producers in the other farming areas, with the least coming from large scale-producers. Total numbers of pig producers, by Province are: 14 537 for Manicaland; 8 805 Mashonaland Central; 11 435 Mashonaland East; 7 967 Mashonaland West; 3 727 Matebeleland North; 1 448 Matebeleland South; 11 179 Midlands; and 8 900 Masvingo. Total number of pig producers in the whole country is 67 998 (ZIMSTAT, 2014a).

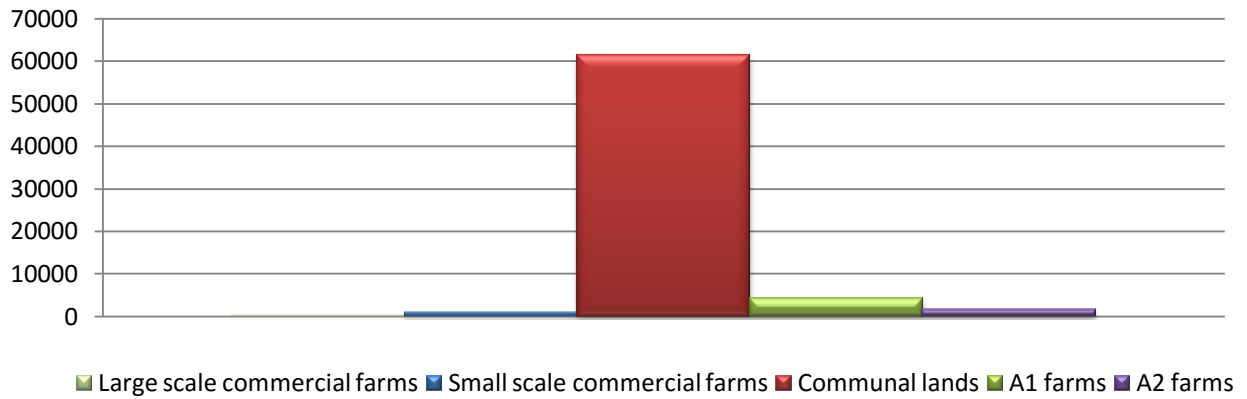


Figure 2.9: Pig farmers by tenure
Source: ZIMSTAT (2014a)

Figure 2.10 shows how the provincial pig producers are distributed amongst the various large scale, small scale, communal, A₁ and A₂ farmers.

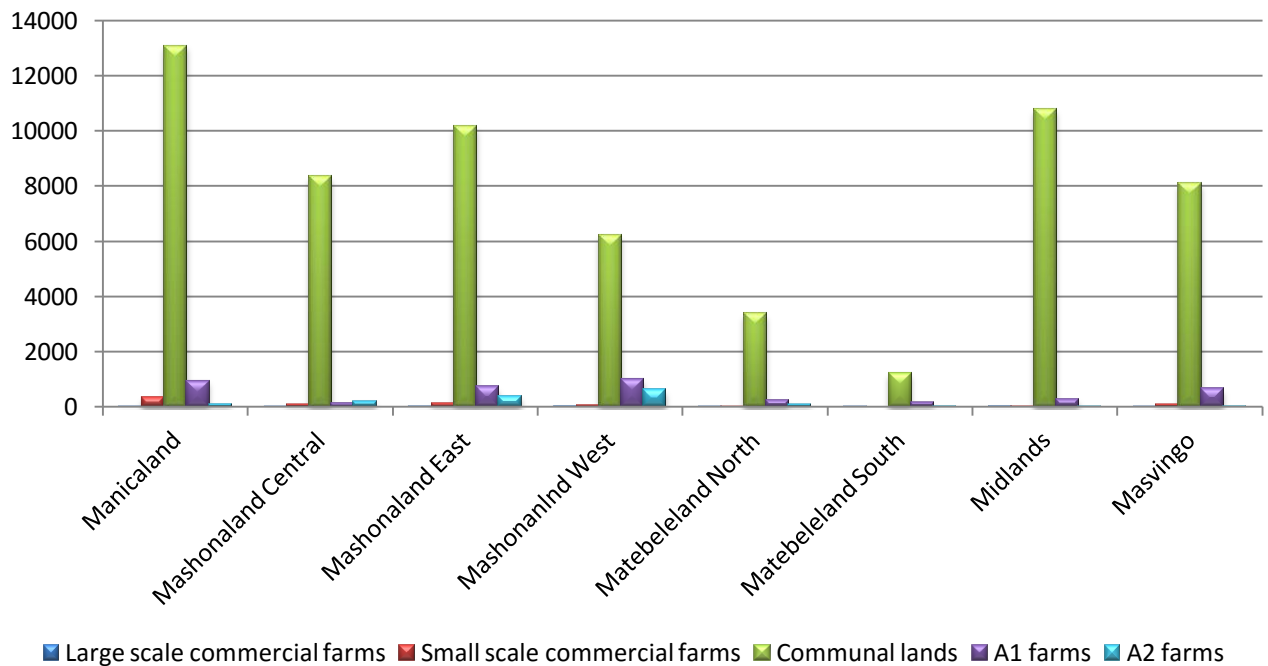


Figure 2.10: Pig farmers by Province
Source: ZIMSTAT (2014a)

The largest number of communal pig farmers and small-scale farmers are found in Manicaland Province. Mashonaland West Province has the highest number of A₁ and A₂ pig farmers. Unlike other commercial agriculture enterprises, pork production is not directly affected by the climatic conditions within the area, mainly because it

utilises sophisticated technologies which tend to regulate climatic conditions. This rules out explaining the distribution of production being peculiar to agro-ecological zones. An identified factor influencing this distribution is the occurrence of Foot and Mouth Disease, where there is high incidence in Matebeleland, Midlands and Masvingo Provinces, thereby reducing commercial pig numbers within such areas (Livestock Sector Review, 2015).

2.4.3 Pig abattoirs in Zimbabwe

Abattoirs are registered slaughter facilities that buy and slaughter livestock from pig producers. Colcom Foods Limited is Zimbabwe’s largest abattoir processing 5000 pigs per week (Mutambara, 2013b). They sell processed meat to wholesalers and retailers. These facilities must meet prescribed standards if they are to offer products both nationally and internationally. The country has a total number of one hundred and twenty three registered pork abattoirs with distributions shown in Figure 2.11 (Sukume, 2015). Mashonaland West Province has the highest number of registered abattoirs with twenty one followed by Masvingo with twenty. Harare has fifteen pork abattoirs, with both Mashonaland East and Central having fourteen each. The least number of abattoirs is found in Bulawayo with only two pork abattoirs.

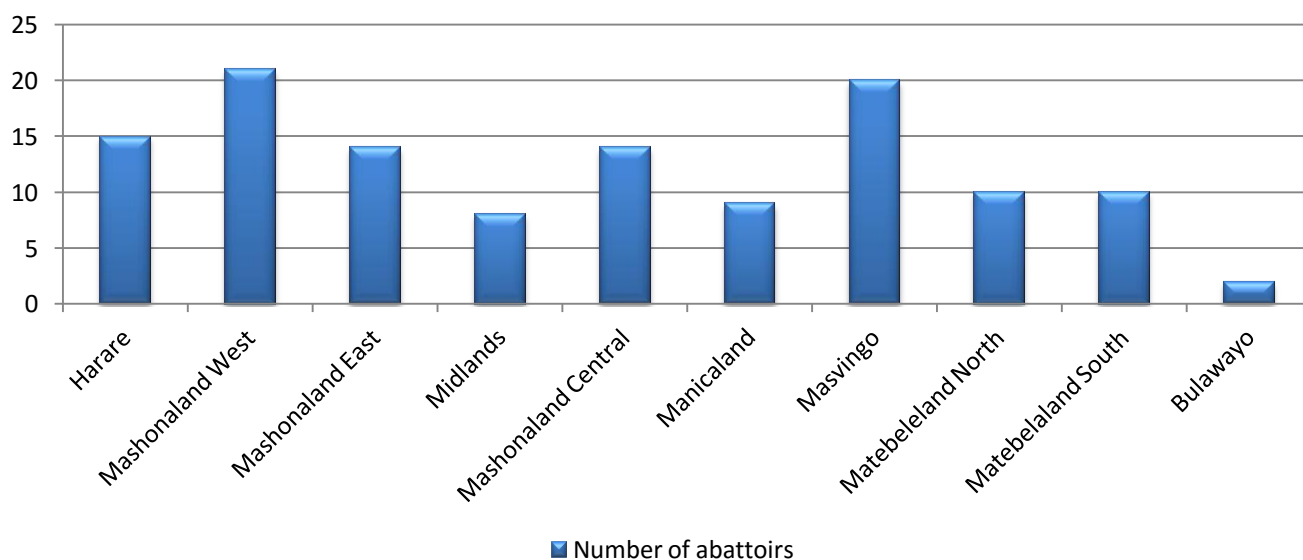


Figure 2.11: Pig abattoirs by Province
Source: Sukume (2015⁴)

There are a number of unregistered and small slaughter houses (Mutambara, 2013b). These are necessitated by some areas especially rural areas not having

registered abattoirs and the prohibitive costs of slaughtering animals in registered abattoirs. Registered abattoirs process over 50% porkers, 30% baconers and the remainder being general and manufacturing classes (Mutambara, 2013b).

Abattoir operations have had an effect on the meat processing industry which has witnessed growth since 2009 (Livestock Sector Review, 2015). This growing sector has mainly utilised by-products to value-add and produce products such as vienna sausages, polony, boerewors, burgers, mincemeat and sausages amongst others

2.4.4 Pig numbers, output and value in Zimbabwe

Pig numbers, as shown in Figure 2.12, have increased from an average of 200 000 per year in the 90s to an average of 500 000 per year in the first decade of the twenty first century (FAOSTAT, 2015)

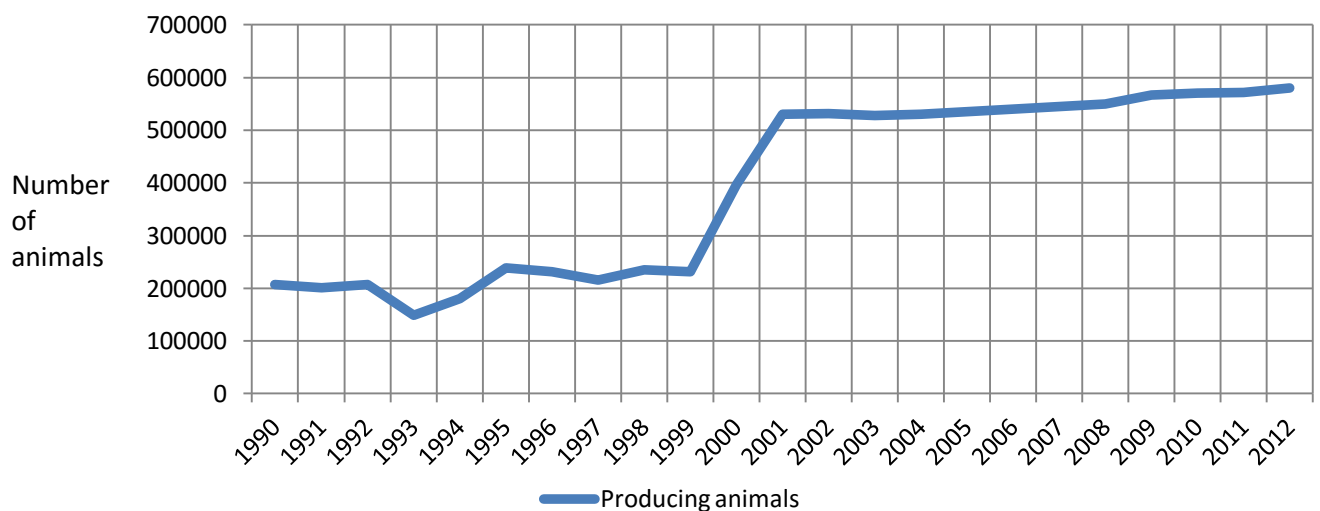


Figure 2.12: Pig numbers
Source: FAOSTAT (2015)

Compared to the situation in the Southern African region, Figure 2.13 shows that Zimbabwe has lower pig numbers than South Africa, Mozambique, Zambia, Angola and Madagascar. Zimbabwe only surpasses Namibia, Botswana, Swaziland and Lesotho in terms of pig numbers.

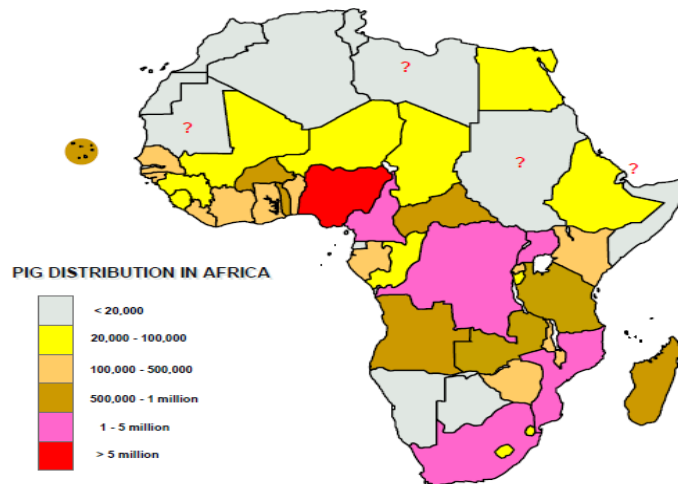


Figure 2.13: Pig distribution in Africa
Source: Willingham, Johansen and Thamsborg (2009)

A₂ farmers account for the largest number of well over 90 000 pigs, followed by the communal areas with just over 60 000 pigs. Figure 2.14 shows that small scale producers account for the least number of pigs, with numbers below 10 000 (ZIMSTAT, 2014a).

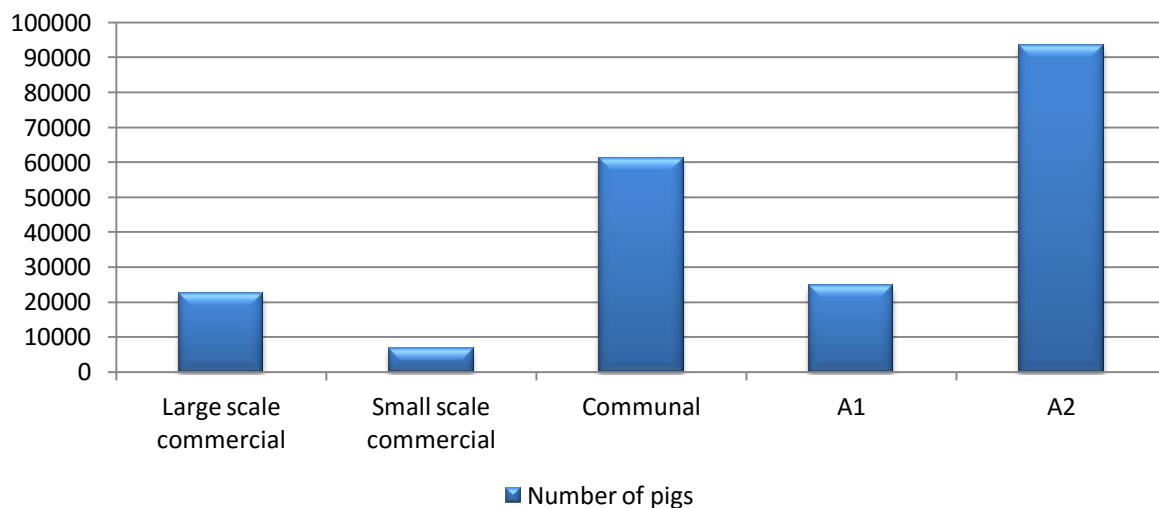


Figure 2.14: Pig numbers by tenure
Source: ZIMSTAT (2014a)

In the commercial sector, 75% of the pig breeds is made up of Large White, Landrace and Duroc with Daland making up the other 25% (Tawonezvi *et al*, 2004). These are mainly kept for their genetic superiority (Assan, 2013b). The communal areas produce the indigenous Mukota pig breeds (Chimonyo, Bhebhe, Dzama,

Halimani and Kanengoni, 2005; Halimani, Muchadeyi, Chimonyo and Dzama, 2013). The indigenous pigs are confined to the communal areas because of their lower reproductive rates, adaptability to the harsh conditions and resource inadequacy of the farmers. The objectives of keeping the indigenous breed range from use in social and cultural ceremonies to providing financial security, storing wealth and use in home consumption (Assan, 2013b; Mashatise, Hamudikuwanda, Dzama, Chimonyo and Kanengoni, 2005).

The total industry output from pig producers has followed the pig number trend with pig meat tonnage produced increasing from averages of 10 000 tonnes per year in the 90s to averages of just under 30 000 tonnes per year in the following years as shown in Figure 2.15. The current average is 29 000 tonnes per year (FAOSTAT, 2015).

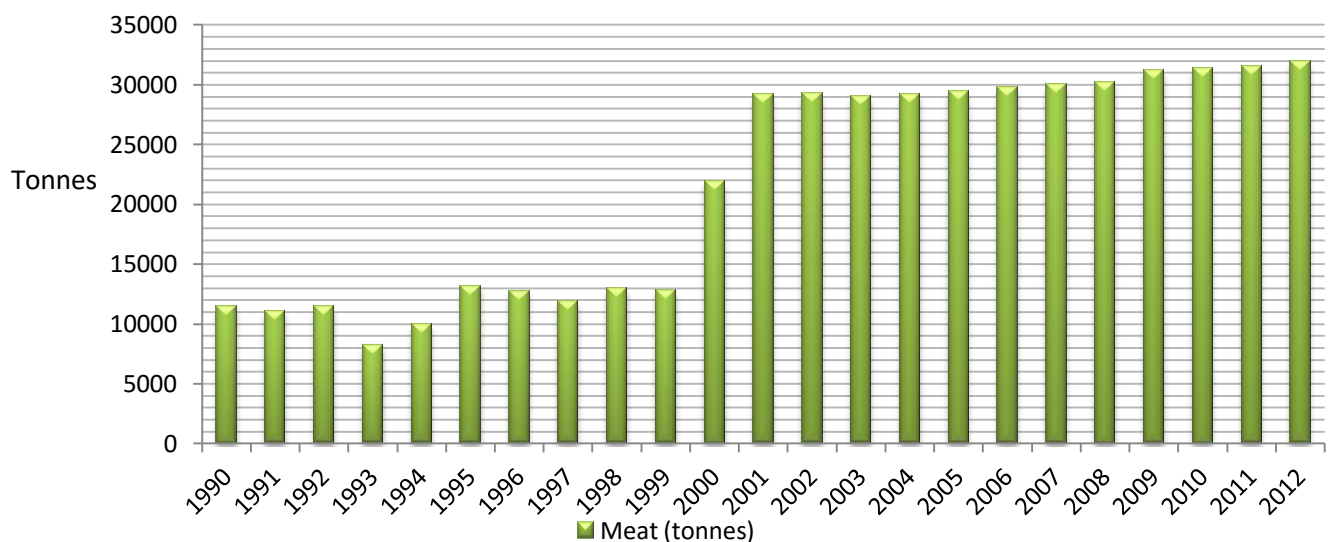


Figure 2.15: Pork output
Source: FAOSTAT (2015)

The pork output trend, as shown in Figure 2.16, has also meant that the value of pork produced has also increased likewise from an average of US\$200 000 per year in the 90s to an average of US\$500 000 per year in the first decade of the twenty first century (FAOSTAT, 2015).

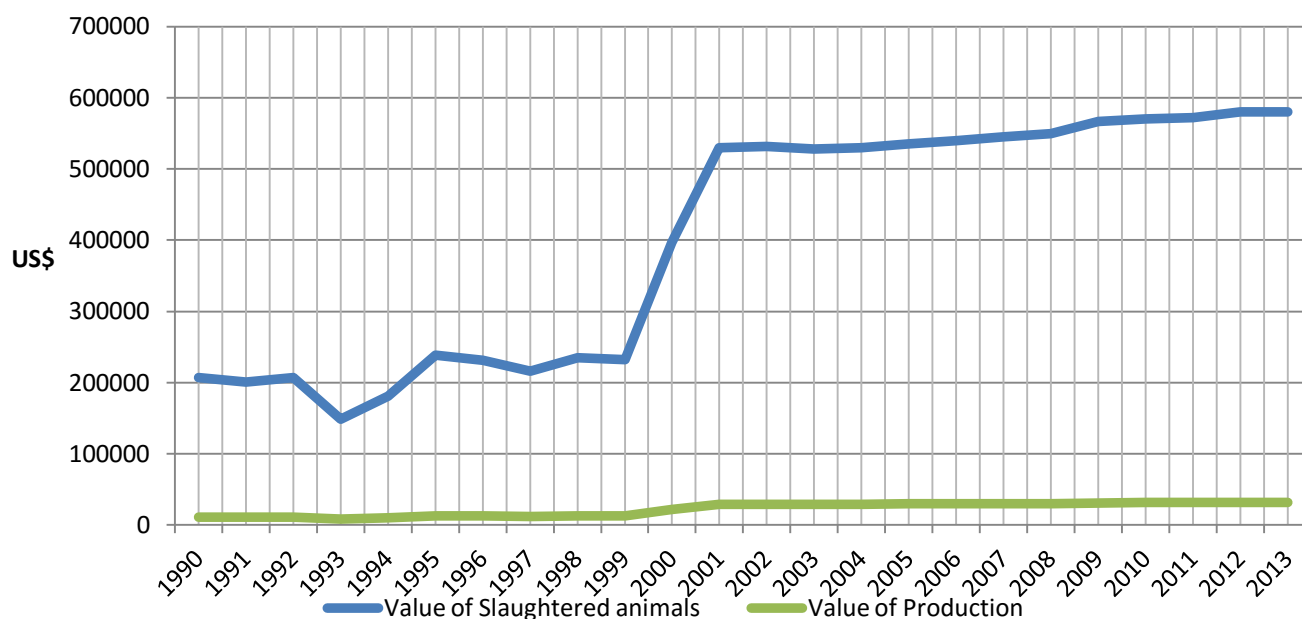


Figure 2.16: Value of pork production and slaughtered animals
Source: FAOSTAT (2015)

2.4.5 Pork butcheries in Zimbabwe

Butcheries are central in coordinating activities required to connect pig farmers to pork consumers (Levy, 2014). Zimbabwe has a number of butcheries and supermarkets procuring mainly processed pork from colcom and raw pork from other abattoirs for sale (Mutambara, 2013b).

There has recently been a growth of unlicensed street meat vending within the country's major towns such as Harare, Bulawayo and Masvingo (Njaya, 2014). Though illegal, it has improved incomes and reduced unemployment. Njaya (2014) argues that their formation is either a coping strategy to rising unemployment or a well calculated strategy to escape government regulations. A study by Scoones (2008) in Masvingo identified that there has been a growth in the number of butcheries. In addition, Scoones (2008) identified supermarkets as players within the meat retail sector but are mainly swayed towards the high premium grades. Furthermore, there is a rise in illegal mobile vendors, selling cheap and imported meat products. Some butchers have resorted to vertical integration, in addition to their varied product portfolio, to include food selling as a product bundle in their marketing strategy (Scoones, 2008).

2.4.6 Multiplier influence of Pork on the Zimbabwean economy

Local pig production contributes to employment creation and the fiscal through taxes in addition to downstream industry operations (PIB, 2014). Upstream industry has also benefited from pig production. Figure 2.17 shows that the largest inputs into pig production is homemade feed consisting mainly of maize and soyabean (PIB, 2014) with a value of over US\$8 million attributed to pig production in 2012. Pig producers thus offer a ready market for localised producers of such crops. It is also a ready market for stockfeed producers such as Profeeds, Agrifoods and National Foods, with the pig industry constituting over US\$5 million worth of purchases in that same year (ZIMSTAT, 2014a). Other players in the industry offering products such as vaccines, veterinary services and dipping services individually provided below US\$1 million worth of services (ZIMSTAT, 2014a).

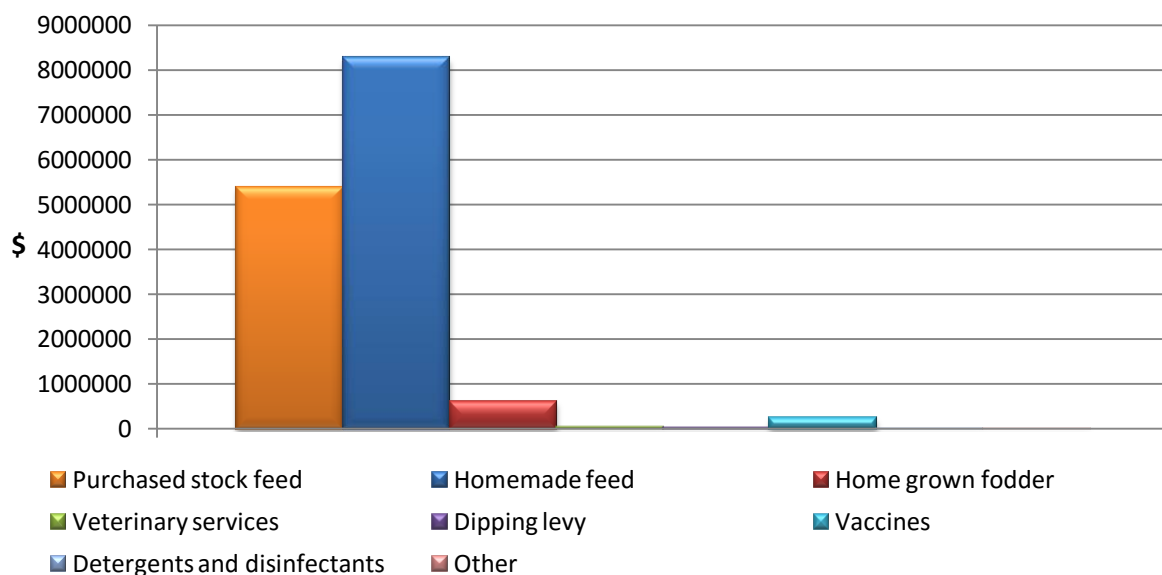


Figure 2.17: Micro-economy influence of pork production
Source: ZIMSTAT (2014a)

Figure 2.18 shows that the largest use of homemade feed is observed for A₂ farmers (65%) followed by A₁ farmers (55%). The least users being small scale pig farmers (37%). The small scale farmers compensate for this by utilising more of purchased stock feed (57%) followed by large scale producers (42%). The least users of purchased stock feeds are A₂ pig producers (ZIMSTAT, 2014a). Large scale

commercial farmers account for more veterinary services (12%) followed by communal farmers (9%) whilst A₁ farmers are the least users of veterinary services.

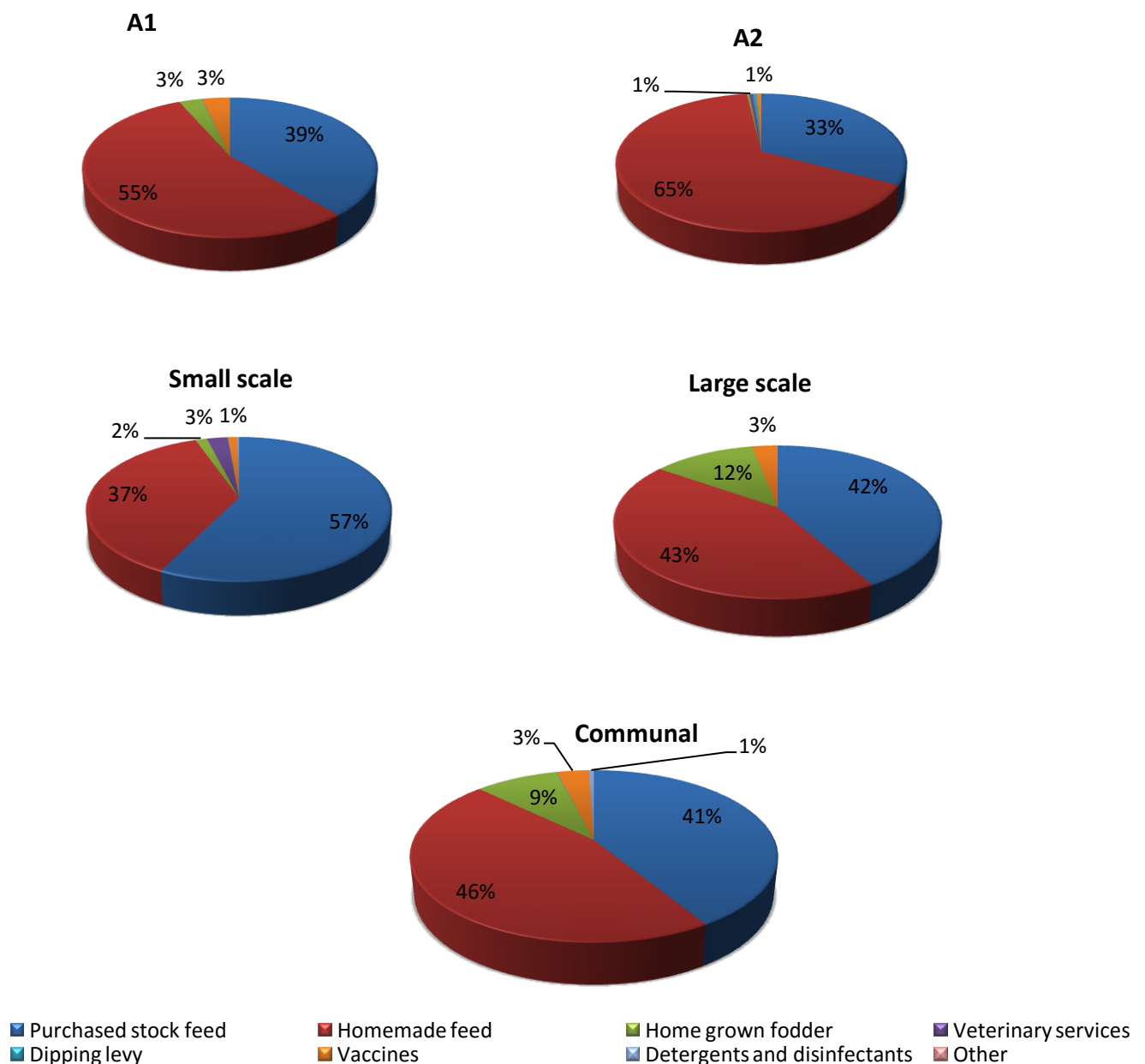


Figure 2.18: Influence of pig production on upstream industry by size of holding
Source: ZIMSTAT (2014a)

Dynamism in the use of upstream industry inputs as observed in Figure 2.18 are due to the resource endowments of the various pig producers. For instance, the small scale producers, such as the A₁ and A₂ producers, utilise mainly input constituents, such as homemade feed, which they can easily supplement from other farming activities or source relatively cheaply from surrounding farming areas (Tawonezvi *et*

al, 2004; Halimani *et al*, 2013). Purchased stock feeds and veterinary service utilisation are constrained due to the unavailability of resources. On the other hand, the commercial producers, both small scale and large scale, utilise purchased stock feeds mainly to improve turnover and have a relatively larger resource base.

There is a symbiotic relationship between the stockfeed sector and the livestock sector in Zimbabwe (Livestock Sector Overview, 2015). Major stock feed producers such as maize and soya bean products are thus also reliant upon the industry especially given that the sole buyer of such commodities, the Grain Marketing Board, has been faced with viability constraints, and as thus, the pork industry offers a ready alternative. The industry is also plays as a market for stock feed constituent products such as the cotton industry where the seed cake produced can be utilised. This has a multiplier effect of offering a ready market for cotton seed processors, and thus employment creation within such industries (ILO, 2010).

2.4.7 Import and export of pork in Zimbabwe

There was a gradual increase in the export quantities and value of pig meat from the early 90s to the late 90s.

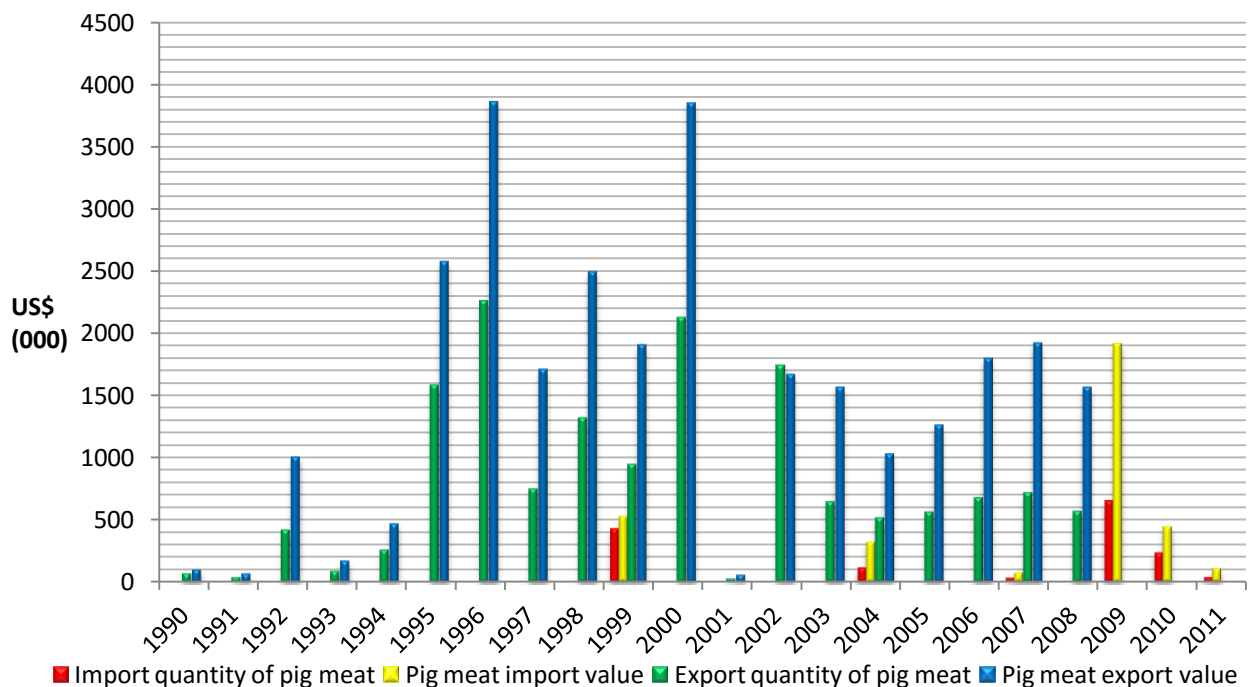


Figure 2.19: Export and import of pork
Source: FAOSTAT (2015)

Figure 2.19 shows that in 1990 the export quantity was 71 tonnes with a value of US\$99 000. There were peak values of US\$3.86 million and US\$3.85 million in years 1996 and 2000 where 2 257 and 2 122 tonnes were exported, respectively. Pig meat export quantities and value then declined from there on with lowest value in 2001 in which only 31 tonnes was exported at a value of US\$58 000. Subsequently, there was an increase and stabilization from there on at an average of over US\$1 million in export value until 2009 with the ban of exports due to foot and mouth disease (FAOSTAT, 2015). Pig meat importation was significant in 2009, 1999 and 2010 with import quantities of 647 tonnes, 426 tonnes and 236 tonnes at values of US\$1.9 million, US\$528 000 and US\$447 000, respectively.

In the processed pork meat subsector, prepared pig meat export value had highest values of US\$3.8 million, US\$2.8 million and US\$2.7 million in 2006, 2007 and 2004, respectively. The least value was observed in 2001, 2010 and 2011 in which there were no exports (FAOSTAT, 2015). Figure 2.20 also shows that for pork sausages the highest pork export was obtained in 2000, 1999 and 1998 in which value of exports was US\$359 000, US\$281 000 and US\$191 000 respectively.

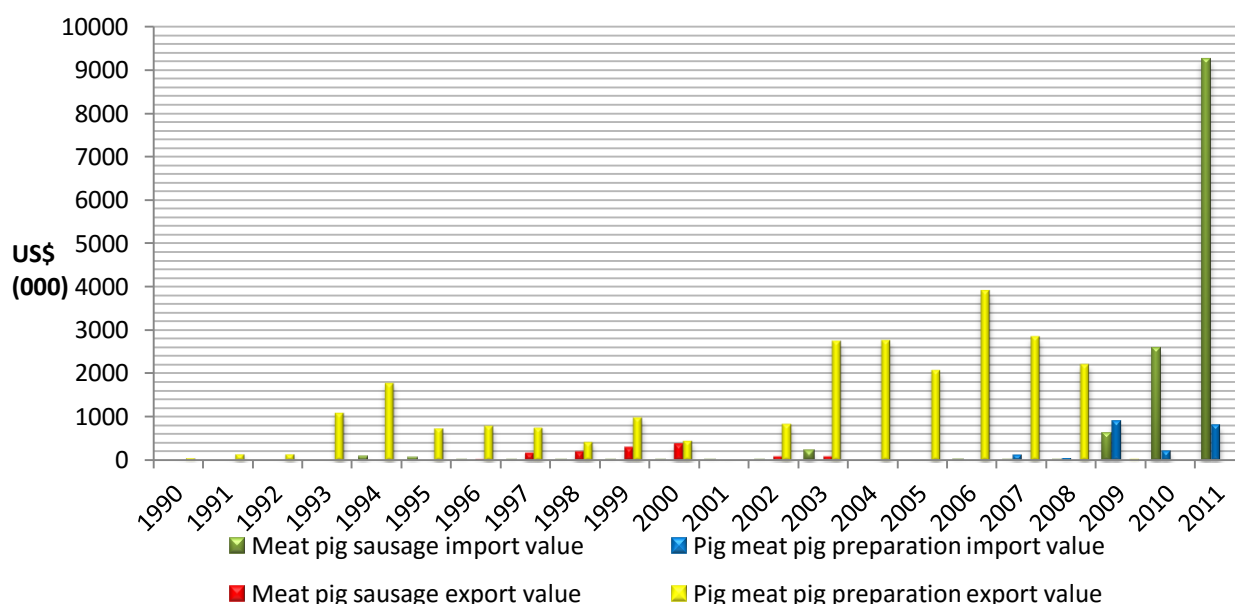


Figure 2.20: Export and import of processed pork products
Source: FAOSTAT (2015)

Prepared pork meat had import values of US\$881 000, US\$791 000 and US\$220 000 in 2009, 2011 and 2010 respectively. The least values where no prepared pork was imported in years 2004, 1997 and 1999. Pork sausages had highest import values of US\$9.2 million, US\$2.5 million and US\$607 000 in 2011, 2010 and 2009 respectively. Periods such as 2005, 2004 and 1993 had no pork sausage imports (FAOSTAT, 2015).

In a related study in the Zimbabwean broiler industry, Mudzonga (2009) noted that trade liberalization and openness have promoted income and growth, by stimulating production. However, in the short run, local producers suffer especially when the productivity is way below the required output. This tends to result in import-induced-depressed prices resulting in producer loss being incurred. This has been so for the pork industry. Chitsiga (2004) showed that reduction and removal of tariffs favoured the crop sector relative to others, as this sector has more export oriented products. Zimbabwe is party to various trading groups which include Common Market for Eastern and Southern Africa (COMESA), Southern Africa Development Community (SADC), free trade areas and Preferential Trade Agreement (PTA) with South Africa (Hurungo, 2007). The country is also advocating for a free trade area status through the EAC-SADC-COMESA tripartite agreement. The PTA trade policy has resulted in the trade flows as envisaged in Figures 2.19 and 2.20. These trading areas tend to reduce trade barriers through reduction in tariffs and thus have an effect on trade flows (Zengeni, 2014). Export dynamics were also influenced by the weather patterns especially in years 1992 and 2002, which were envisaged by drought, and thus reduced the stock feed base of the country where its constituents were converted into human consumables. Government policy of also waiving duty on imported foodstuffs as a measure in combating food shortages during the economic turmoil meant there was an influx of imported pork products into the country especially in 2009 (Zengeni, 2014).

2.4.8 Factors affecting pork production in Zimbabwe

Mutambara and Chingozho (2011) as well as the Livestock and Meat Advisory Council (LMAC) (2014) identified the following factors as affecting pork production in Zimbabwe: availability of quality of breeding stock, constraints in stock feed

production, trade policy ban of GMOs, dumping of international pork products, unaffordable ancillary services and high cost of compliance.

Availability and quality of breeding stock. Pig producers utilise retained gilts in production systems (Mutambara, 2013b). This reduces the quality of breeding stock which reduces productivity. Constraints in stock feed production which has been indirectly influenced by reductions in production of stock feed constituents of maize and soya beans (Mutambara, 2013b). Trade policy ban of GMOs which limits availability of low cost stock feeds. Reversal of such a policy will likely reduce cost of producing pigs since GMO constituents of stock feeds would be imported at a lower cost in magnitudes of 10% for soya beans and 5% for maize. Producer profit is likely to double if GMO soya bean is allowed to be imported whilst producer profit will increase by 80% if GMO maize is allowed to be imported (Mutambara and Chingozho, 2011). Dumping of international pork products and other meat products from South Africa, Brazil, USA and Canada. Mitigation of this dumping is likely to increase pig producer price by 21%, with however a retail price increase of 4% (Mutambara and Chingozho, 2011). They go on further to indicate that producer profits will likely treble if such a step is undertaken. Unaffordable cost of ancillary services such as veterinary and extension. The skills gap created by the land reform program where trained commercial farmers were replaced by untrained subsistence farmers has drastically impacted the sector (Mutambara, 2013b). Unavailability of low cost finance necessitated by the illiquid economy. The economy provides short term credit at exorbitant interest rates of between 15% and 30% compounded with unbankable land holdings which is not viable for the pork industry. Even though the Central Bank urged the lending institutions to reduce the interest rates to levels between 6% and 18% (Mangudya, 2015), it is still costly for business borrowing purposes. This tends to limit capital intensive production due to limit in infrastructural development and working capital (Mutambara, 2013b). High cost of regulatory compliance (Chamboko and Erasmus, 2014). Regulatory compliance constitutes 7.8% of total cost of producing and transporting pigs to abattoir from small scale farms and 4.8% from large scale farms. The cost of movement and import duty on soya contribute the highest (Table 2.2).

Table 2.2: Cost of regulatory compliance in the pork sector

Pork Sector Regulatory Costs		
Regulatory Cost (farm to abattoir)	Large scale farm	Small scale farm
Fixed regulatory cost	\$/animal sold	\$/animal sold
ASF	0.10	1.01
Land unit tax	0.03	0.05
EMA	0.83	2.28
Union	0.33	0.28
ZINWA	0.08	
Sub-total	1.37	3.61
Variable regulatory cost		
MoAMID Levy	2.11	2.12
Grading	1.00	1.00
Inspection	1.00	1.00
Import duty on soya meal	2.21	2.21
Movement permit	2.10	6.30
Sub-total	8.43	12.63
Total of farm to abattoir regulatory costs	9.80	16.24
Processing and Distribution regulatory costs		
Plant Registration		
VPH	\$0.06	\$0.06
AMA	\$0.15	\$0.15
EMA	\$0.39	\$0.39
Meat Inspection and Transfer Certificate per lot	\$0.02	\$0.02
Sub-total	\$0.62	\$0.62
Grand Total Value Chain	\$10.42	\$16.86

Source: Chamboko and Erasmus (2014)

2.5 CHAPTER SUMMARY

Agriculture is a major player in the Zimbabwean economy. Activities within the sector have been relegated to specific agro-ecological zones. Livestock production is one of the major sectors within the agricultural sector. There are various livestock within the country of which pig is a part. The pork sector has many players from the stock feed suppliers and breeders, through the producers and abattoirs down to the processors and retailers. The major actors in pig production are the communal farmers, with production spread across the various Provinces in the country. The pork abattoirs are also spread across the country, but their numbers are however lower is be expected. Pork butchereries are quite numerous, further compounded by unregistered operators. Pig numbers average 500 000 with much of the numbers within the A₂

farms. Production of pork meat has averaged 29 000 tonnes per year with a value of US\$500 000. Pig production has influenced upstream industry by influencing the soya bean and maize production sectors with value of purchases of up to US\$8 million in certain years. The stock feed industry has also benefited from pig production with annual purchases as high as US\$5 million. At its peak, the industry had US\$3.86 million worth of meat exports at a backdrop of US\$1.9 million worth of imports annually. Processed pork exports achieved highs of US\$3.8 million for prepared meat and US\$359 000 for pork sausages. Imports amounted to values of US\$881 000 and US\$9.2 million for prepared pork meat and pork sausages, respectively. The industry is facing enormous challenges precipitated by factors ranging from availability of breeding stock, stock feed production constraints to availability of low cost finance.

The Zimbabwean pork industry has the capacity to earn the country US\$10 million annually[‡]. To investigate such an assertion, there is need to highlight the value creating activities, marketing and pricing peculiarities within the industry. The next chapter outlines literature concerning value creating activities, marketing and pricing within pork industries.

[‡] Zimbabwe: Pig Industry on Recovery Course, The Herald , May 1 www.allafrica.com/stories/200605010917.html (accessed 10/06/15)

CHAPTER THREE

VALUE CREATION, MARKETING AND PRICING

3.1 INTRODUCTION

This chapter reviewed relevant literature emphasizing on value creation, marketing and pricing in of pork in the agricultural sector. Areas of significance werer emphasized on how these aspects have been viewed, utilised and their objectives. The literature has mainly dwelt on other countries other than Zimbabwe since limited literature is available in the Zimbabwean pork industry. Contextualization has thus been a reference point in highlighting the literature relevant to the Zimbabwean pork industry. Literature has mainly been based on the functionality of these aspects from a micro-enterprise point of view. The conceptual highlights of the literature reviewed guided questionnaire design, collection of data, its analysis, result discussion and recommendations.

3.2 VALUE CREATION

Gabriel (2006) opines that value is the customer's discernment about a comprehensive set of benefits, being touchable or untouchable, gratifying the needs of the customer judiciously, effectively and efficiently. This amply disregards the producer view in terms of value. However, inherent to value creation is value chain analysis where the Cambridge Performance Partners (2013) define it as a representation of a sequence of activities essential in creating goods or services, avail or deliver them, sell and market them to customers, distribute or provide them to those customers while ensuring necessary post sale service is completed. This turns to give precedence to value from the producer point of view. According to Recklies (2001), the value chain analysis appraises how, and which particular activity, adds value to the organization's products or services. Moreover, the idea was built upon the foresight that there are systems and systematic aspects to creating something for which customers are willing to part their money, rather than a haphazard compilation of money, machinery, people and equipment. If only these things are arranged systematically will something that customers are prepared to pay a price be produced (Recklies, 2001).

There have been several studies undertaken within agriculture and pork production utilizing the value chain. Ohal (2015) devised an agricultural based value chain in a study of agricultural marketing in India where it was identified that farmers create value (benefits) for consumers by different ways, and there is no unique way. Elements such as the quality of produce, differentiated produce, consumer profitability and customer equity were identified as having an influence on how agricultural products flow from the farmer to the consumer. What's more, farmers' direct linkage with consumers reduce the price of the produce; optimum price coupled with quality consistency generates cost-effectiveness for consumers and customer equity for a farmer. Customer equity opens long term relationship beyond brand equity (Ohal, 2015). However, the model fits only in a direct marketing scenario and does not consider the effect of price of the agricultural produce. Price will have an indirect influence on customer equity and cost-effectiveness.

Leat and Revoredo-Giha (2013) utilised the framework in a Scottish pig industry case study. They identified value being central to marketing. They identified value in four forms: (1) use value (properties and qualities accomplishing use, work or service); (2) esteem value (attractiveness which causes want for a product); (3) cost value (sum of inputs related to costs of production) and (4) exchange value (properties and qualities enabling exchange for something). Total value created in the supply chain is the difference between the supplier (farmer) opportunity cost when selling the good or service and the buyer (retailer) willingness to pay. This value formulation permits the adoption of an array of decision making factors such as reliability in supply, efficiency in logistics, information provision and price.

Rich, Ross, Baker and Negassa (2010), in their study to quantify the livestock systems value chain in developing countries, combined qualitative and quantitative approaches and observed that it takes a cue from business strategy. This was augmented by Gereffi, Korzeniewicz and Korzeniewicz (1994) cited in Rich *et al* (2010) who proposed the Global Commodity Chain (GCC) and successive approaches which concentrated predominately on value networks in inter-organizational relationships and linkages, rather than entirely at intra-organizational value creating functions as proposed by Porter (1985).

Triekens and Wognum (2013) utilized the value chain in their study to summarize management insights of European pork supply chains and state that the emphasis of value chain management is plainly on discovering the most effective and efficient way of adding value with the aim of meeting consumer requirement at minimal cost. Wever, Wognum, Triekens and Omta (2010) concurred and added that there has been a move from inter-organizational competition to inter-supply chain competition, in their study to examine relationships between quality management systems (QMS) and governance structures (GS) in pork supply chains.

In the Ugandan smallholder pig industry, Ouma, Dione, Lule, Pezo *et al.* (2015) employed the value chain framework to characterize the production and marketing systems as well as highlighting the opportunities and threats faced by the industry players. Through this framework, their study managed to obtain information ranging from enterprise objectives, player perceptions and decision making, income generation, institutional intervention and general husbandry practices. The framework managed to guide intervention entry points in improving the smallholder pig value chain.

In the agricultural sector, the value chain analysis has been utilized by Parwez (2014) in a study to explore Indian agriculture glitches for value-creation, sustainability and food security, where food supply chain management was identified as the process whereby agro-based product movement from the initial supplier to the eventual user happens with all non-value adding expenses.

Tekele (2010) utilized the framework in a study to examine profitability and marketing chain of rice in Ethiopia where the narrow and broad system approach to the value chain was identified. A narrow economic-based description of value chains encompasses classifying [the series of] value creating activities executed by an organization whilst a broader system approach highlights activities applied by several actors.

Dey, Bjorndal and Lem (2015) managed to differentiate between value chain and supply chain in their study to analyse fish and seafood trade value chains. They identified a supply chain as a system of product related business initiatives where products transfer from production point to consumption point, together with pre-production and post-consumption activities. Furthermore, they consist of numerous

organizations that synchronize activities to distinguish themselves from the competition. Takele (2010) concurs and adds that supply chain analysis refers to the general economic agents group (a physical person such as a consumer, a trader or a farmer, in addition to legal entities such as development organizations, an authority or a business) contributing directly to the final product determination. On the other hand value chain moves beyond merely trying to bring the product to market. Through value creation or value addition it enhances incremental value of the product in the nodes of a chain. In this case, the nodes of the chain refer to the full activity assortment required to bring a product or service to final consumers from conception, production and delivery. Dey *et al* (2015) went on further to say that smooth functioning of value chains requires in addition to factors of production and technology, efficient transport, market information systems and management. Value adding occurs at different nodes of the chain, as primary form of the product transforms through phases in manufacturing and processing. Value creation also occurs at different nodes of the chain but emphasis is on the production and marketing factors of production (Dey *et al*, 2015).

The literature above highlighted difficulty in differentiating value chain and value creation. Porter (1985) and Takele (2010) view it from an organizational perspective, where value creation and its subsequent chain occur within organizations, whilst others like Rich *et al* (2010), Triekens and Wognum (2013) as well as Parwez (2014) view it in the context of an industry. Furthermore, in the context of the current study, the literature fell short of identifying the particular value creating activity, both from the narrow and broad based system approach as proposed by Takele (2010), which is effective to that end. Regardless of view point however, pricing objectives, policies and strategies play a crucial role both within and between value chains. The current study asserts that it is pricing, through the marketing mix, that has a major influence in enhancing value within the industry. Porter's (1985) framework indirectly links pricing to value creation and the value chain. The two are indirectly linked through the primary value creating activity of marketing. Lindgren and Wynstra (2005) opine that value is central to marketing and crucial to exchange within meat supply chains.

3.3 MARKETING

The American Marketing Association (AMA, 1985) cited in Loudon, Stevens and Wrenn (2005) define marketing as the “procedure of preparation and implementation of the formation, distribution, promotion, and pricing of services, goods and ideas to enable exchanges for individual and organizational goal attainment”. It is both a conduct carried out by organizations and a social process (Kotler, Armstrong, Saunders and Wong, 1999). It exists both at the micro and macro levels. Perreault and McCarthy (2002) opine that:

“effective marketing means delivering goods and services that consumers want and need. It means getting products to them at the right time, in the right place and at the right price they are willing to pay. It means keeping consumers satisfied after the sale, and bringing them back to purchase [again] when they are ready”.

Agricultural marketing focuses on the marketing of agricultural products and agricultural inputs (Kumar, 2015). It can be observed from different points of view: farmer, processor, retailer, consumer and policy maker (Rhodes, Dauve and Parcell, 2007). Livestock marketing engrosses the performance of all business activities concerned with the flow of livestock, their products and related services, from production point to consumption (Ajala and Adesehinwa, 2007). Adhikari, Detre, Mark and Mishra (2011) study of linkages between direct marketing and farm incomes identified factors affecting espousal of direct marketing strategy pointing out the importance of marketing in farming. Al Tawalbek and Abu-Rumman (2015) state that marketing is the only function that produces revenue into any organization and all other management functions incur costs. Levy, Dewey, Poljak, Weersink and Mutua (2014a) and Mano (2003) identified that efficient marketing is essential for economic development and poverty alleviation.

In a study to identify problems and prospects of the agriculturalists’ rural marketing, Kumar (2015), pointed out marketing as the process of identifying the needs of consumers, working accordingly, and satisfying the desires of consumers in such a way that considering their various aspects brings back maximum returns. It involves a process of realizing and deciphering consumer needs and wants into a service and product specification, generating demand for this service and product, and then, in

turn, growing this demand. Rural marketing starts with a decision to produce a saleable farm commodity, involving every aspect of a market system including pre and post-harvest processes (Kumar, 2015). It emphasizes on value creation which differentiates marketing and selling (Ohal, 2015).

The Alberta Agriculture Market specialists (n.d) identify marketing as being more than selling. They introduced a marketing process involving selection of the type of stock a livestock producer wants to produce, estimation of cost, information gathering, knowledge of the product, setting several target prices, evaluating pricing and delivery alternatives. The farming sector is characterised by a lower emphasis on the marketing function than most other industries (Tsourgiannis, Eddison, Warren and Errington, 2006). They also concurred that most farmers simply relate marketing to selling products mainly due to lack of control over the movement of their product through the marketing chain. Gegner (2004) in a paper assessing pork producer marketing alternatives states that farmers practicing sustainable and humane production of hogs often neglect marketing.

Kumar (2015) identified several problems related to agricultural marketing. These include:

- The limited access to market information. Intermediaries only pass a little information in the greed of profits.
- Lack of awareness in terms of innovation, policies, change in prices and techniques, due to limited access to information.
- Farmer illiteracy which causes lack of awareness.
- Long marketing channels, with a large number of intermediaries tending to split the customer dollar.
- Poor infrastructure in terms of roads and storage facilities.

Agricultural marketing involves taking produce from the farm to the consumers. It is beneficial to farmers who have access to the global marketing community. Meat marketing is peculiar in that the products are perishable and therefore prone to spoilage and must be treated with utmost care for consumer protection (FAO, 2015). In rural settings, the whole marketing chain is covered by traditional butcheries selling fresh meat produced in the immediate surroundings. They have their own

slaughter, cutting, processing and sales facility. On the other hand, in urban settings, the number of butcheries is small, replaced by supermarkets.

In order to fully incorporate marketing within agribusinesses, there is need to develop and implement effective marketing strategies (Kumar, 2015). Kotler *et al* (1999) define a marketing strategy as one which spells out a target market and related marketing mix. In their livestock input industry study evaluating customer attitude toward marketing mix between different market fragments, Kokose and Addos (2014) articulate that marketing strategy necessitates choice about the specific target of customers. Marketing strategy can provide solutions for an organization in order to reach objectives, which can be achieved in multiple ways by way of several kinds of marketing tools and theories, at different stages of production (Schwartz, 2014). Schwartz (2014) went on further to argue that an entire marketing strategy cannot be applied by farmers because they do not have the time, the knowledge, or the need for it in a study to explore the role and scope of marketing in agriculture. Mbogoh (1992) states that marketing options consideration for livestock products must scrutinize aptness of various variations and blend of the marketing mix elements. Understanding the marketing tool effectiveness is indispensable for a suitable marketing strategy and the marketing mix appears to be the most imperative and valuable tool the agriculture industry can use and is already using (Dodor, 2015).

3.3.1 Marketing mix

There are many marketing mix decisions. The major parts of a marketing mix are the 4 P's of product, price, place and promotion (Perreault and McCarthy, 2002; Kotler, 2002; Loudon *et al*, 2005). Various authors have underpinned the need to expand the existing 4Ps model. Introduced by McCarthy (1960), the traditional marketing mix comprises of the 4Ps of product, promotion, place and price. Judd (1987) expanded it to 5Ps where people had been added. Kotler (1987) enhanced it to the 6Ps where public opinion formation and political power were identified. Booms and Bitner (1981) introduced the 7Ps by adding physical environment, process and people. Baumgartner (1991) devised the 15Ps model where people, position, performance, plan, profit, positive implementation, prioritize, partition, public relations, probe and politics were added to the traditional framework. Figure 3.1 gives a pictorial view of the frameworks.

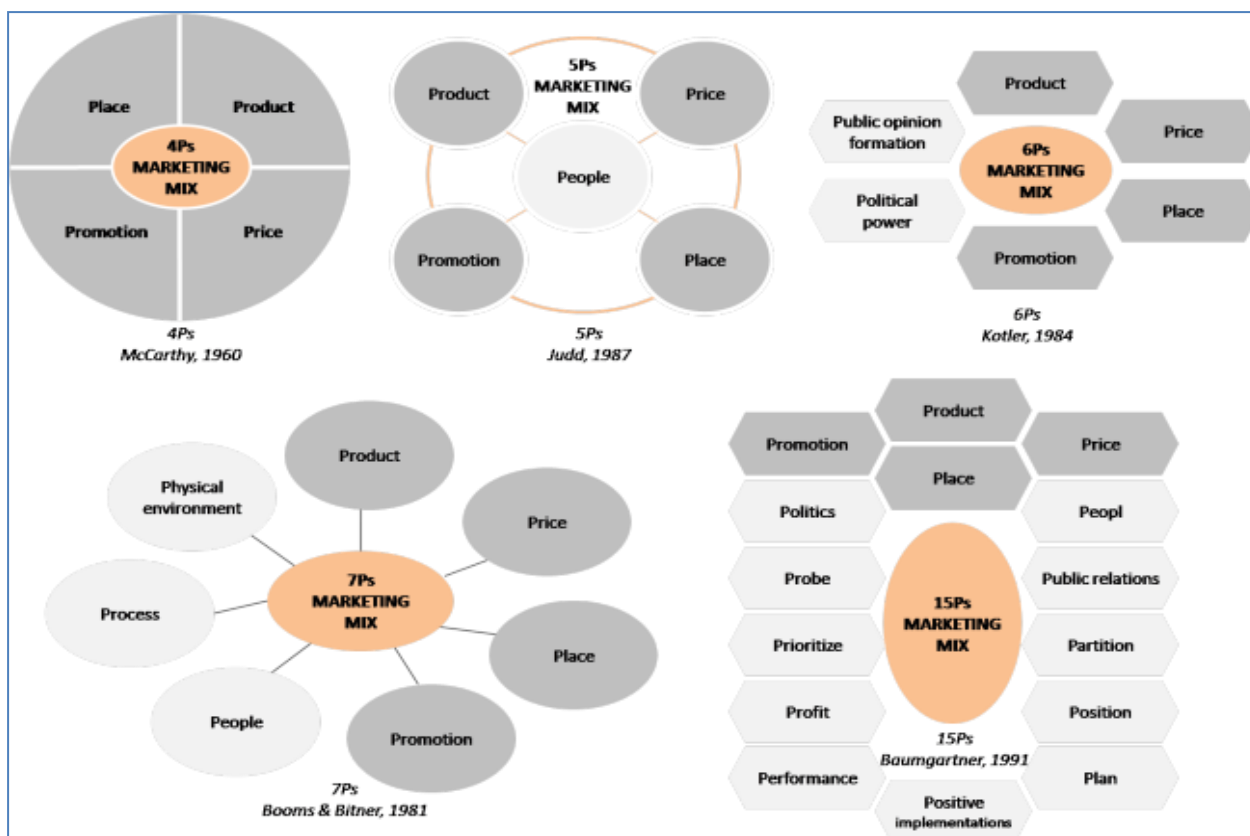


Figure 3.1: Marketing mix frameworks

Source: www.entrepreneurial-insights.com/7ps-additional-aspects-marketing-mix (accessed 13/5/15)

Their model was however pertinent to the services sector. Simister[§] (2009) goes further to claim that there are up to 22 additional Ps introduced into the marketing environment. In agricultural production, policies, physical climate and partners have been further added to the conceptual framework of the 4 Ps (Dodor, 2015).

The marketing mix framework has been utilised in various studies outside of agriculture. Few studies have focussed on agribusiness and the food sector. Tolusic, Zmaic and Deze (2002) utilised the framework analysing its function in the organic food of Eastern Croatia. They identified that in the economy system of organic agriculture, it is not possible to successfully sell products without necessary specific skills and knowledge of marketing policy and marketing mix. They went further to state that there is no market economy devoid of marketing. Marketing mix is essential in reaching this marketing aspiration. Achieving goals of market economy i.e. marketing business represents defining marketing instruments which is the

[§] Simister P., 2009, **Marketing Mix: how many Ps in Marketing – 4Ps, 7Ps, 11Ps or more?** [Online] Available at: <http://businesscoaching.typepad.com>. Accessed 25 April, 2015

marketing mix (Tolusic *et al*, 2002). Stojanovic, Gligorijevic and Antic (2012) utilised the traditional 4Ps framework in a study to assess the role of the marketing mix in the improvement of agricultural insurance and were able to differentiate agricultural insurance based on the product, price, place and promotion strategies. Dodor (2013) emphasized that there is need to strategically develop the 4Ps framework, especially at the farmer level, by improving the standard of quality of products, whilst determining what influences price and setting it accordingly, determining the channel to use as well as providing the product at the right time through a suitable promotion strategy.

In the retail sector, the framework was utilised by Musungwi and Zhou (2014) in a study to investigate the role of product, place, promotion and price in market basket analysis. They identified the importance of the customer's mind-set towards the framework. The framework was also utilised by Shukla, Chaudhari, Joshi, Leua and Thakkar (2014) in a study analysing the various mango pulp brands in India. They concluded that the 4Ps framework was adopted by mango pulp processors and each player developed a unique combination.

Dodor (2015) utilised the 7P framework with the addition of policies, physical climate and partners to the traditional 4Ps framework in a study to base marketing mix as a strategy in building a viable agro business. Additionally, limitations of the traditional framework were identified. The framework did not take into consideration managerial process, physical climate and the policies. These factors tend to have a bearing where physical climate is pertinent to agricultural production as well as agricultural related policies such as trade (Dodor, 2015).

Most studies viewed the framework from the customer view point. Furthermore, there is limited literature on usage of the framework in the livestock sector. Kategile and Mubi (1992) stressed that there are relatively limited marketing options for livestock in terms of aptitude and suppleness in manipulating the marketing mix elements. Characteristics of pork products influence the marketing mix combination. The body conditions and the live-weight are key influencers to live animal marketing (Kategile and Mubi, 1992). This relates to the animals' sex and age and other secondary body parameters such as fleshing. This will influence the channel through which the animal reaches the market place. The channel type itself is influenced by the type of

market being considered and the marketing infrastructure. This tends to determine the transportation system to be utilised. These factors will tend to affect the net returns to players within the industry through the effects on the cost and price (Kategile and Mubi, 1992).

In the context of the current study, the literature fell short of identifying the most essential and effective marketing mix element. Furthermore, marketing literature and its mix thereof had a short fall in relating to value creation. The current study fills such a void by highlighting the functionality of marketing through its mix amongst an array of primary value creating activities as proposed by Porter (1985) to assess its effectiveness to such an end.

Marketing is founded on the marketing mix concept, consisting of the 4Ps: product, promotion, place and price. However, in agriculture, these are to a large extent influenced by 3Ps of policies, physical climate and partners. The goal is customer satisfaction through the right product offering, with the right promotional tools, at the right place (i.e. distribution channels) and at the right price. This is achieved in the context of policies, physical climate and partners; for customer satisfaction at the expense of competitors, achieving objectives of the agribusiness (Indounas, 2006). The following section will differentiate what price, as an element of a marketing mix, entails.

3.4 PRICE

Price is accommodated within the marketing mix because it single-handedly directly produces revenues whilst other marketing mix variables incur costs (Jobber and Shipley, 2010). Rao (1986) cited in Jobber and Shipley (2010) has disputed that setting a price is the most essential of all marketing mix decisions. Price is the amount of currency that is charged for something valuable (Perreault and McCarthy, 2002; Kotler *et al*, 1999; Dwyer and Tanner, 2003). It is that which is foregone in a swap over for a good or service acquisition (McDaniel, Lam and Hair Jnr, 2008). Kotler *et al* (1999) cited by Indounas (2006) states that pricing is an essential part of a more encompassing and universal marketing strategy and consequently organizations need to devise an interconnected and integrated marketing strategy, with a comprehensive pricing strategy making part of such an endeavour.

Price dictates income, directs the quantity supplied and demanded, provides an indication to customers, and shifts ownership (Uva, 2009). Agribusinesses utilize an array of pricing strategies and practices that may be effective under certain circumstances (Ingenbleek, Frambach and Verhallen, 2010), especially given that pricing has an enormous effect on financial results, both in financial terms and in relation to other marketing mix instruments (Hinterhuber, 2004; Jobber and Shipley, 2010). Barnard, Akridge, Dooley and Foltz (2012) hint that pricing is a critical marketing decision because of its influence on revenue generated in any agribusiness. Furthermore, it has a direct effect on quantities sold. In marketing, pricing literature is dominated by normative pricing models which propose the price decisions taken when faced with particular scenarios. Price strategies offer means of achieving pricing objectives by agribusinesses in the market (Ingenbleek, 2015).

Indounas (2006) in a study offering alternative approaches to pricing grounded on the notion of contribution margin argues that pricing is the only element in marketing strategy that is directly related with profits while other elements are linked with expenses. Additionally, decisions on pricing are flexible, with the choice to increase or decrease the price of a product being executed reasonably quickly and result realization in a much shorter phase than other managerial decisions (Indounas, 2006). In addition, pricing cannot be scrutinized in separation from the other elements of an organization's marketing strategy. Prices are the key to revenues, which in turn are the key to profits of an agribusiness (McDaniel *et al*, 2008).

Tellis (1986) cited by Carricano (2014) contends that "a pricing strategy is a reasoned choice from a set of alternative prices (or price schedule) that aim at profit maximization within a planning period in response to a given scenario". There are 6 major pricing strategies: skimming, penetration, opportunistic, leader, neutral and cost plus, as well as the price and the product line structure (Carricano, 2014). The price structure is a decision of price customization that abounds in practices, also called nonlinear pricing, usually involving a price discount with an increase in the number of units (Dolan and Simon, 1996).

Ingenbleeks' (2015) study to identify price strategies for sustainable products identified six strategies that occur in the practice of sustainable agro-food production. The different price strategies are considered in the context of their pricing situations,

namely, competitive, new product, product line and cost-based pricing (Graham, 2015).

Competitive pricing highlights price follower or leader behaviour, with pricing relative to a competitor making part of such a strategy. New product pricing involves an initial high price which is progressively reduced to attract new consumers. Penetration pricing is to the contrary, where a low price is initially set to capture a higher market share. Product line pricing is pricing with reference to a related bundle of products. Cost based pricing involves setting a price in cognisance of various degrees of product cost rather than market factors (Graham, 2015).

Rhodes *et al* (2007) and Peterson (2014) state that in agriculture, there exists mainly two classifications to pricing systems, which include:

1. Price discovery systems – which occur when all market participants are individually, price takers or price negotiators. Price is continually rediscovered, thus tending to frequently change than when set in a price setting system. It is typical of perishable products. It includes organized markets where buyer and seller have constant interaction and decentralized, individual negotiations. Peterson (2014) highlights that this is the fairest way in arriving at a price as it provides the highest selling price for the seller and the highest buying price for the buyer.
2. Price setting systems – prices are prepared by sellers, either independently or jointly; buyers, for instance in monopsony or in groups; or government, through price ceiling or price floor. Pricing can disregard forces of supply and demand. However, price setters have the option of following supply and demand dynamics. It includes organization price making, group negotiations such as collective bargaining and government price setting where the government applies a price ceiling [or a price floor].

Purcell (1997) contends that it is costly to discover prices, through its process of price reporting and establishing value. Larger organizations are identified withholding pricing information, especially when the industry consolidates. It would be strategic suicide for the organizations in a competitive scenario to share such information and hence the reluctance. In the US Southeast pork industry, Purcell (1997) discovered

that price determination had shifted from open markets to carcass value pricing, contracts, vertical integration and market supply contracts.

Ingenbleek *et al*, (2010) in a study to identify the role of value-informed pricing in new product introduction, identified the crucial role that customers play in determining the market clearing price of a product. The study focused mainly on the end consumer disregarding the fact that organizations within a value chain can also themselves be regarded as customer, albeit, business customers of upstream value chain products.

Mussell *et al* (2003) conducted a research on mechanisms of price discovery and their options in the Canadian agricultural sector focusing on the beef, pork, grain, oilseed, dairy, poultry and horticultural products. They identified the following types of pricing mechanisms being peculiar to Canadian agriculture: direct negotiation (with and/or without full information sharing); formula pricing (with/without provisions for smoothing); market price plus premium contracts (basic and/or spot price premium contracts); cost-plus pricing (with/without sharing of productivity gains and price smoothing provisions); pricing dependent upon quality attributes and spot market pricing plus premium dependent on retail value.

Peterson (2014) found out that in the US hog market, only 4% of all product sales accounted for discovering the price utilised by the other 96% of the industry. Thus, the majority tend to just follow prices set by others. This aptly disregards the objectives of the minority price setters and can have devastating effects on the majority of the industry.

Crawford (1997) identifies price as a constituent of the marketing mix and contends that the process of determining a price begins with identifying pricing objectives. Furthermore, pricing objectives are defined in relation to their function within marketing mix strategy as shown in Figure 3.2.

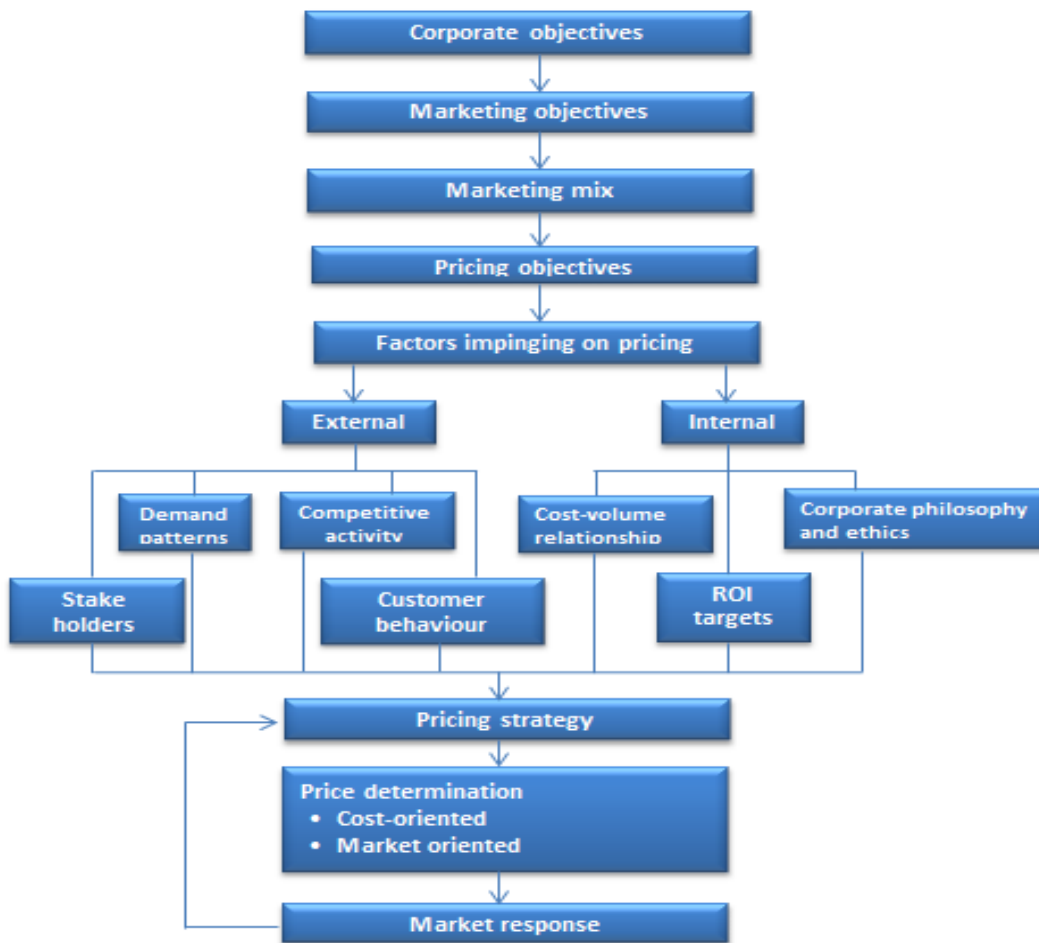


Figure 3.2: Price determination process
Source: Crawford (1997)

3.4.1 Pricing objectives

Pricing objectives can be grouped into status quo, sales and profit oriented pricing objectives (Kotler, 2002).

Profit oriented objectives include a target return where a precise profit level is set as an objective, for example, as a capital investment or sales percentage. Some just want satisfactory profits for an agribusinesses' survival or to provide a comfortable lifestyle. A profit maximization objective tries to acquire as much profit as possible. A sales oriented objective aspires for some level of dollar sales, unit sales, or market share, without reference to profit. However, sales growth does not necessarily translate to big profits. In status quo pricing objectives, agribusinesses seek to meet, stabilise, or yet avoid, competition. It is usually frequent when the market is at the maturity or the decline stage. This discourages price competition, avoiding any need for difficult decisions.

Pricing objectives can be based on economic or non-economic objectives. In a study to ascertain pricing strategies for the promotion of fruit and vegetable purchases in school cafeterias, French, Story, Jeffrey, Snyder, Eisennburg, Sidebottom and Murray (1997) implicitly identified pricing objectives from a health perspective. They based their pricing objective on the health benefits of the fruit and vegetables. This however falls contrary to the notion of pricing objectives from the business point of view.

Jumah (2000) in a study analysing Austrian chicken and pork retailers' long run pricing strategies, identified the use of mark-up pricing strategy for profit maximization in the pork industry, which is dependent on market share. Buhr (2004) utilised a case study to differentiate pricing strategies and found out that pig industry organizations utilize competitive pricing objectives in the US pork industry. However, Volpe, Risch and Boland (2015) found out that in the US retail sector, pork price increases and decreases were highly depended on supplier prices and promotional prices with least influence from competitor prices indicating that pricing objectives were mainly swayed towards profit and sales orientation.

3.4.2 Pricing policies

Price fluctuations and the quick price movement response make it difficult to institute steady long term pricing policies (Smith, Sinha, Lancioni and Forman, 1999). Pricing policies include price flexibility, price level, discount and allowance policies.

3.4.2.1 Price flexibility policies

Pricing is made easier in a one price policy where the same price is offered to all customers purchasing the same product, in equal numbers and under the same conditions (Li and Sexton, 2013). A flexible price policy means offering similar products in similar quantities to dissimilar customers at varied prices (Perreault and McCarthy, 2002). It is advantageous in that the salesperson can make price adjustments taking into consideration prices charged by competitors, customer relationship and the customers' bargaining ability. The disadvantage is that bargaining time needed in price negotiations increases if buyers learn that negotiating can be in their interest.

Mbogoh (1992) states that flexibility in pricing for livestock is more probable in informal marketing systems whereas it will be rigid in the formal marketing system. However, informal marketing systems' geographical price patterns will be affected by formal market pricing structure. In the US pork industry, Kunkel and Buhr (1999) and Kenyon and Purcell (1999) identified "a price window" where a maximum and minimum price is set, and the price fluctuations between these extremities are accepted as market prices. If price exceeds these extremities, the actual price is the midpoint between the maximum (or minimum) and the market price. Shao and Roe (2002) even went further to indicate the use of the window concept in the US hog industry where they differentiated the fixed and moving window contracts. In this case, the final price is constrained by a price ceiling and a price floor, where the final price is determined by feed prices. Purcell (1997) contends that this type of pricing aids in reducing extremely high and low market price impacts. In the same US market, Kunkel and Buhr (1999) further highlighted the existence of fixed price contracts.

3.4.2.2 *Price level policies*

A skimming price policy sells at a high price whereas a penetration price policy sells at the other end of the spectrum. Skimming is enticing when there is inelastic demand, especially at upper price range. It involves slowly reducing the price over time. A penetration pricing policy is more appealing when there are a small number of those keen to pay a high price. This occurs when the whole demand curve is perfectly elastic. Penetration pricing policy is commendable if the agribusiness anticipates heightened competition immediately after introduction (Dodor, 2013; Hofstrand, 2010; Dwyer and Tanner, 2003).

Brorsen, Akridge, Boland, Mauney and Forrest, (1998), in their study to develop and evaluate alternative component pricing systems for pork, identified premium pork pricing, mainly based on the superior quality of the pork meat, based on its fat content. They identified that proportions of a pig carcass will be priced differently based on their perceived quality. Buhr (2004) concurred with this in a study of the US pork industry. However, Li and Sexton (2013) contend that the two price levels of high and low can actually be alternated rather than take a single position. Such a proposition was highlighted by Chamhuri and Batt (2013) in a study to identify issues influencing choice of fresh meat retail store by consumers in Malaysia. They

identified that unlike retail outlet pricing, composed mainly of modern supermarkets, traditional markets allow price bargaining where prices tended to be higher at certain times of the day especially in the morning and reduce in the latter part of the day. Kunkel and Buhr (1999) identified a price floor being set in the US pork industry where a minimum price is set to protect producers. In the Danish market, Marian, Chrysochou, Krystallis and Thogersen (2014) identified that a high price is less desirable in establishing repeat purchase than a low price especially for organic products, whereas the reverse was true for conventionally produced products which established repeated purchases at higher prices.

3.4.2.3 *Discount and allowance policies-Reduction from list prices*

According to Kotler *et al* (1999), discounts are diminution from list prices availed by a seller to buyers who either give up some marketing functions or provide the function themselves. There are several discounts which include quantity, seasonal, trade (functional) discounts and a sale price (Li and Sexton, 2013). Allowances are given for accepting less or doing something. They include advertising (price reduction) allowances, stocking (slotting) allowances, push money (price money) allowances, and a trade-in allowance (Perreault and McCarthy, 2002).

In the pork industry, Brorsen *et al* (1998) and Buhr (2004) identified that discounts especially for low quality pork products are an important part of the pricing systems. They identified however, that reaching a particular discount proves a challenge, as quality description is somehow subjective. Chamhuri and Batt (2013) highlighted how reaching a discount price might be influenced by customer bargaining and time of trading period, especially in traditional fresh meat markets. They recognized congruence between the length of day and the discount amount for fresh meat. In the retail sector, Chung and Li (2013) found the use of “present discounting strategy” in the South Korean market for perishable foods. They referred to this as price discounts when the expiry date is looming. They however proposed, and were supported by their study outcome, the use of multi-period discounting pricing strategy, where instead of a one-time discount close to the expiry date of a perishable, discounts be enacted each day of shelf-life remaining.

3.4.3 Price setting

Prices should be set by appraising the price decision effect on profit margin, demand, sales volumes, costs and total profit. Two approaches exist to set list prices: demand oriented and cost oriented price setting (Piercy, Cravens and Lane, 2010). Dwyer and Tanner (2003) further add other factors which should be considered such as competitive factors, trade factors and legal factors influencing price setting.

3.4.3.1 Cost oriented approaches to price setting

Prices can be set by using a mark-up, a dollar amount in addition to the production cost to get the selling price (Li and Sexton, 2013). Mark up (percentage) means obtaining a selling price by adding a selling price percentage to the production cost. The cost oriented approaches include average cost pricing, target return to cost, break even pricing (Hofstrand, 2010) and marginal pricing.

3.4.3.1 Demand oriented approaches to price setting

There are several demand oriented prices which include negotiated pricing, product bundle pricing, psychological pricing, full line pricing, price lining, prestige pricing, demand-backward pricing, odd-even pricing, complimentary product pricing, bait pricing, bid pricing (Uva, 2009) and leader pricing (Dhuyvetter, 2004).

It is very difficult to set a price for meat products (University of Maryland, 2013). In a study of using formula prices in the absence of publicly reported price, Dhuyvetter (2015) identified the use of negotiated prices by pig producers and buyers, especially where market information is unavailable for use in negotiated pricing. In addition, the absence of spot prices can be overcome by using formula pricing. Moreover, such a method is also appropriate especially when utilizing contract farming. However, costs of collecting and analysing information and then negotiating tends to be high and questions as to whether such prices could be consistent with spot prices are raised (Dhuyvetter, 2015). McEwan and Duffy (2000) supported the notion of formula pricing of feeder pigs by combining various factors such as the expected pig market revenue, estimated feed costs, estimated margin after costs, feeder pig price as a percentage of margin and feeder pig price in formulating the price. Uva (2009) contends that farmers usually utilise direct marketing which offers opportunities for

them to gain control over prices they charge. However, this offers opportunity for price cutting when determining prices. Nagler, Bastian, Menkhaus and Feuz (2015) identified livestock price determination through the livestock auctions and identified the increased reliance on negotiated contracts (Kenyon and Purcell, 1999). Kunkel and Buhr (1999) realised in the US pork industry the use of cost plus pricing, where prices were set based on immediate period feed cost plus fixed costs, and the price regularly adjusted for basis of attaining pricing objectives. They also identified formula pricing in the same market, where a trans-jurisdictional price is used in establishing value, and mathematically this value adjusts local value and thus pricing. Hayenga and Schrader (1980) in a study of formula pricing in the US pork industry also identified the use of formula, negotiated and offer-acceptance pricing in the fresh meat transactions. In the pork processing sector, they identified the use of formula, cost-plus and negotiated pricing. Negotiated pricing was also observed by Ajala and Adesehinwa (2007) in Northern Nigeria in their study of pig marketing efficiency, where it was shown that it contributed to time wasting and marketing inefficiency.

In the context of the current study, the literature highlighted absolute pricing objectives, policies and strategies within various pork industries without much reference to how they have performed vis-à-vis value creation. The literature fell short of illuminating how pricing, through its various objectives, policies and strategies have influenced value creation within pork industries. This study will fill such a void by ascertaining the pricing objectives utilised by the various pork industry players from the producer to the retailer and decipher how they have aided or abated value creation within the Zimbabwean pork industry.

3.4.4 Pricing efficiency

Pricing efficiency can be measured through marketing margin. Marketing margin is the farm and retail price difference (Wohlgenant, 2001; Bakucs and Ferto, 2005). It is the disparity between the implicit values of an agricultural commodity when sold at the retail level in processed form versus the explicit value of the unprocessed commodity at farm level (Vercammen, 2011). It is used as an indicator of marketing efficiency, with lower marketing margins being more efficient and generally better for producer and consumer welfare (Levy, 2014). According to Marsh and Brester

(2004) marketing margins reflect degree of channel competition, marketing costs and supply and demand. It reflects aggregate processing and retailing organization behaviour which influences price level and variability as well as farmers share of consumer dollar. It is affected by marketing input prices, dynamics in farm supply and retail demand as well as quality, time lags in supply and demand, technical change, risk, market power, and special consideration (Wohlgenant, 2001).

Wolgenhant (2001) opines that the marketing margin can be measured in different ways: (i) The difference between commodity farm and retail value; (ii) Retail to farm price ratio; (iii) Farm value share of total retail value (farmers share of the retail dollar); and (iv) Percentage marketing margin (i.e. marketing margin as a percentage of retail or farm price). The current study utilised the difference between commodity farm and retail value as a proxy in measuring pricing efficiency through its transmission down the value chain. A “producer price elasticity to retail price measure” depicted if there exists any significant differences in retail prices induced by differences in producer prices.

Davids, Jooste and Meyer (2014) identified that primary producer share of the consumer price is more for the fresh product where less value is added through the value chain in the South African pork industry. The retail margin is also higher for the fresh product as value can also be easily added. In their analysis of margins over the years 2008 to 2012, they observed that the retail price showed greater volatility than the producer price, but the margins however remained relatively constant (Davids *et al*, 2014). Bakucs and Ferto (2005) indicate that variability in marketing margins is mainly influenced by (i) search costs, where retail organizations take advantage of quickly changing prices where it would be costly for producers to search for such information; (ii) perishability of the product, disallowing any price changes especially when the organizations stock such products; and (iii) adjustment costs associated with re-pricing and adoption of new pricing strategy.

A lot of research has been undertaken within pork production utilising the marketing margin as a proxy of pricing efficiency. This has spanned from ascertaining price transmission to farm and retail price spreads (Griffith and Piggot, 1993; Marsh and Brester, 2004; Bakucs *et al*, 2013). These studies have however utilised qualitative secondary price data to determine if there is equal variability of price at the farm level

and retail level over time. Levy (2014) managed to obtain a one-shot cross sectional marketing margin in the West Kenyan pork industry. Parameters such as pig weight, education level, location and pig purchases were identified tending to influence the marketing margin between pig farmers and pork butchers. Ajala and Adesehinwa (2007) managed the same feat in Kaduna, Nigeria, where they assessed the pig marketing participants' performance through a cross-sectional marketing margin analysis from producers, through the various industry players, up to the retailers. These studies have however fallen short of identifying marketing margin influence in creating value as the current study tries to establish. This shortfall was addressed by the current study by utilising Levy (2014) and Ajala and Adesehinwa (2007)'s factor influences on marketing margin and the prices thereof, to assess how these would affect value created from the producer through to the retailer.

3.4.5 The Need for Pricing Research

There has been a myriad of research on pricing (Ingenbleek, 2007). Unfortunately, much has been in the economics and business field not much related to agriculture. Most of the pricing research has been based on the cost principle theory, decision making and marketing strategy.

The cost principle research spans from the determination of how organizations determine prices to examining price rigidity (Hall and Hitch, 1939; Fog, 1960; Skinner, 1970; Plinke, 1985; Blinder *et al*, 1998; Hall *et al*, 2000). Studies based on the cost theory indicate that most organizations tend to set prices based on the cost structure and thus utilize cost oriented price setting alternatives.

Another school of thought involves the process in decision making. Studies spanning from the behavioral theory of the organization to studying the pricing process from the resource based view perspective have been undertaken (Cyert and March, 1963; Hague, 1971; Shipley, 1981 and 1983; Dutta *et al*, 2003). These studies indicate that organizations make pricing decisions such as setting pricing objectives.

Marketing strategy research has focused on the pricing role in marketing strategy, to examining the influence of strategic approach, managerial control and information use on pricing practices (Udell, 1964, 1968 and 1972; Pass, 1971; Samiee, 1987; Cunningham and Hornby, 1993; Hankinson, 1995; Carson *et al*, 1998; Cavusgil *et al*,

2003; Solberg *et al*, 2006). These studies identify pricing given secondary consideration to other elements of a marketing strategy.

Some of the pertinent studies undertaken are summarized in Table 3.1 (Ingenbleek, 2007).

Table 3.1: Literature on pricing process based on cost principle theory, decision making and marketing strategy

Author	Focus	Approach	Summary of relevant contents
Shipley (1981)	Pricing objectives in practice	Survey of 728 UK multiple-industry based organizations	Organizations set dynamic pricing objectives. They are more likely to satisfice than maximizing. Profit target is the highest regarded objective; short term horizons being less preferred to long term horizons. Organizational size influences objectives to a more extent than competitor numbers.
Shipley (1983)	Determinants and techniques of pricing flexibility		Pricing practices in most organizations tend to be pretty flexible, and this is not influenced by the cost-based techniques utilised by the organization. Size influences flexibility, not the number of close competitors in the market
Blinder et al (1998)	Disparity between theory and practice on price changes (price rigidity)	Survey of 564 US organizations in a variety of industries	Explained price rigidity theory based on cost-principles theory along a number of other theories. Discovered prices being “sticky” as a result of competitor fear of not changing prices, price increases were dependent on customer organization and supplier relationship as well as non-price competition.
Carson et al (1998)	Price making decisions and their quality	40 organizational interviews in diverse industries	Cost-based approaches are utilised by most organizations. Competitive factor consideration differs across organizations. There is commonality within the industry in setting prices. There is no standard for pricing. Pricing decisions are based on experience, but align to industry traditions
Hall et al (2000)	Examine price rigidity in the UK	654 UK organizational survey in a variety of industries	Organizational prices are changed twice a year even though they are evaluated on average each month. Price stickiness as explained by economic models is accounted for by cost-based pricing. Explicit contracting surpassed cost-based pricing in being more identifiable to respondents.
Dutta et al (2003)	Analysed the process of pricing from the standpoint of the resource based view of the organization	Single case study on a large manufacturing organization	Pricing process is a competency requiring investments costs and investments. Pricing routines, skills, and resources aid or impede an organization in setting the right price. Organizations should allocate pricing and value creation resources. If unsuitable prices are set, customers may misappropriate resources
Trierweiler (2011)	Analysed linkages in livestock prices between value adding sectors	Case study using time series data of the US beef industry	There exists poor price performance in product pricing between the retail and packer levels as well as the slaughter to ranch level. There however is efficient price performance between the feedlot and packer levels

Source: Ingenbleek (2007)

Most research on pricing is descriptive and non-cumulative (Ingenbleek, 2007). It is dominated by case studies and survey. Hinterhuber (2004) opines that pricing has received less attention than other marketing aspects. Indounas (2006) supports this notion based on the complexity of price decisions and confusion regarding fundamental aspects of the pricing process. Most research has focused on price transmission within the supply chain (Griffith and Piggot, 1993; Bojnec, 2002). There

has been a lot of research on pricing mainly in the economics and business field but less research in the agricultural field and lesser still in the livestock industry not to mention the pork subsector. There has been little definitive research that addresses pricing, its strategies, objectives and policies thereof, especially in the pork sector, and in Zimbabwe. This is an area worth evaluating especially in the wake that price as a business component is the only one that adds to revenue, whilst other components tend to reduce it.

3.5 CHAPTER SUMMARY

Agribusinesses need to translate the position they need to create for their target market, with a set of decisions to accomplish through a marketing mix. One of the major marketing mix decisions they need to carry out is pricing. There exist various pricing decisions that agribusinesses need to undertake, from setting pricing objectives to setting the actual price. Pricing objective considerations should be between profit, sales or *status quo*. Policies should be based on price flexibility, price level as well as price discount and allowance. Price setting should incorporate either the cost or demand dynamics. It is imperative that price be examined in the context of decision making and as a component of the marketing strategy. This scrutiny will be utilised within the Zimbabwean pork industry.

CHAPTER FOUR

RESEARCH METHODOLOGY

4.1 INTRODUCTION

Research methodology outlines the systematic steps adopted by a research (Kothari, 2004) to solve a problem (Rajasekar, Philominathan and Chinnthambi, 2006). It is the overall approach including issues such as ethics, dilemmas and constraints (Dawson, 2002). It is a platform for the compilation, measurement, as well as scrutiny of data for the reasons of attaining research objectives. Research methodology specifies research design, which is a blueprint to be followed to attain the research objectives. It contains a research method, which delineates whether the research is quantitative or qualitative as well as a research format, depicting whether the research is descriptive or causal. The scope of research, where the researcher explicitly defines the study area, as well as the study population, and the study unit, from part of the methodology. It is also made up of sampling method in terms of the sampling technique and sample size. Data gathering technique in terms of the instruments which could be through interviews, questionnaires or postal surveys and its rationale as well as data handling and analysis techniques in terms of statistical analysis, computer programs and other procedural information constitute part of research methodology. The research also highlights the specific choice of method motivation (Cooper and Schindler, 2003; Weather and Cook, 2000).

This chapter will initially delineate the study area in terms of its geographical location, demographics, settlement and tenure systems, and pig production, processing and retailing. It goes on to highlight the conceptual framework and related literature on methodology utilised in related studies. The research design is depicted as well as the research method, sampling method, data gathering technique and data analysis and its framework. The scope of the survey in terms of the survey area, study unit and survey population section are included in the chapter. The chapter is capped off by the research methodology limitations and chapter summary.

4.2 STUDY AREA

This section highlights the study area in light of its geographical location and economic activity, demographics, settlement systems and land tenure, pig/pork production, processing and retailing.

4.2.1 Geographical location and economic activity

Mashonaland Central Province is an agro-based Province, with agriculture playing a key part in the economic and social development, through the provision of employment, adequate and affordable food and contributing to reduction of poverty (Musemwa, 2011). The Province lies in the north east part of the country with an area of 28 347 km² and a population of 1 152 520, representing 8.23% of the total Zimbabwean population (ZIMSTAT, 2014b).

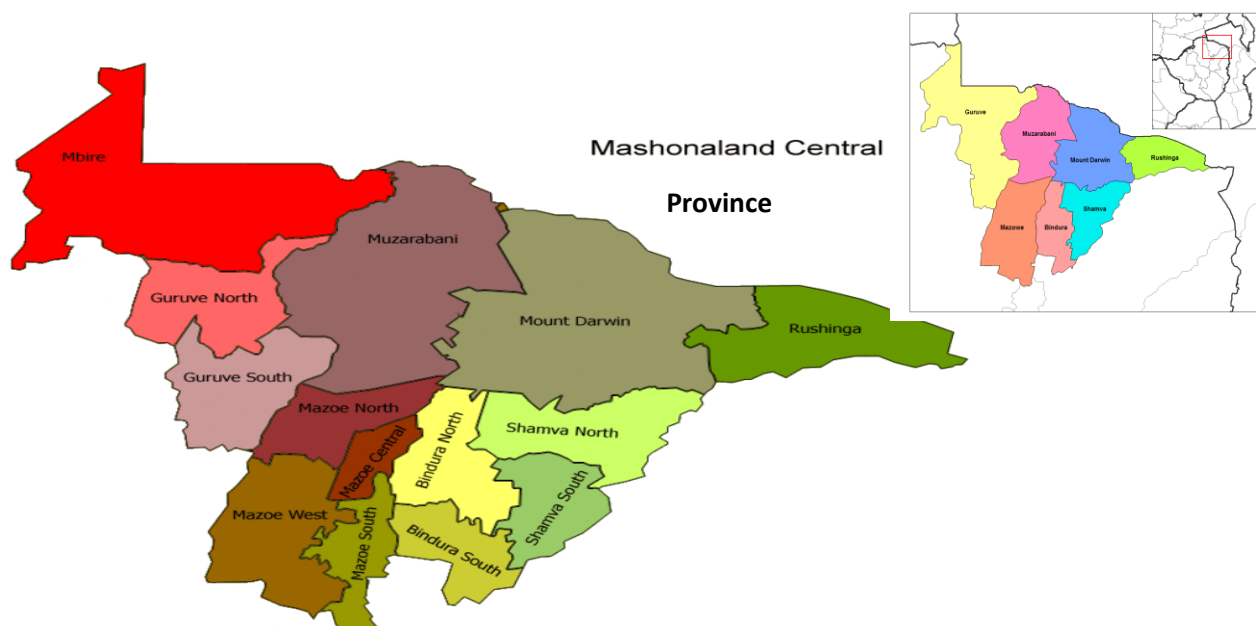


Figure 4.1: Geographical location of Mashonaland Central Province

Source: Samwise (2008) and www.en.wikipedia.org/wiki/Mashonaland_Central_Province-constituency2008.gif

The Province mostly lies in natural farming Region II, with some of the areas in Regions III and IV (Musemwa, 2011). About 63% of total arable land is in natural region II and III (Chisango, 2010). The Province is composed of flat and undulating land, with mountainous areas in Mt Darwin and Muzarabani, which fall into the low

lying Zambezi Valley. Ideally, because of its agro-ecological location, Mashonaland Central Province is mainly suited for crop production because of the average to above average rainfall contained within the natural Regions II and III. Pig production thus becomes a secondary enterprise. It is mainly enticed by the proximity to the input production of soya bean and maize contained within the Province. The undulating land also makes pig production enticing as it assists the husbandry through ease of drainage.

4.2.2 Demographic Information

The Province's population is distributed into 567140 male and 585380 female. The urban population is 71 332 representing 6.2% of the Province's population compared to 1 081 188, which is 93.8%, in the rural areas. Mazowe has the highest population of 20% of the total followed by Mt Darwin. The lowest population is found in Mvurwi with 0.9% of the total (ZIMSTAT, 2014b). The Province has a dependency ratio of 88.68% showing a relatively high number of economically inactive segment of the population. Of the 464 686 economically active people within the Province, 94% are employed whilst 6% are unemployed, however much of the employed are in the informal sector, with relatively lower numbers in formal employment. Sixty nine percent of those who are employed are in agriculture related occupations, followed by mining and construction at 5% each (ZIMSTAT, 2014b). The highest number of the employed is made up of the informally employed. The Province has 263 923 private households, with an average size of 4.3 and 32% being female headed.

4.2.3 Settlement systems and land tenure

Most of the people live in rural areas, with minimal employment opportunities (Musemwa, 2011). Farming is the main economic activity in Mashonaland Central Province. The main crop grown is maize, with cotton, tobacco, groundnuts, soyabeans, wheat and sorghum. Livestock production is also a major farming activity (Musemwa, 2011). The main livestock enterprises include cattle, poultry, pigs and goats.

Land ownership in the Province has been influenced by the Land Reform Program. It had an influence on agricultural productivity through influence of security and investment in infrastructure (Chisango, 2010). The Province has four types of land

ownership which include A₁ resettlements with temporary licences numbering 28 342 households, A₂ resettlement with 99 year lease agreements numbering 7 152 households, small scale commercial with 3 742 households, large scale commercial with only 218 households and communal ownership with a massive 542 569 households (ZIMSTAT, 2014a). The tenure dynamics are misleading with regards to commercial pig production. Communal households, with 93% of the pig producing households, are mainly associated with the indigenous Mukota pig breeds, which are hardy with low productivity rates. Lack of resources relegates the feeding of these animals to free range. This is also true for some A₁ and A₂ subsistence producers who confine the free range feeding system within their farms. The temporary nature of the lease tenure for the A₁ producer will tend to influence investment within production and ultimately output. Even though there are pockets of A₁ and A₂ commercial producers, the largest number, 0.6% of producers, within the small scale and large scale commercial farms produce commercially. This small number influences the low provincial output in terms of pork products.

4.2.4 Pig production, processing and retailing

A₁ pig farms amount to 152 with 829 pigs, 193 A₂ farms with 4 423 pigs, 92 small scale commercial farms with 1 621 pigs, 14 large scale commercial farms with 728 pigs and 8 354 communal household farms with 34 616 pigs. Compared to the national level, small scale commercial producers have the highest percentage of pigs.

Table 4.2: Number of pig producers in Mashonaland Central Province

	Farm Counts	% of National Level	Pig Numbers	% of National Level
A₁	152	3.6	829	3.3
A₂	193	12.7	4423	4.7
Small scale commercial	92	11.7	1621	23.9
Large scale commercial	14	9.2	782	3.5
Communal	8354	13.6	34616	15
Total	8805	10.16	42271	10.08

Source: ZIMSTAT** (2014a)

** Latest statistics Figures published December 2014 but containing Figures for 2011

Mashonaland Central Province has fourteen registered abattoirs (Sukume, 2015). This is at the backdrop of the country having a total of one hundred and twenty three registered abattoirs. The abattoirs distribution is shown in Figure 4.2.

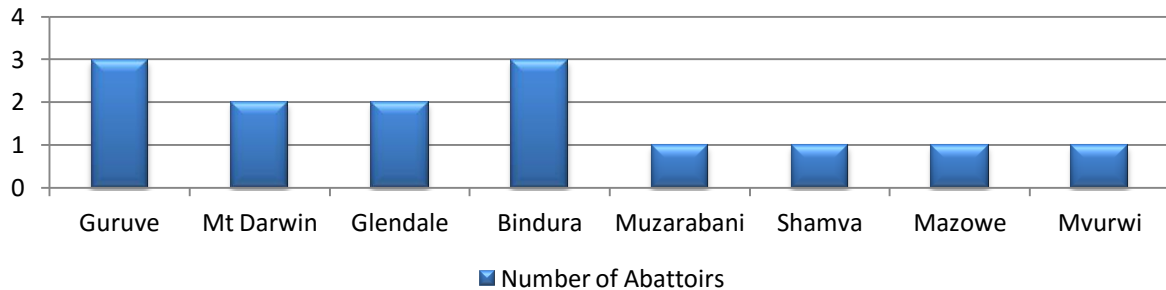


Figure 4.2: Number and location of abattoirs in Mashonaland Central Province
Source: Sukume (2015)

Bindura and Guruve have the highest number of abattoirs, followed by Mt Darwin and Glendale. Muzarabani, Shamva, Mazowe and Mvurwi have one abattoir each. Production within the abattoirs varies; with some having production quotas (Table 4.3). Paramount and Montana Meats have monthly quotas of up to one hundred processed pigs whilst Oenem has a quota of seventy. However, Oenem is currently not processing any pigs due to viability constraints (Shoniwa, 2015^{††}). These production quotas, which maintain that abattoirs meet a certain minimum production level, have maintained a steady flow of the pork products, both locally and internationally. From the producer perspective, international quotas have also guaranteed a ready market for their pork products, at favourable conditions. The abattoir numbers appear to proffer a bottleneck as there are larger numbers at both ends of the market, from the producer as well as the retailers. This will ultimately have an influence on the final consumer retail price.

Mashonaland Central Province has fifty three registered butcheries^{‡‡}, though the numbers could be much higher given the operations of unregistered butcheries in the country (Njaya, 2014; Scoones, 2008). The butcheries number is quite low vis-à-vis the Province total population. However, pork or pork products are not consumed by the whole population, and thus some justification as to their numbers. The power

^{††} Shoniwa A. (2015), Personal Interview held at Pig Industry Board (PIB), July 3, 2015

^{‡‡} www.brabys.com/type/wholesale/Zimbabwe

shortages bedevilling the country, which ultimately affect butchery operations, relegates most of the butcheries to urban and peri-urban areas, the butchery numbers are quite low and inadequate to supply the whole Province in the rural areas.

4.3 CONCEPTUAL FRAMEWORK

The ultimate objective of the research is to establish a composite function linking value creation to (i) agricultural marketing to (ii) agricultural pricing and finally to (iii) agricultural pricing objectives, strategies and policies.

The conceptual framework is an adaptation and consolidation of Porter's framework as shown in Figure 4.3 below

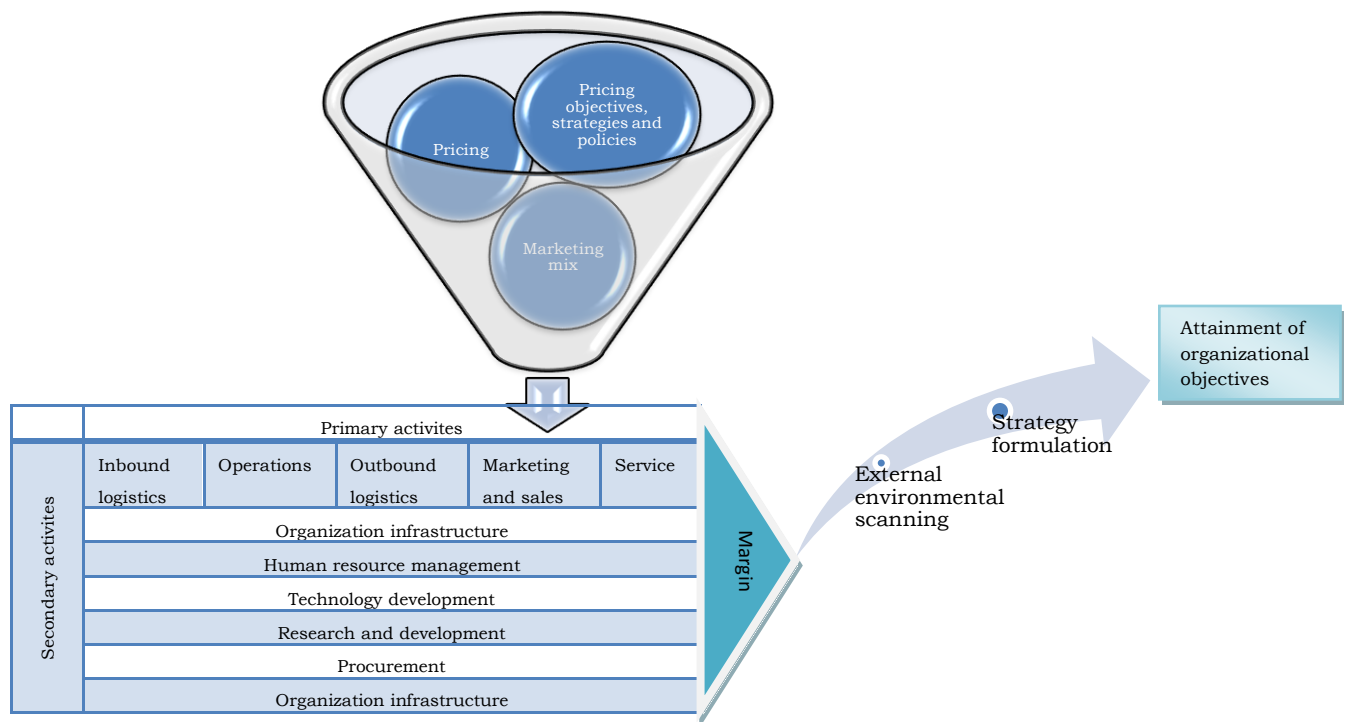


Figure 4.3: Conceptual framework
Source: Adapted from Porter (1985:85)

Attainment of organizational objectives is influenced by effective strategy formulation itself underlined by proper internal and external environmental scanning. The internal environment scanning identifies the strengths and weaknesses within organizations, and this is through assessing the value creating activities within the organizations. The underlying concept to this study is that value creation, is largely influenced by the marketing activities in the pork subsector.

4.4 LITERATURE ON METHODOLOGY OF RELATED STUDIES

There has been little research trying to give a definitive link of pricing to value creation or value-addition as the current research seeks. There, however, has been a lot of research on value chain analysis (Leat and Revoredo-Giha, 2013; Buhr, 2004, Fabiosa, Hu and Fang, 2005; Gow, Oliver and Gow, 2003), marketing analysis (Levy *et al*, 2014a; Martinez, 2012) and pricing strategy analysis (Levy, Dewey, Weersink, Mutua and Poljak, 2014b; Dhuyvetter, 2004; Jumah, 2000) in the pork subsector, albeit, in other areas. An understanding of these can provide a framework through which the current research can adopt.

Buhr (2004) utilised a case study method to identify value-added pork production and marketing in the US. Respondents were identified on criteria of being part of a pork supply chain from production to retail. A predetermined list of items was sent to respondents to prepare in advance. These included the context within which the organizations operate, history of the organization, organization structure, production description and marketing description. Production description involved amongst others critical linkages in production as well as the product line. The marketing description emphasized on advertising, promotion programs and pricing structures. Leat and Revoredo-Giha's (2013) research design also involved a use of case study to examine the Scottish pig supply chain. It consisted of in-depth structured interviews with management of the chain players. Fabiosa *et al* (2005) insisted on a case study to analyse China's commercial pork value chain by utilising structured interviews from breeding and fattening farms, tracing the product movement through processing and retailing. Gow *et al* (2003) emphasized on a research design utilising the case study method on a study analysing value creation in farmer driven marketing channels in the New Zealand pork industry. The study also utilized structured interviews.

Research design by Levy *et al* (2014a) involved the use of a cross-sectional observational case study to assess the challenges and opportunities of small holder pig production and marketing in Western Kenya. Two different sample areas were chosen, one purely rural and the other peri-urban for a comparative analysis of pig butcher operations. The research instrument was a structured questionnaire soliciting data about butchers, their processes, opinions, transportation and

marketing amongst others. The instrument was pretested before being used in the field. Martinez (2012) addressed the issue through a qualitative research design in a study analysing pork quality and the role of marketing contracts in the US pork industry. Secondary qualitative data from summits, published surveys and farmer contracts was utilised.

Levy *et al* (2014b) utilised a survey through a structured price sheet to elicit pricing information from butchers concerning pig prices, revenues and marketing costs. A questionnaire was utilised as the research instrument and contained sections on characteristics, operational practices and assets. Dhuyvetter (2004) utilised a qualitative research design in a study utilising formula prices in the absence of publicly reported prices in the US pork industry. The research utilised published qualitative secondary price data. Jumah (2000) also utilised published price data to analyse long run pricing strategies of pork retailers in Austria.

The literature above highlights that there have been various methodologies exclusively utilised to assess questions relating to value creation through to marketing and pricing in the pork subsector. The case study method has been utilized mainly in the value-addition and value chain analysis, whilst surveys have been utilised in the marketing and pricing analysis. Quantitative and qualitative research methods have also been utilised. The case study method cannot be utilised in a marketing related study mainly because of the small sample required in case studies, which generally cannot be superimposed on a wider perspective. The survey method appears to address the sample limitation by incorporating a larger sample which can be superimposed to a wider scale. In this regard, a questionnaire would be more appropriate than an interview because of its time and cost efficiency. The questionnaire is more ideal in gathering quantitative rather than qualitative data. Given this scenario, formulation of a proper research design is imperative and should be based upon a research method utilising a survey, with a questionnaire as the research instrument, gathering quantitative primary data. This research design must take into cognisance the number of respondents sought, the type of responses and the degree of accurateness sought. The next section highlights the research design this study adopted.

4.5 RESEARCH DESIGN

The research design is the blue print depicting the order to be followed in realising the research objectives or hypotheses. It assesses the opportunity cost of undertaking the research in terms of relevance and economy in procedure (Kothari, 2004). It is a plan that portrays the *modus operandi* in collection and analysis of the data required. A specific research problem or opportunity is addressed by developing a framework (Tustin, Ligthelm, Martins and Van Wyk, 2005). Research designs usually fall into three classes: non-experimental, quasi-experimental and experimental (Marczyk, DeMatteo and Festinger, 2005).

Experimental and quasi-experimental designs associate participants to experimental and control groups (Leary, 2001; Kothari, 2004; Marczyk *et al*, 2005). These span from randomized two group designs, Solomon four group designs and factorial designs. They also include non-equivalent comparison group designs, interrupted time series designs and single subject experimental design. Randomized two group designs are used to demonstrate causality of whether an intervention causes an effect whereas the Solomon four group designs used to assess whether differences in the experimental post-test accrue from an intervention. Factorial designs allow for several outcomes to be analysed and non-equivalent comparison group designs do not utilise random assignments and are thus subjective. Interrupted time series designs are pretest-posttest design with single subject experimental design which trying to establish variability by introducing independent variables (Leary, 2001; Marczyk *et al*, 2005). Experimental and quasi-experimental research designs have advantages of offering more control for the researcher and allow for causal inferences. However, these research designs face validity constraints due to shock exposure of intervention introduction, demoralization of participants and differences in experimental implementation.

Non-experimental or qualitative research designs fall into focus groups, survey studies, naturalistic observation and case studies (Marczyk *et al*, 2005). In case studies, an in-depth examination is conducted on a single or few respondents, with a purpose to give a full and accurate description of the case. They have pros of expanding knowledge base, but however merely describe, avoiding the “why” question. Qualitative research design are likely to increase bias because of the

increased number of interactions between researcher and participant and the findings can also be unreliable in terms of generalizability (Marczyk *et al*, 2005).

Observation studies are carried out in their natural setting without participant knowledge (Marczyk *et al*, 2005). This is likely to reflect true behaviour. It however has drawbacks in that the researcher has no control over settings and participants may not display sought after behaviour. Also it is limited by inability to study unobservable processes.

Surveys ask a large pool of respondents about their opinions, attitudes and behaviours (Cozby and Bates, 2012; Marczyk *et al*, 2005). Some surveys merely describe whilst others try to find characteristic relationship of behaviours and respondents. They have pros of broader generalizability because of their large scope, with little effort and cost effectiveness. However, a balance between response rate and cost should be struck (Marczyk *et al*, 2005). Leary (2001) distinguished between cross-sectional survey design where one group of respondents is surveyed; and successive independent samples survey design where more than one sample of respondents respond to similar questions at alternative times.

Focus groups bring together clusters of individuals, with homogeneous characteristics, for a series of topic discussions allowing for feedback between researcher and participant (Marczyk *et al*, 2005). It requires several participants, between six and ten, and a moderator. It is advantageous in providing an open discussion, but however, the groups are too small for generalizations and the likely bias of opinion altercation because of group dynamics.

The research design adopted by the research is a survey design, with a cross-sectional survey design in particular. This one-shot study provides important information about the group characteristics (Leary, 2001). The idea is to provide a linkage between pricing objectives, strategies and policies and value creation. To achieve this, the researcher solicited responses from players within the industry from each stratum of producers, processors and retailers. The list of respondents was randomly selected from official lists. For producers, the list was obtained from the Pig Industry Board (PIB) and the Agricultural Extension Services (Agritex) Department. For processors and retailers, the list was obtained from Bindura Town Council and

associated Rural District Councils. To obtain a representative sample of respondents from the different stratum, the sample contained equal proportions as that found from the lists of total populations. A questionnaire was used to solicit for responses concerning perceptions about marketing as a value creating element, pricing as an element of a marketing mix, pricing objectives, strategies and policies, attitudes, feelings and behaviours towards pricing and price levels.

4.6 RESEARCH METHOD

Kothari (2004) refers to research methods as the techniques used in conducting a research. Furthermore, they can be grouped into those concerned with data collection, statistical techniques and result accuracy evaluation. "They are the various procedures, schemes and algorithms used in research" (Rajasekar *et al*, 2006). Dawson (2002) further adds that they are data collection tools. Research method should be budget and time conscious as well as appeal to the researcher's personality, strengths and weaknesses (Dawson, 2002).

The current research is quantitative, generally involving primary data collection from many respondents with the purpose of extrapolating the results to a general population. The endeavour is for data quantification by statistical analysis application. Generalizations of a specific population are based on the results of a representative sample. The research findings are subjected to statistical manoeuvring producing generally representative data of the total population and forecasts of future events under different conditions (Tustin *et al.*, 2005; Cant, Gerbel-Nel and Kotze, 2003). However, there are elements of qualitative aspects of the research especially with regards to understanding the attitudes, feelings and behaviours of respondents.

Quantitative research utilises quantity or amount whilst qualitative research concerns phenomena relating to kind or quality (Kothari, 2004). Quantitative research results are numerical, applying statistics or mathematics, conclusively investigating the when, where and what of decision making (Rajasekar *et al*, 2006). On the other hand, qualitative research is non-numerical, applying reasoning, using words in getting meaning, feeling and describing the situation, is exploratory, investigating the how and why of decision making.

4.7 RESEARCH FORMAT

This research is descriptive, constructed to answer how, where, who and what questions. It is imperative in descriptive research that the researcher already comprehends the underlying associations of the problem area.

According to Kothari (2004) descriptive research describes the state of the current affairs. It highlights characteristics, behaviour, thoughts or feelings of a collection of respondents in a methodical and precise way (Leary, 2001). Furthermore, in a particular type of descriptive research, *ex-post-facto* research, the researcher has no variable control, and can only report past or present states (Kothari, 2004). This type of research attempts to measure preferences and to discover causes even without control of variables. Descriptive research utilises survey research designs. On the other hand, analytical research utilises available information and facts, analyses them for a decisive evaluation of material (Kothari, 2004). Leary (2001) highlights the use of descriptive research in surveys where respondents complete questionnaires about themselves.

4.8 SCOPE OF SURVEY

4.8.1 Survey area

The study area was limited to Mashonaland Central Province in Zimbabwe. The Province contains a central town called Bindura and surrounding rural areas of Muzarabani, Mazowe, Guruve, Mount Darwin, Mbire and other smaller markets in Concession and Mvurwi.

Regardless of the fact that Mashonaland Central Province has one of the lowest production figures in terms of pork output as well as the number of producers, the Province was enticing and purposively selected for the current study chiefly due to its size vis-à-vis opportunity cost in ig/pork production and its agro-ecological location. A large chunk of the Province is in natural Regions II and III, ideally suited for crop production and any variance in type of production requires an opportunity cost scrutiny. Coupled with the fact that it is one of the smallest Provinces, at 7.25% of the total area of Zimbabwe, efficiency in production and pricing as well as its inquiry becomes imperative in unlocking the Province's full potential.

4.8.2 Study unit

The unit of analysis with regard to the level of investigation entails collecting data from proprietor's, middle and top management from various agribusinesses that undertake pig farming, pork processing and pork retailing. Various agribusinesses were randomly chosen from the three strata from which interviewees were selected. The value chain diagram below depicts how these various agribusinesses are interconnected (Mutambara, 2013b)

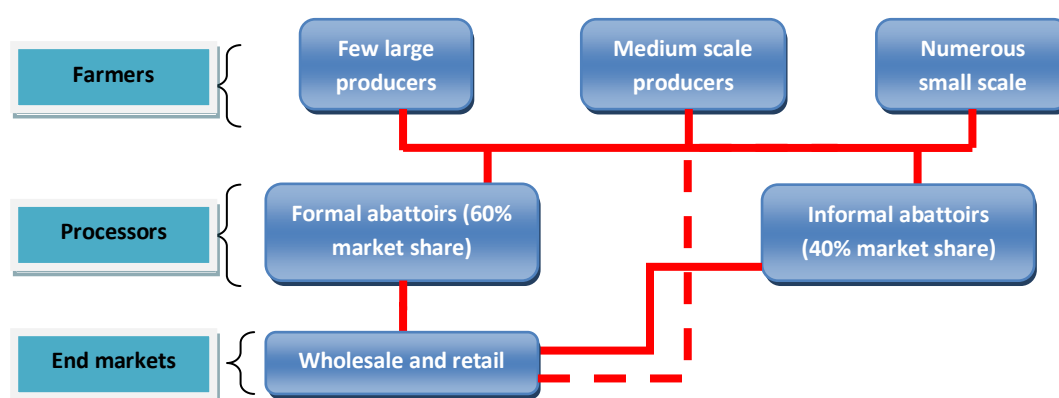


Figure 4.4: Unit of analysis
Source: Adapted from Mutambara (2013b:63)

4.8.3 Survey population

Survey population is the record of elements of a population from where the sample will be obtained (Weather and Cook, 2000). The total population in the survey, by strata, is shown in Table 4.4. The population excluded communal number mainly due to the reluctance to induce agribusiness decision making concerning pricing.

Table 4.4: Total population of pork enterprises in Mashonaland Central Province (excluding communal producers)

Industry player	Number
Producers:	
A ₁	152
A ₂	193
Small scale commercial	92
Large scale commercial	14
Processors	14
Retailers	53
Total	518

Source: ZIMSTAT (2014a); Sukume (2015)

4.9 SAMPLING METHOD

4.9.1 Sampling technique

A multi-stage sampling technique of various stages was utilised. In the initial stage of selecting Mashonaland Central Province was purposively done owing to its size and opportunity cost in pig/pork production characteristics of the province's agro-ecological location which might lead to unlocking the province's full potential. The next stage involved a simple random sampling proportionate to the total population size so that a number in which all stratum are equally represented is obtained. The sample was chosen randomly from the population of each of the strata of pork producers, processors and retailers in Mashonaland Central Province in Zimbabwe. The strata for producers contains a population of 451 subdivided into 152 A₁ producers, 193 A₂ producers, 92 small scale producers and 14 large scale producers (ZIMSTAT, 2014a). There are fourteen registered abattoirs in the Province (Sukume, 2015) and fifty three registered butcheries^{§§}. The uniqueness of random sampling lies in the fact that all members have equal probability of being part of the sample (Roberts-Lombard, 2002). This probability sampling method ensures that each member of the 451 producers, 14 processors and 53 butchers is included in selecting the sample. The sample was selected from the lists provided by the Pig Industry Board, Agritex Department and Bindura Town Council and associated Rural District Councils.

4.9.2 Simple random sampling

The study used stratified random sampling to choose respondents from the population. A random sample was selected from each of the strata of producers, processors and retailers. According to Cooper and Schindler (2003), simple random sampling is a probability sampling where each element of the population in each stratum has a recognized and equal selection likelihood. This is a probability sampling method where a random process is used to select all members of a sample and each of the pork subsector player population have a recognized, non-zero possibility of inclusion into the sample.

^{§§} www.brabys.com/type/wholesale/Zimbabwe

4.9.3 Sample size

The purpose of study and the nature of population determine the correct sample size (Martins, 1999). Even though no common rules exist, thirty cases suffice for studies utilising statistical analysis.

The formula below was utilised to account for the sample where a probability sampling method is used (Clementina, Maurice and Chioma, 2015):

$$n = \frac{N}{1 + N(e)^2}$$

Where n = sample size; N = population size, 518 in this case and e = degree of precision (95%).

$$n = \frac{518}{1 + 518(0.05)^2}$$

$$n = 226$$

The breakdown of the sample is as follows:

Table 4.5: Sample size by strata

Industry player	Total Population	Sample size	% of population
Producers:			
A ₁	152	66	43.4
A ₂	193	84	43.5
Small scale	92	40	43.5
Large scale	14	6	42.9
Processors	14	6	42.9
Retailers	53	24	45.3
Total	518	226	43.7

Source: ZIMSTAT (2014a) and own calculations

4.10 DATA GATHERING TECHNIQUE

This section highlights motivation for utilising personal interviews as a technique for data gathering, and how the actual survey was conducted with the respondents. The rationale for using the cover letter and the questionnaire is also explained in this section.

4.10.1 Personal interview

A personal interview was utilised. It is a two-way, interviewer and participant, conversation to solicit information. It delineates roles of the interviewer and

participant, patterns and topics being controlled by the interviewer. It is far superior to self-administered and telephone studies via intercepts and surveys due to detail and depth of information collected. It is also flexible in that the interviewer can take note of conditions, adjust the language, further probe and supplement information through problem observation and interview effects on respondents. Interviewers are able to exercise more control and can pre-screen respondents, highlighting the type of answer required, completeness, and the terms to be expressed (Cooper and Schindler, 2003; Cant *et al*, 2003).

Personal interviews were exploited because they ensure good cooperation due to their private nature and limited effort required of respondents (Tustin *et al.*, 2005).

4.10.2 Cover letter

A covering letter (Appendix 2) was collected from the Agricultural Economics Department in the Faculty of Science and Agriculture at the University of Fort Hare illuminating the research nature and indicating confidentiality in the information to be collected. The covering letter, used to motivate the respondents, was availed to the respondent to read before conduct of the personal interview. The letter was used to induce cooperation through project description, highlighting reasons for choosing respondents and emphasizing how their responses were utilised (Smith and Martins, 1999).

4.10.3 The questionnaire

The questionnaire (Appendix 1) was the primary research instrument used in this study. It contained questions, structured and standardized, pre-coded and developed to collect information from respondents recording their responses (Churchill, 1998). It is an instrument for data collection highlighting the questions to be asked in a formal systematic way. Furthermore, it is a sequence of questions drawing out opinions and facts, providing a means for data recording (Tustin *et al.*, 2005). It contains an array of questions:

Open ended responses

These are unaided, free response questions calling for answers in the words of the respondent. Responses vary, and are quite versatile. A diverse type of primary data can be collected, from demographics to attitudes, behaviours and

opinions. Open-ended questions usually query for extra information in the course of “Why?” questions (Tustin *et al.*, 2005; Cooper and Schindler, 2003).

✚ Closed-ended responses

Mainly three types which include dichotomous, multiple-choice and scaled or Likert scale responses:

- ✓ **Dichotomous responses:** allows for just two likely responses, usually contrasting each other. Nominal data is generated from such responses, for example male or female; yes or no. Answers must be contained in one of either of the two for validity (Cooper and Schindler, 2003; Tustin *et al.*, 2005).
- ✓ **Multiple-choice responses:** these are fixed alternatives like dichotomous, but offering two or more responses. Respondents choose an alternative, correctly expressing their opinion. The responses should be reasonably classified into fixed categories, or deliberately channel respondents thoughts in a certain direction. Multiple-choice generates nominal data. Interval and sometimes ratio data is produced when the choices are numbers. If the choices are ordered numerical ranges (for example a producer price question), ordinal data is generated (Cooper and Schindler, 2003; Tustin *et al.*, 2005).
- ✓ **Likert-scaled-responses:** allows measurement of respondent’s intensity to multiple-choice responses. It incorporates numbers that can be used directly as codes. It generates interval and ordinal data from the rating scale (Cooper and Schindler, 2003; Tustin *et al.*, 2005).

The questionnaire was used to solicit responses regarding value creation in the pork industry, marketing, pricing and strategies (Appendix 1). It was utilised because of the subsequent reasons:

- ✚ It is inexpensive in terms money and time
- ✚ It enables respondents’ honesty in their responses owing to anonymity

4.10.3.1 Questionnaire design

The questionnaire outline was kept very simple to inspire significant respondent participation. The questions were brief with care taken to the actual question jargon and wording. This is due to the significant influence of questionnaire layout, appearance and design in any questionnaire-completed-related survey (Loubser,

1999). Academic works by other scholars was utilised as guidelines for questions development in the questionnaire. Five-point Likert, multiple-choice and dichotomous questions were utilised to ensure complete information solicitation from respondents (Loubser 1999).

Dichotomous questions were utilised for the following reasons (Cooper and Schindler, 2003):

- ✚ Two answer possibilities. For example gender related questions; and
- ✚ Ease in coding and analysing, since the responses are predetermined.

Multiple-choice questions were employed for the study because of the following reasons (Cooper and Schindler, 2003):

- ✚ Reduction in non-response error due to their simplicity in answering; and
- ✚ Response pre-determination which eases coding and analysis.

Five point Likert scale questions were exploited by the researcher because of the following reasons (Cant *et al*, 2003):

- ✚ Elimination of response bias development amid the respondents;
- ✚ Capability in assessing perception, opinions, beliefs and attitudes;
- ✚ Standardization and comparability of responses between the respondents; and
- ✚ Response pre-determination which eases coding and analysis.

Ninety one (91) questions out of ninety two (92) were closed ended. Cooper and Schindler (2003) refer to closed ended questions as those that fixate choices. A set of alternatives restrict respondent choices. These types of questions were utilised because of the following reasons(Cant *et al*, 2003):

- ✚ They enable less effort in question comprehension by respondents: rendering it time-effective in questionnaire completion. This reduces non-response error; and
- ✚ Response pre-determination makes coding and analysis easier.

Open-ended question usage was limited to one (1) question and was utilised to find the reason why respondent had considered the most important marketing mix component from an options set. Open-ended questions do not limit the responses of respondents (Cooper and Schindler, 2003), but avail a framework of references for

their answers. There is freedom for respondents to provide their own worded responses to the questionnaire questions. Open-ended questions were limited because (Cant *et al*, 2003):

- ✚ They increase non-response errors due to time-consumption in completion; and
- ✚ They are not pre-determined and thus problematic to code and analyse.

The questionnaire had the following activities carried out on it prior to use:

4.10.3.2 Pre-testing

Pre-testing is testing the questionnaire on a small sample of respondents, trying to validate and eliminate potentially mis-worded or meaningless questions. The various facets from wording, sequence and layout are tested. A homogenous set of respondents should be chosen for the pre-test to identify questionnaire problems (Roberts-Lombard, 2002). These problems can vary from formatting, skip pattern and question content. The problems include confusion in question meaning and interpretation of terms, navigating and skipping questions. Other problems emanate from the time required to complete the questionnaire and its face value and content validity. If unaddressed, these problems result in missing data and loss of vital information (Snidjers, 2001).

The questionnaire was pre-tested in Mashonaland East, at the PIB in particular, which contains the producer, abattoir and retail sections. Management of these various facets of pig industry were utilised in the pilot study. Time and cost factors limited the pre-testing to these areas. Pre-testing was used in the study to identify flaws in the questionnaire and to determine the time required by a respondent to complete the questionnaire. Furthermore, in the study at hand pre-testing the questionnaire was to test its face and content validity, and to identify and rectify problem areas. After pre-testing the instrument, it was refined for the data to be collected.

The pre-test revealed that some of the respondents were not willing to divulge their pricing strategies and responded poorly to the open ended question. The respondents did not understand some of the concepts and questions in the questionnaire and this resulted in the researcher coming up with a redefinition to some questions. Furthermore, the arrangements of some of the questions were

faulty. The result of the pre-test, consequently, led to some amendments to the questionnaire. The researcher was able to obtain most of the required information.

4.10.3.3 Validity and reliability of questionnaire

Content validation is judgemental and there are various ways it can be accomplished. Cooper and Schindler (2001) opine to the use of a panel of experts or use of own judgement in evaluating how well an instrument meets standards. Dzansi (2005) supports the notion of using personal judgement to assess if instrument is of the required standards. Own judgement and a panel of post graduates from the Department of Agricultural Economics at University of Fort Hare has been utilised in the current study. The researcher, however, referred to literature (journals, books, theses and dissertations) to ascertain how well the research instrument meets standards.

There exists suggestions from published journals, doctoral and masters' theses in the field of value chain, marketing and pricing that questionnaire validity and reliability is not influenced by utilising different types of questions.

Levy (2014) carried out a study in Western Kenya concerning small holder pig production and marketing in an effort to assess the opportunities and challenges. A questionnaire with an array of questions (closed-ended, multiple-choice and open-ended) comparing rural and peri-urban pig butchers was utilised. Levy (2014) also utilised the same instrument with the various types of questions in assessing pig marketing and factors associated with prices and margins in Western Kenya. Gcumisa (2013) utilised a range of questions (closed-ended, multiple-choice and open-ended) in his research instrument on a study to identify pig production and management practices by farmers in Kwazulu-Natal, South Africa. Questions peculiar to the current study relate to marketing channels, abattoir sales, seasonality of sales and carcass weight. In a study to analyse and quantify the South African red meat value chain, Spies (2011) exploited a variety of questions (closed-ended, multiple-choice and open-ended) in his research instrument. Questions concerning demographics, cost of production, output price, production portfolio, constraints and risk perceptions, markets and marketing channels, which are related to the current study, were enquired. Ajala and Adesehinwa (2007) used a questionnaire consisting of the various questions in a study analysing the roles and efficiency of pig marketing

efficiency in Northern Nigeria. Their questions spanned from pig/pork price, source of origin and flow of pigs, type of buyer and seller. Luppnow (2007) also utilised the various questions (closed-ended, multiple-choice and open-ended) in a study to investigate effect of pork importation in Queenstown, South Africa. Questions relating to demographics, pork sales and price were asked. Grannis and Thilmany (2002) utilised an online questionnaire with the various questions in a study to analyse the marketing of natural pork in Colorado, US, and the questionnaire was pre-tested and tested for reliability and was observed to be reliable. These accomplished studies focused on value creation, marketing and pricing research in the pork industry. This study utilised questions similar to those used in these reviewed studies and the results were recognized as valid.

The literature above points out that the researcher's questionnaire is valid since comparable questions were utilised to measure and gather data to attain research objectives. Furthermore, it points out that the researcher's study was not the first in the pork value chain, marketing and pricing field to utilise closed-ended, multiple choices, and open-ended questions. This makes the research instrument applicable and relevant as a measuring tool.

Data collected pertained to (i) value creation specifically referring to its awareness, importance and how the agribusiness performed against the activities contained therein; (ii) marketing specifically addressing importance and agribusiness performance; (iii) pricing, zeroing in on the awareness of pricing objectives, importance and performance; pricing policies, highlighting its awareness, importance and performance; price setting mechanisms and agribusiness performance; (iv) attitudes, feelings and behaviours towards pricing by agribusinesses; and (v) demographics, specifically regarding the category of agribusiness as well as its product portfolio, average price and profit to cost ratio. Position of respondent within the agribusiness, gender, age and educational level of respondent were also part of the demographics. Furthermore, agribusiness location, period of existence, the average number of pigs handled and its weight as well as buyers, assessing how long they travel, who they are and seasonality of sales; and agribusiness considerations and challenges when selling pork products were also part of the demographics.

Data analysis forms an integral part of any research project. This involves the editing, coding and processing of data. The section below provides a detailed procedure of how the data collected by the researcher were analysed.

4.11 DATA ANALYSIS

Data analysis engrosses a synthesis of accrued data to a manageable size, applying statistical *modus operandi* and looking for patterns. It involves result interpretation in relation to the research questions and determination of whether the results show consistency with hypotheses and existing theory (Cooper and Schindler, 2003). Data editing, coding and processing are an essential part of data analysis. These components are deliberated in more detail below.

4.11.1 Cleaning of data

Questionnaire responses were edited. This involves a meticulous and decisive inspection of the completed questionnaire, referring to conformity with meaningful data collection criteria and to deal with uncompleted questionnaires (Cooper and Schindler, 2003). This process spots errors and oversights, amends where possible and verifies attainment of minimum data quality standards. *Ergo*, editing guarantees complete, accurate, consistent, uniformly entered data arranged for coding simplicity.

4.11.2 Coding of data

The questions on the questionnaires were coded for trouble-free categorization. It involves numbering or symbolizing responses to group them into limited categories or classes. This is necessary for efficient analysis, assisting the researcher in filtering bulky responses into a few classes containing central information essential for data analysis. Pre-coding becomes predominately essential especially when it relegates the need of completing a coding sheet. In this case, data can be obtained straight from the questionnaire (Cooper and Schindler, 2003).

4.11.3 Processing of data

The processing of data was done using the Statistical Package for Social Scientist (SPSS) software version 22.0. SPSS is a cohesive set of modules used for

manipulating, scrutinizing and presenting data. It consists of a statistical number of computer based programs. It has flexibility in relation to the type of data used, maximum or minimum size of sample and the number of variables allowed (Kirkpatric and Freeney, 2012; Ntoumanis, 2005; Field, 2009).

4.12 FRAMEWORK OF DATA ANALYSIS

Table 4.6: Framework of data analysis

Research Objective	Research Question	Research Hypothesis	Data collected	Analytical Tool
To an determine influence of marketing on value creation in the Zimbabwean pork industry	What influence does marketing have on value creation in the Zimbabwean pork industry?	Marketing is the most influential primary value creating activity in the Zimbabwean pork industry	Awareness, importance of marketing against input logistics, operations, outbound logistics, after sales and services	Cross tabulation analysis Correlation analysis Chi square analysis
To factor out the most influential marketing mix component in the Zimbabwean pork industry	What is the most influential marketing mix component in the Zimbabwean pork industry?	Pricing is the most influential marketing mix component in the Zimbabwean pork industry	Awareness and performance in pricing, promotion, place, product, policies, physical climate	Cross tabulation analysis One Way ANOVA analysis Chi square analysis
To ascertain the pricing strategies being utilized in the Zimbabwean pork industry	What are the pricing strategies being utilized in the Zimbabwean pork industry?	Zimbabwean pork industry players utilize follow-the-leader pricing strategies	Pricing objectives, pricing policies, price setting and price levels	MANOVA analysis
To determine the influence of attitudes, feelings and behaviour towards pork pricing to attainment of pricing objectives	Do attitudes, feelings and behaviour towards pricing have an influence on attainment of pricing objectives?	Attitudes, feelings and behaviour towards pork pricing have an influence on attainment of pricing objectives	Perception towards pricing	Cross tabulation analysis Multiple regression analysis
To measure pricing efficiency in the Zimbabwean pork industry	Is commodity pricing in the Zimbabwean pork industry efficient?	Zimbabwe has an imperfect pork pricing market	Price levels	Marketing margin analysis Linear regression analysis

4.12.1 Statistical analysis of data

4.12.1.1 Cross tabulation

The cross tabulation analysis was used to test the hypotheses:

- ❖ **Marketing is the most influential primary value creating activity in the Mashonaland Central Province Pork Industry**
- ❖ **Pricing is the most influential marketing mix component in the Mashonaland Central Province Pork Industry**

In cross tabulation analysis, the following test statistics were used to explain the results:

Table 4.7: Framework of data analysis (Cross Tabulation)

Test statistic	Result
Phi	Measure of effect size for an association statistic
Symmetric measures	Measures strength of the relationships or effect of size
Pearson Chi – square significance	Reject H_0 if significance < 0.05

Source: Ntoumanis (2005)

The Chi-Square was utilised in determination of whether a statistically significant relationship exists between two nominal or dichotomous variables (Morgan, Leach, Gloeckner and Barret, 2004), but it however does not signal relationship strength.

In the symmetric measures, if value of the statistic is close to zero, the association between variables is weak.

4.12.1.2 *Correlation analysis*

The existence of a variable linear relationship is determined through the correlation statistical method (Bluman, 2009). It consists of two types: partial and bivariate (Field, 2009). A bivariate correlation is a linear relationship amongst two variables while a partial correlation looks at the correlation concerning two variables ‘controlling effect of one or more additional variables’.

The research utilized the bivariate correlation analysis.

The correlation analysis produces a correlation coefficient (r) which lies between +1 and -1. When r is near +1 or -1, there is a strong linear relationship. When r is near 0, the linear relationship is weak and non-existent (Bluman, 2009; Groebner, Shannon, Fry and Smiths, 2011).

The correlation analysis was used to test the hypothesis:

❖ **Marketing is the most influential primary value creating activity in the Mashonaland Central Province Pork Industry**

The variables collected pertained to marketing as well as inbound logistics in terms of acquiring inputs, goods and services. They also included outbound logistics in

term in term of transporting out of the enterprises as well as after sales services and networking.

In a Canonical correlation analysis, independent variables are correlated against several independent variables (Hair Jnr., Black, Babin and Anderson, 2010). The idea is to develop a linear combination of each set of variables (both independent and dependent) in a manner that maximizes the correlation between the two sets, i.e.

$$y_1 + y_2 + y_3 + \dots + y_n = x_1 + x_2 + x_3 + \dots + x_n$$

Where Y_n is a standard for measuring value creation and in this instance margin (profit) and $X_{1\dots n}$ are the primary value creating activities which include marketing and sales, outbound logistics, processing, inbound logistics and after sales-services.

This research identified whether or not there is a correlation between margin and marketing comparing to other correlations with other primary value creating activities.

In correlation analysis, the following test statistics were used to explain the results:

Table 4.8: Framework of data analysis (Correlation)

Test statistic	Result
(coefficient of determination)	Measures amount of variability in one variable that is shared by the other
Pearson's correlation coefficient (r)	Measures the strength and direction of a linear relationship between two quantitative variables
Correlation significance	Reject H_0 if significance < 0.05

Source: Bluman (2009); Groebner *et al.* (2011)

If H_0 has been rejected, there can be five possible explanations amongst variables: a direct or reverse cause-and-effect, third variable influence, interrelationship complexity or coincidental.

4.12.1.3 One way ANOVA analysis

The Analysis of Variance (ANOVA) allows the difference of more than two means to be examined at the same time (Kothari, 2004). It is a technique for testing homogeneity difference among different data groups. Variation within and between sample items might exist (Kothari, 2004). The ANOVA method can examine any number of factors which are conjectured or said to have an influence on the

dependent variable. It highlights whether three or more means are similar (Field, 2009).

The model can be prescribed as follows:

$$y = x_1 + x_2 + x_3 + \dots + x_n$$

Where y_1 represents pricing and $x_{1...n}$ represent other marketing mix components which include product, promotion, place, policies, physical climate and partners.

ANOVA Analysis was used to test the hypothesis that:

❖ Pricing is the most influential marketing mix component in the Mashonaland Central Province Pork Industry

The research assessed if there is significant differences in the means between the different marketing mix components of price, promotion, product, place, policies, physical climate and partners.

In ANOVA analysis, the following test statistics were used to explain the results:

Table 4.9: Framework of data analysis (ANOVA)

Test statistic	Result
F ratio	More variability between, rather than within the groups, is indicated by a large F ratio
Post hoc test	Used to elaborate where these differences in means lie
ANOVA Significance	Reject H_0 if significance < 0.05

Source: Field (2009); Kothari (2004)

4.12.1.4 MANOVA analysis

Multivariate Analysis of Variance (MANOVA) is a statistical technique designed to simultaneously explore several metric dependent variables' relationship to several categorical independent variables (Hair Jnr, Black, Babin and Anderson, 2010). Instead of using multiple ANOVAs which increases the chance of making Type I errors and lose any existing correlation information between the dependent variables, MANOVA can be used which would include all dependent variables in the same analysis, taking into account the inter-outcome variable relationships (Field, 2009).

The model can be simplified as:

$$y_1 + y_2 + y_3 + \dots + y_n = x_1 + x_2 + x_3 + \dots + x_n$$

Where $y_{1\dots n}$ are the cost based pricing strategies which include average cost pricing, target return to cost, break even pricing and marginal pricing; and $x_{1\dots n}$ are the demand based pricing strategies that include negotiated pricing, product bundle pricing, psychological pricing, full line pricing, price lining, prestige pricing, demand-backward pricing, odd-even pricing, complimentary product pricing, bait pricing, bid pricing and leader pricing.

The MANOVA Analysis was used to test the hypothesis that:

❖ **Mashonaland Central Province Pork Industry players utilize follow-the-leader pricing strategies**

However, to fully understand the data, a follow-up Post Hoc Test analysis was utilized. The Post Hoc Test is utilised to see how we can best separate as set of groups using several predictors (Field, 2009). In this case distinctive groups can observed and differences within each group is examined simultaneously

The research used the MANOVA analysis to assess if there is a significant difference in usage of cost oriented pricing strategies to demand oriented pricing strategies.

In MANOVA Analysis, the following test statistics were used to explain the results:

Table 4.10: Framework of data analysis (MANOVA)

Test statistic (Group effects)	Result
Pillars Trace	Reject H_0 if significance < 0.05
Wilks's Lambda	Reject H_0 if significance < 0.05
Hotelling's Trace	Reject H_0 if significance < 0.05
Roy's Largest Root	Reject H_0 if significance < 0.05

Source: Field (2009); Hair Jnr. *et al.* (2010)

4.12.1.5 *Linear regression analysis*

A linear regression shows the relationship between two variables, a dependent variable and an independent variable (Groebner *et al*, 2011; Anderson, Sweeney and Williams, 2011).

The linear regression model is:

$$y_{1\dots n} = \beta_0 + \beta_1 x_{1\dots n} + \epsilon_i$$

Where $y_{1...n}$ represents retail prices for retailers 1... n, β_0 represents the marketing margin, β_1 represents the contribution of $x_{1...n}$ representing farm prices for farmers 1 ... n and ε is the error term. Retailers and producers will indicate price of their pork product from a possible range in the questionnaire.

Value of β_1 is utilised to estimate the association between the dependent and independent variable. If $\beta_1 > 0$, a positive linear relationship exists; if $\beta_1 < 0$, a linear negative relationship exists; and if $\beta_1 = 0$, then there exists no relationship

The linear regression analysis was used to test the hypothesis:

❖ **Mashonaland Central Province has an imperfect pork pricing market**

In linear regression analysis, the following statistics are to be used to explain the results (Groebner *et al.*, 2011).

Table 4.11: Framework of data analysis (Linear Regression)

Test statistic	Result
B Value	The value of the coefficients in the linear regression model
Beta Value	Measures the independent and dependent variable correlation in the linear regression model
ANOVA significance	Reject H_0 if significance < 0.05

Source: Hair Jnr. *et al.* (2010); Groebner *et al.* (2011)

4.12.1.6 *Multiple regression analysis*

It is a type of multivariate method appropriate when the research problem encompasses various metric independent (explanatory) and a single metric dependent variable which are interrelated (Hair Jnr. *et al.*, 2010; Landau and Everitt, 2004; Groebner *et al.*, 2011). Multiple regression analysis aims to forecast the dependent variable change in reaction to independent variables change.

The multiple regression model for a response variable, y , with observed values, y_1, y_2, \dots, y_n (where n is the sample size) and q explanatory variables, $x_{1i}, x_{2i}, \dots, x_{qi}$, for $i = 1, \dots, n$, is:

$$y_{1...n} = \beta_0 + \beta_1 x_{1i} + \beta_2 x_{2i} + \dots + \beta_q x_{qi} + \varepsilon_i$$

Where $Y_{1...n}$ represents the pricing objectives which include profit oriented, sales oriented, *status quo* oriented and survival whilst $X_{1...q}$ represents the attitudes, feelings and behaviours towards the price setting, policies and strategies.

The Multiple Regression Analysis is used to test the following hypothesis:

❖ **Attitudes, feelings and behaviors towards pork pricing have an influence on attainment of pricing objectives**

In multiple regression analysis, the following statistics were used to explain the results (Groebner *et al.*, 2011).

Table 4.12: Framework of data analysis (Multiple Regression)

Test statistic	Result
R^2 (Multiple coefficient of determination)	Proportion of the total variation of the dependent variable explained by the independent variable(s)
Adjusted R^2	Percentage measure of explained variation in the dependent variable taking into account size of sample and number of independent variable
Beta Value	Measures percentage contribution of each independent variable towards the dependent variable
B Value	Measures the coefficient value of each multiple regression independent variable
ANOVA significance	Reject H_0 if significance < 0.05

Source: Hair Jnr. *et al.* (2010); Landau and Everitt (2004); Groebner *et al.* (2011)

4.12.1.7 *Marketing margin analysis*

The study adopted a marketing margin model as proposed by Wohlgenant (2001). The assumption is a fixed transformation between farm and retail quantities:

$$P_r = M + aP_f \dots\dots\dots(1)$$

Where P_r represents retail prices and P_f represents farm prices. The marketing margin (M) consists of a combination of absolute amounts and constant percentages of retail prices, i.e.

$$M = \alpha + \beta P_r \dots\dots\dots(2)$$

where α and β are constants. By substituting equation (2) into (1);

$$P_r - aP_f = \alpha + \beta P_r \dots\dots\dots(3)$$

And differentiating with respect to P_f

$$\frac{d(\log P_f)}{d(\log P_r)} = (1 - \beta) \frac{P_r}{P_f a} \dots\dots\dots(4)$$

Gives.

$$\frac{d(\log P_f)}{d(\log P_r)} = \frac{1 - \beta}{S_{f^0}} \dots\dots\dots(5)$$

Where $S_{f^0} = \frac{P_f a}{P_r}$.

The Marketing Margin Analysis is used to test the following hypothesis:

❖ **Zimbabwe has an imperfect pork pricing market**

So long as $\beta > 0$, farm price elasticity in regard to retail price will be less than the reciprocal of the farm value share (measured with respect to the fixed input-output ratio a). This relationship depicts existence of imperfect price transmission. If $\beta = 1$, there is perfect price transmission. Bakucs and Ferto (2005) further add that the mark-up to farm price is measured by the relationship $(e^M - 1)$.

4.13 LIMITATIONS OF THE STUDY

The study encountered limitations in terms of the spatial distribution of the respondents. Most of the respondents were situated very far apart, some from one corner of the Province relative to the other. In that essence, the logistics were particularly limiting. The pig producer stratum was also particularly limiting in that some of the decision makers within the enterprises were residing in other areas other than their business enterprises. Gathering data from this group proved particularly difficult, as further calls and follow-ups had to be innovated to gather the sought after data.

The study was characterised by temporal and financial limitations. The spatial distribution added further transport and communication costs which were compounded by the time devotion to such endeavours.

The study also encountered non-response errors and lack of cooperation especially in relation to pricing information and strategies. Some respondents treated such data with suspicion that it might be divulged to their competitors or government and they had to be reminded that the data would be kept in strict confidence.

4.14 CHAPTER SUMMARY

The chapter has examined the research methodology by first outlining the Mashonaland Central Province study area. The conceptual framework, research design, method and format were part of the chapter. The scope and organization of the survey were comprehensively discussed. Additionally, the chapter examined the data gathering technique to be used for the research, especially the rationale for choosing the questionnaire, and the need for a covering letter. Furthermore, the chapter focused on the editing, coding and processing of data and the statistical packages used to analyse data. Finally, the chapter examined the reliability of the results. The errors that can affect the validity of the results and the techniques that were used by the researcher to minimize them were discussed.

In the following chapter the research results will be presented. The chapter concentrates on the responses of the respondents to the questions in the questionnaires. Tables and charts were used to aid the analysis of the data.

CHAPTER FIVE

RESULTS

5.1 INTRODUCTION

This chapter focuses on the results and interpretation of the findings. Data analysis and its interpretation are closely related. In data analysis, the collected data are broken down into groups or elements which the researcher examines separately, and translates into immediate results. In interpretation, the immediate results were translated into integrated and meaningful general references and findings. The findings must be relevant to the objectives of the research. If both data analysis and interpretation are not carried out properly, the success of a study cannot be assured (Proctor, 2000).

Descriptive statistics such as tables, pie charts, doughnut charts, radar charts, column charts and bar charts were used to aid the analysis of data because they are effective illustrations depicting relations and trends. This chapter will illustrate the accumulation of results obtained from the questionnaire. The questionnaires were administered to agribusinesses involved in pig production, processing and retailing in the Mashonaland Central Province. Variable numbers were allocated to each question and its components in the questionnaire, so that responses could be grouped into a limited number of categories. This is required for the efficient analysis of the questions.

Section 5.2 below examines the analysis and interpretation of data obtained from the respondents through the questionnaire.

5.2 EMPIRICAL RESULTS

This section deals with the results and interpretation of the findings obtained from the respondents in the study area through interview-administered questionnaires.

5.2.1 Characterization and Response Rate

Table 5.1: Response rate

Industry player	Sought after responses	Actual responses	% Responses
Producers:			
A ₁	66	56	84.85%
A ₂	84	66	78.57%
Small scale	40	38	95%
Large scale	6	6	100%
Processors	6	6	100%
Retailers	24	24	100%
Total	226	196	86.73%

Source: Survey data

The response rate is shown in Table 5.1 above. There was a lower response rate for the pig farmers, with the lowest being recorded by A₂ farmers. This came about mainly due to unavailability of some of the respondents as well as uncooperativeness of others. The producers were particularly difficult to reach especially because of their spatial distribution, which tended to have a temporal impact. Consequently, the response was 13.27% lower than the number envisaged.

Male respondents totalled 65.3% against female respondent proportion of 34.7%. The gender distribution is observed in Figure 5.1 below

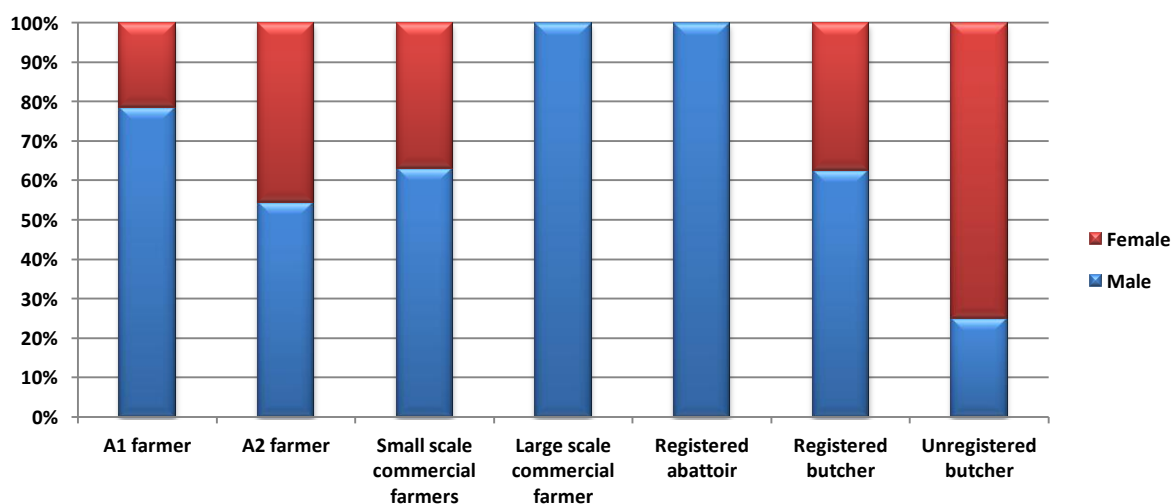


Figure 5.1: Gender of respondent and category of agribusiness

Source: Survey data

Large scale commercial farmer respondents as well as the registered abattoirs had no female respondents. Seventy five percent of female respondents were involved in butchery, especially the unregistered ones, against 25% males. Registered

butcheries respondents constituted 62.5% male and 37.5% female. Small scale commercial respondents comprised of 63.2% male and 36.8% female. A₂ and A₁ respondents comprised of 54.5% and 78.6% males, with 45.5% and 21.4% females, respectively.

Gender orientation in the context of the current study is quite peculiar in how the respondents viewed the various value creating activities, marketing mix component and pricing strategies. Chazovachii (2012) adds on this effect compounded by the patriarchal-male-dominated nature within the Zimbabwean nation. Supported by Narayan (2000), women are more vulnerable to social exclusion, ownership of assets, participation in the public and decision making. Most females are more likely to gravitate towards less physically imposing value creating activities for instance. They are more likely to sway towards marketing and after sales services and networking as being relatively more significant in creating value. Thus, the unregistered butchers, with 75% female respondents fell in this bracket. On the other hand, male respondents will be more swayed towards physically demanding value creating activities such as inbound logistics, processing/producing as well as outbound logistics. A case in point is that all the large scale commercial farmers respondents as well as the registered abattoir respondents were all male. The gender balance and/or imbalance thus had an influence on the value creating activities that are adjudicated to be essential and effective.

Educational levels amongst the respondents varied, as shown in Figure 5.2. All the unregistered butchery respondents had up to secondary education. This was also observed for all female registered butcher respondents who had up to tertiary education. Sixty (60) percent of registered butcher male respondents had secondary education, whilst for registered abattoirs, 66.7% had tertiary education. All the large scale commercial farmer respondents had tertiary education. Forty three percent of small scale commercial farms female respondents attained tertiary education, as well as secondary education, whilst males had 41.7% and 25%, respectively. Fifty three (53) percent of A₂ farmer female respondents' attained tertiary education against 11.1% of males. However, 61.1% of males attained secondary education relative to 33.3% of female. Fifty percent of A₁ female respondents had secondary education compared to 31.8% of males. On the other hand, 27.3% males had tertiary education relative to 16.7% for females.

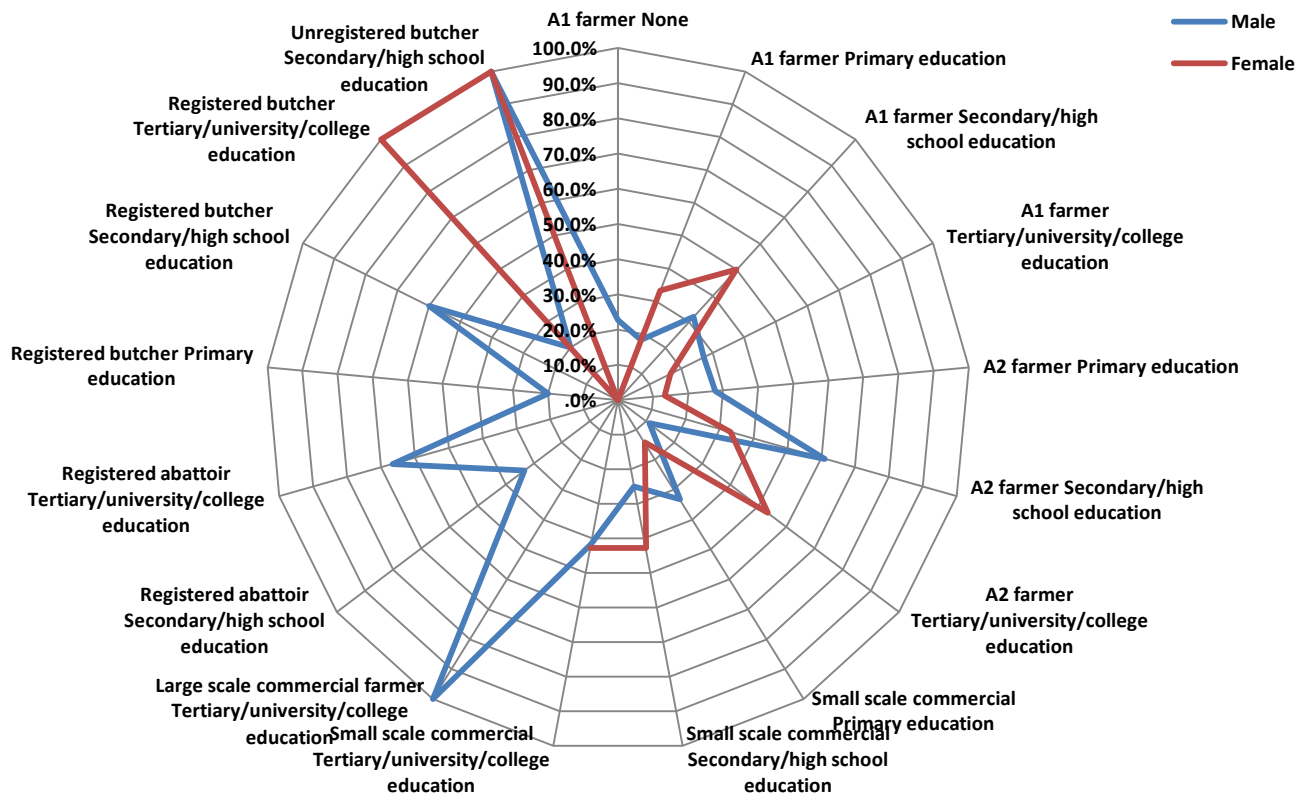


Figure 5.2: Gender, educational level and category of agribusiness
Source: Survey data

Educational level is significant in highlighting awareness and likely adoption of value creating activities and pricing strategies. It is also an essential ingredient in innovativeness since respondents would have had a theoretical background. Bester *et al* (1980) argues to the affirmative whilst Sebotja (1999) argues to the contrary that no evidence exists of literacy enhancing adoption and innovativeness. For instance, those who attained tertiary education are likely to have come across the theoretical and practical implications of some of the value creating activities and pricing strategies. A case in point being 50% of registered butcher respondents, all large scale commercial farmer respondents as well as 42.1% of small scale commercial farmer respondents. Thirty percent of A₂ farmer respondents, 25% of A₁ farmer respondents and 66.7% of registered abattoir respondents respectively were also in the bracket of those with tertiary education. Any novice developments can be easily integrated into existing systems in such instances. Those with primary and no education at all are unlikely to be aware of the value creating activities and pricing

strategies. For instance 39.3% of A₁ farmer respondents, 21.2% of A₂ farmer respondents, 26.3% of small scale commercial respondents and 12.5% of registered butcher respondents had primary to no education at all.

Thirty nine (39) percent of the respondents were aged 40 years and above. The age distribution and position of respondents within the agribusiness are shown in Figure 5.3. It can be observed that 51.6% of those who are 40 years and above actually own their agribusiness. Thirty three percent was involved with management within the agribusinesses, whilst 12.5% was involved in the supervision of the agribusiness within the same age group. The age group with the least number is 25 to 29 years, constituting 10.0% of respondents. Three percent of these respondents actually own their agribusinesses, 8.3% involved with management, while 29.2% are supervisors out of the total number of owners, managers and supervisors.

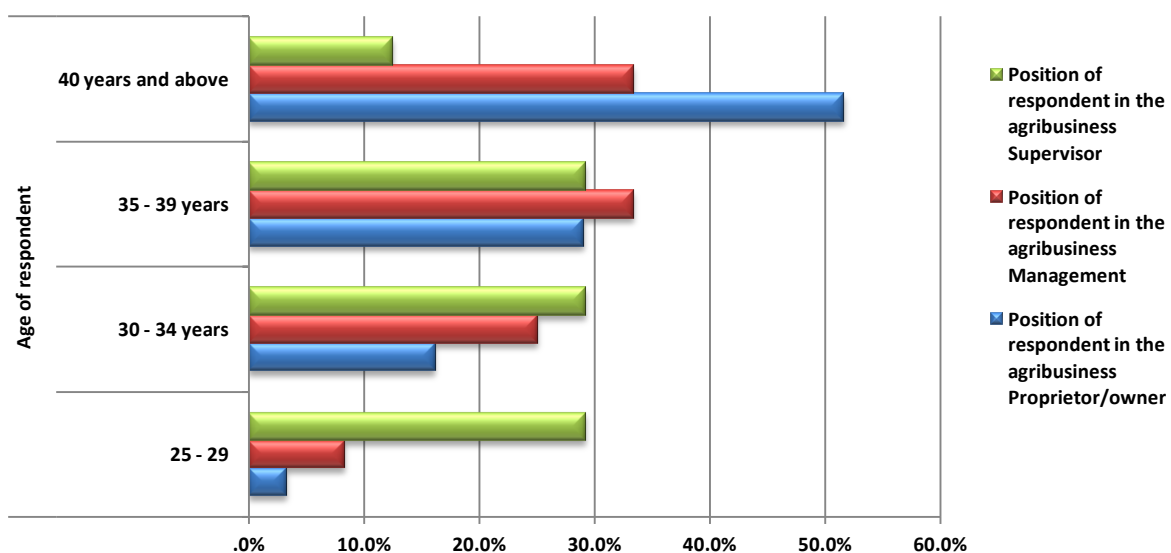


Figure 5.3: Age and position of respondents in the agribusiness
Source: Survey data

The experience curve is positively correlated with age. Coupled with the position of the respondent within the agribusiness, this will more likely influence the particular decision making with reference to the value creating activity, marketing mix component and pricing strategy the respondent chose as being relatively significant and effective. Starkey (1996) highlighted that an aged respondent base will likely have experience. However, Scoones (1992) argues to the contrary, that with age comes rigidity, not easily agreeing on innovations. For instance, proprietors aged forty and above were more likely to be sentimental towards and emotionally attached

to their agribusinesses, invariably influencing their value creating activities, essential marketing mix component and pricing strategies. This was found to be true so for 41.6% of the agribusiness proprietors. Non-owners are more likely to be non-risk takers, with non-liability towards agribusiness investments and thus it will also influence their strategy choice. A case in point being all the supervisors and managers. The age group and position of respondent is also likely going to influence innovativeness and adoption of new novices and systems. It is more likely that those of a younger age group are more probable to adopt new ways of thinking unlike those who are older and more conservative. Starkey (1996) however adds that the view of agricultural production being backward and old fashioned relegated it to the aged. Figure 5.3 showed that the number of agribusiness owners tend to decrease as the age group decreases. This is also true for agribusiness managers. Mutambara (2013a) supports this with findings of an increase in the management gap, induced by the land reform especially at the producer level, implying production and productivity losses accruing to poor management. On the other hand, there are lower numbers for those involved as supervisors at the upper age range than at the lower range. It is also worth noting that the socio-dynamics also had an impact on the age distribution and position of the respondents in the agribusiness. Since 84.7% of the respondents was pig farmers, and most obtaining their enterprises through land reform, it was bound that most of the respondents would be proprietors on the upper age range.

Forty two (42) percent of the agribusinesses was in existence for a period of between 5 to 9 years, followed by 26.5% for agribusinesses in existence between 0 to 4 years. Only 12.2% was observed for agribusinesses with more than 15 years of existence. The various periods of existence as well as the category of agribusinesses are were presented in Figure 5.4. Eighty seven percent of the agribusinesses was located in the rural areas, against 9.2% at growth points and 8.2% in the towns. All A₁ farms were located in rural areas, whilst 12.1% of A₂ farms was located closer to growth points and 87.9% in the rural areas. Ten (10) percent and 89.5% of all small scale commercial farms were located near growth points and rural areas respectively. All large scale commercial farms were in the rural areas. Sixty seven (67) percent and 33% of abattoirs were located in towns and rural areas respectively. Eighty eight (88) percent of butcherries was located in towns whilst 13%

was in rural areas. Seventy five percent of unregistered butcheries were found in growth points, whilst 25% was located in rural areas.

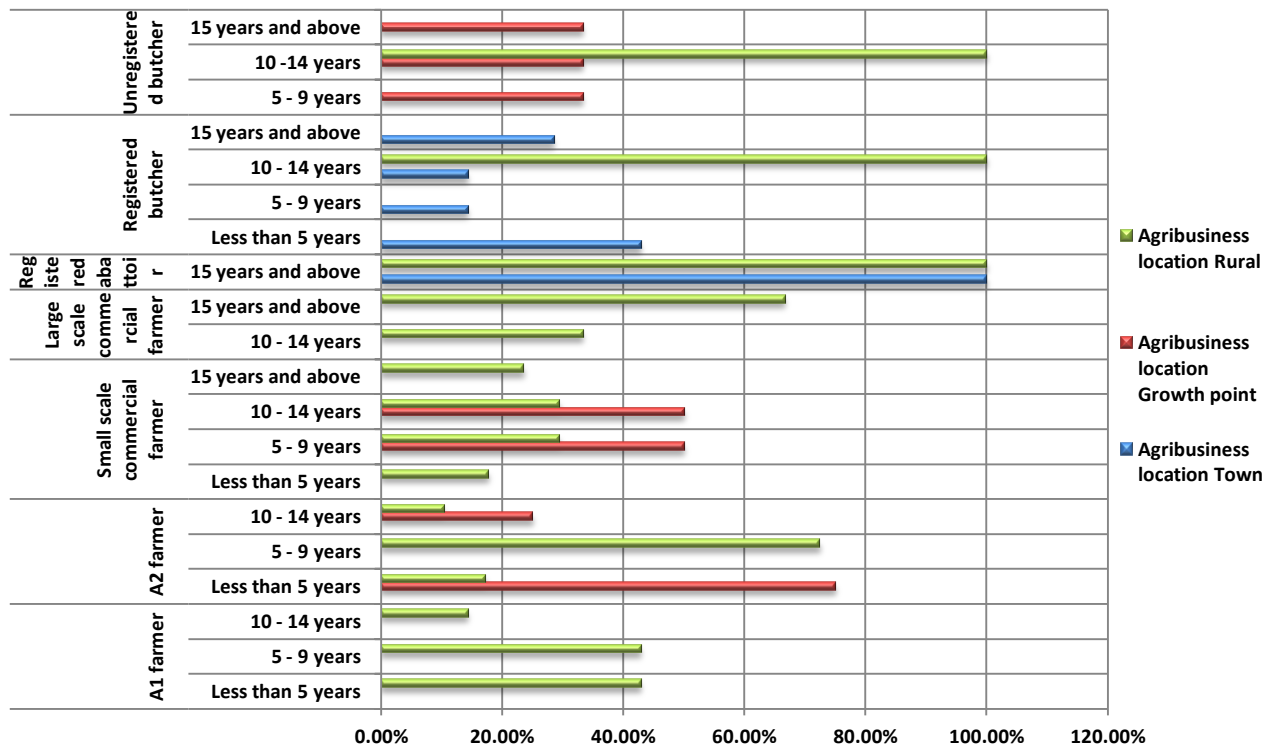


Figure 5.4: Location, category and period of existence of agribusiness
Source: Survey data

Location is likely to influence which particular value creating activity, marketing mix component and pricing strategies agribusinesses highlight as being essential. Levy (2014) asserts that remoteness in location is a huge factor in scarce infrastructure. Ajala and Adesehinwa (2007) support this notion indicating that distance between producers and other industry players disincentivises coordination due to high transport costs (Shiferaw, Hellin and Muricho, 2011). For instance, 8.2% of agribusinesses located closer to towns likely had different strategies than that pursued by 82.7% of agribusinesses within the rural areas. In addition, the experience curve induced by the period of time an agribusiness has been in existence tended to influence the particular effectiveness factor. A point in case being 26.5% of agribusinesses in existence for less than 5 years tending to pursue more conservative strategies and trying to establish and recoup capital investments. Seasoned players, for example 12.2% of the agribusinesses which are in existence for more than 15 years, are more likely to be more flexible in innovative strategies. The period of existence will also determine the agribusiness' affiliation to supportive associations. Mutambara

(2013a) argues to this effect highlighting that compounded by the lack of awareness and knowledge, especially at the producer level, lack of unionization led to production and productivity inefficiencies due to lack of information sharing, facilitation and collective action.

Figure 5.5 showed that the monthly average number of pigs or carcasses sold and their weights vary. All meat sold at between 20 and 39 kg averages 5 to 9 pigs or carcasses per month. This is true so for meat sold at between 40 and 59 kg which averages 0 to 4 pigs per month. Forty three (43) percent of agribusinesses handling 0 to 4 pigs/carcasses do so at an average weight of 60 to 79 kgs. Thirty six (36) percent handle 5 to 9 pigs and/or their carcasses, 11.9% handled 10 to 14 and 9.5% handled 15 and above at the average weight of 60 to 79 kgs. For agribusinesses handled pigs/pork carcasses weighing 80 kgs and above, 25.0% handled between 0 and 4, 33.3% handled between 5 and 9 whilst 41.7% handled 15 pigs/carcasses and above.

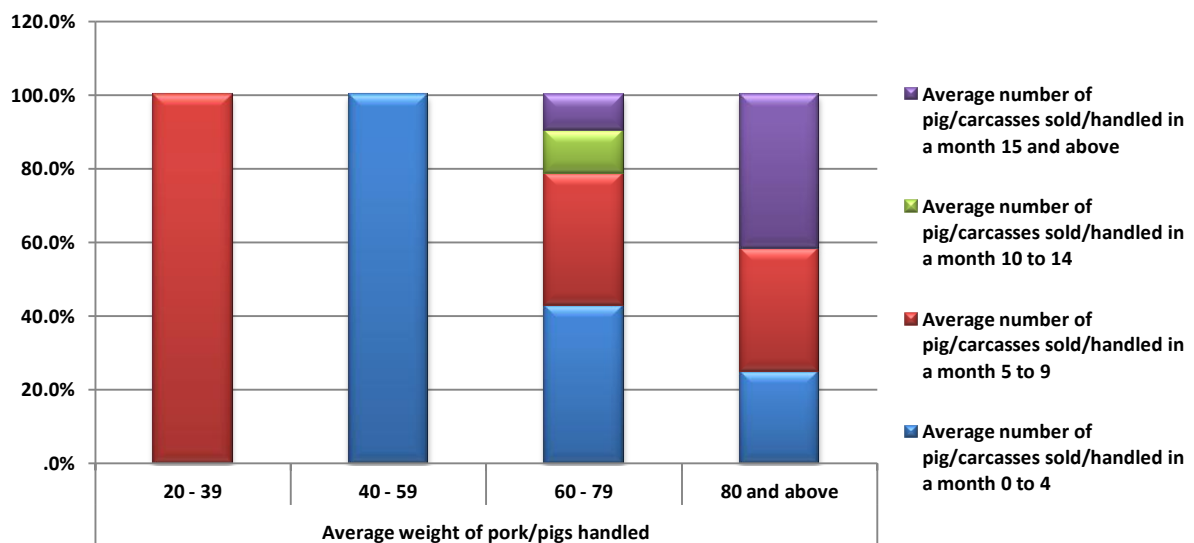


Figure 5.5: Average weight and number of pigs/carcasses handled
Source: Survey data

Volume of merchandise handled will tend to dictate which particular value creating activity, marketing mix component and pricing strategy is essential to individual agribusinesses. Coupled with the average weight of the merchandise, thereby determining output, it establishes a pattern as to the effectiveness of the chosen factor. Levy (2014) points out that the variability in the average weight of the pigs/carcasses is mainly induced by the current state of the agribusinesses, where

those that handle lower weights are more concerned about turnover. A case in point being 2.9% of agribusinesses handling less than 9 pig/carcasses per month at an average weight of between 20 and 39 kgs pursued different strategies compared to 38.5% of agribusinesses handling 15 pigs/carcasses and above per month at an average weight of 80 kgs and above. It thereby makes average number of pig/carcasses handled as well as its average weight essential in determining strategies pursued by agribusinesses.

Seventy seven (77) percent of the agribusinesses handled porkers exclusively, whilst 21.4% handled both baconers and porkers with only 2.0% handling baconers exclusively. The findings are consistent with Mutambara’s (2013a) where most of the industry players were producing porkers, followed by baconers. Figure 5.6 showed that all farmer respondents’ handled porkers, with the highest profit to cost ratio of all the farmers observed to be between 0 to 4%, with large scale commercial farms also handled baconers, at a profit to cost ratio between 10% and 14%. The abattoirs handled both porkers and baconers. The unregistered butcheries also handled both porker and baconers.

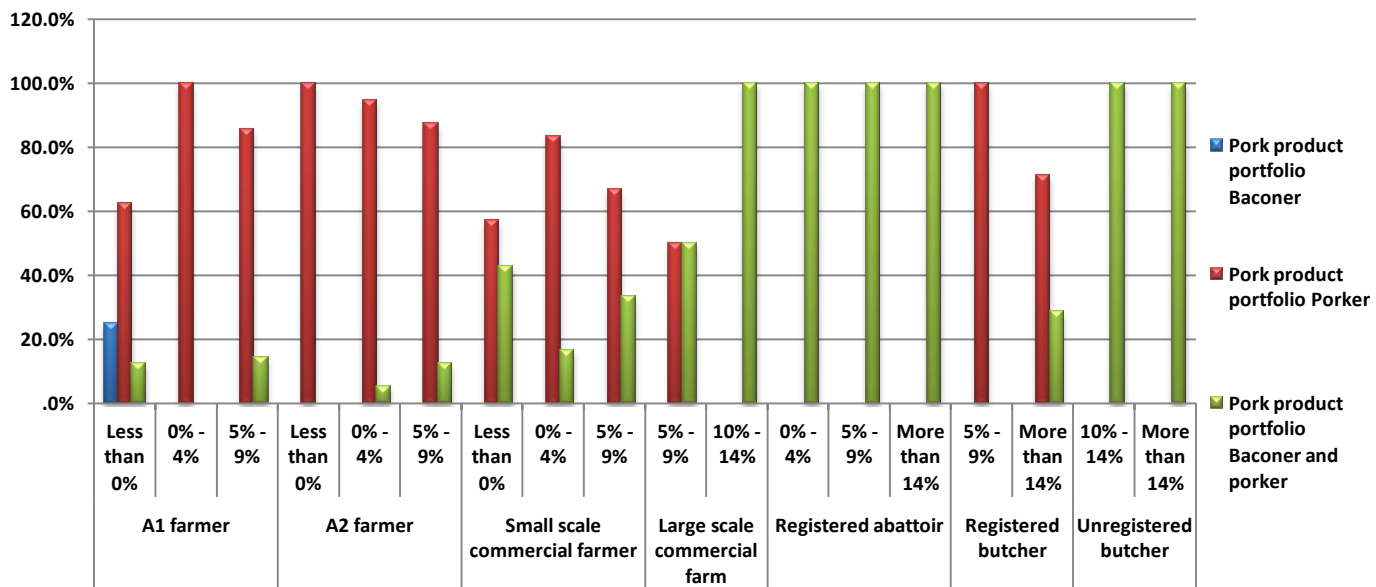


Figure 5.6: Product portfolio, profit to cost ratio and category of agribusiness
Source: Survey data

Twenty nine percent of A₁ producer are loss making enterprises. A quarter of these were baconer producers with 62.5% were porker producers and 12.5% producing both baconer and porker. Eighteen (18) percent of A₂ producers was loss making,

with all of them producing porkers. Thirty seven (37) percent of small scale commercial producers was making a loss disaggregated into 57.1% of these producing porkers and 42.9% for those producing both baconers and porkers. Other chain players were not making a loss. Sixty seven (67) percent of baconers was produced by 33 % of large scale commercial producers. Half make a profit cost ratio of between 10% and 15%. Seventy five (75) percent of the unregistered butcheries register a profit ratio of more than 14%. This also true for 33% of registered abattoirs as well as 25% of producers. Twenty nine (29) percent of producers that attain a profit to cost ratio of more than 14% do so handling baconers and porkers, whilst 71.4% do so handling porkers exclusively. All industry players making a profit to cost ratio of more than 14% do so handling both baconers and porkers, except for registered butchers, who also handle porkers exclusively.

Agribusinesses' profit to cost ratio as well as the product portfolio will tend to determine which value creating activity, marketing mix component and pricing strategies they utilise or consider essential. A low profit to cost ratio recorded, for example, by the 21.4% loss making agribusinesses, will likely sway agribusinesses towards more conservative strategies, unlike agribusinesses with higher profit to cost ratio (for instance the 11.2% with profit to cost ratio of more than 14%) who will probably be more experimental and explorative. Product portfolio is equally significant in determining which value creating activity, marketing mix component and pricing strategy an agribusiness is going to utilise. Porker exclusive producers, comprising 76.5%, will thus be at variant to baconer exclusive producers at 2%. As a result, product portfolio and the profit to cost ratio consideration is quite significant in determining the strategies an agribusiness is going to utilise.

There is a well-defined sales pattern as observed in Figure 5.7. Sales are more pronounced from October to December, as 68% adjudged it to be between good and very good. Poor to very poor sales is observed for the first half of the year. Ajala and Adehesinwa (2007) also reached the same conclusion in Nigeria as well as Ouma *et al* (2015) in Uganda. In a contrary finding however, Kagira, Maingi, Kanyari *et al* (2010) indicated that pork/pig prices were lower in the rainy season. Seasonality is likely to have an input into which value creating activity, marketing mix component and pricing strategy agribusinesses underscore as being essential and effective. For instance, in glut seasons, such as from October to December, the strategy is likely to

be at variant from that of a poor sales season such as from January to June. Season therefore played a crucial role as to which strategy agribusinesses considered as essential.

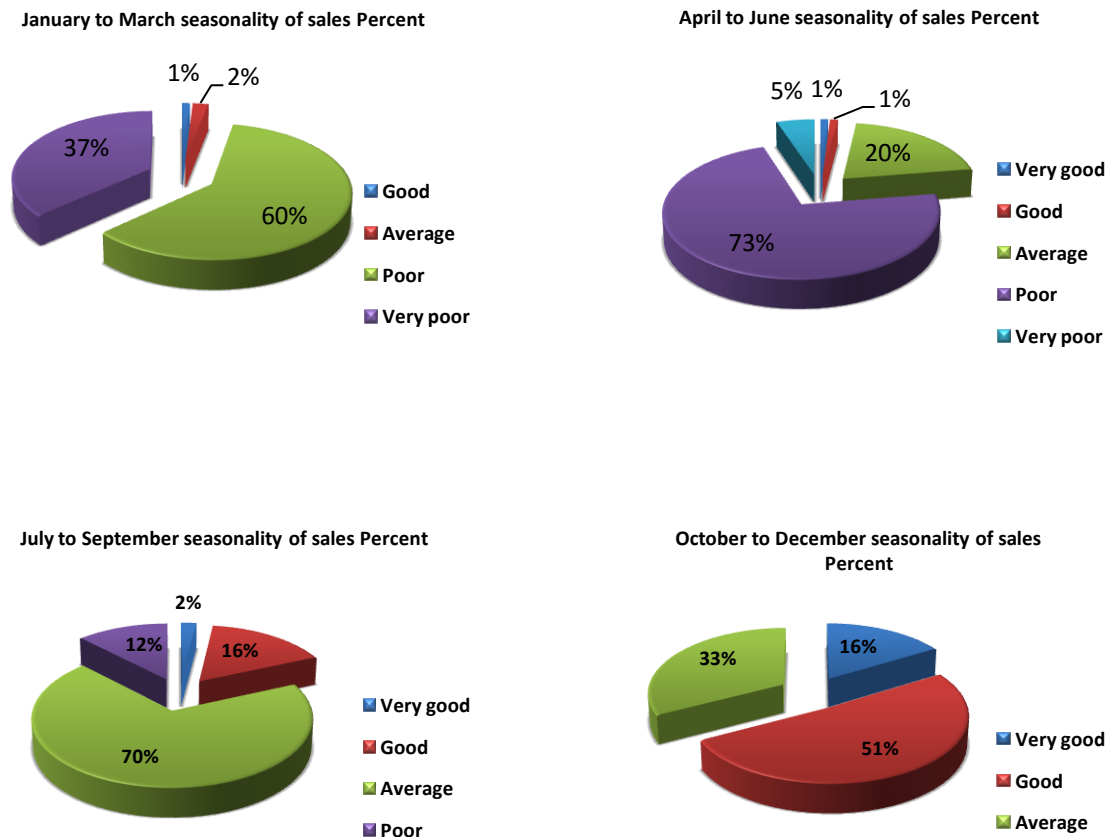


Figure 5.7: Seasonality of sales
Source: Survey data

Ninety two (92) percent of agribusinesses consider the time of the year in selling their meat product, whilst 8.2% do not consider. Figure 5.8 showed that 92.9%, 97.0%, 66.7% and 50.0% of A₁, A₂, large scale commercial farmers and registered butchers respectively considered the period of the year when selling their product. All small scale commercial farmers and registered abattoirs considered the period of the year when selling their products. The farmers constituted the largest number of those who always and almost always considered the time of the year when selling their product. Registered butchers and large scale commercial farmers had the highest numbers of those industry players that never consider the time of the year.

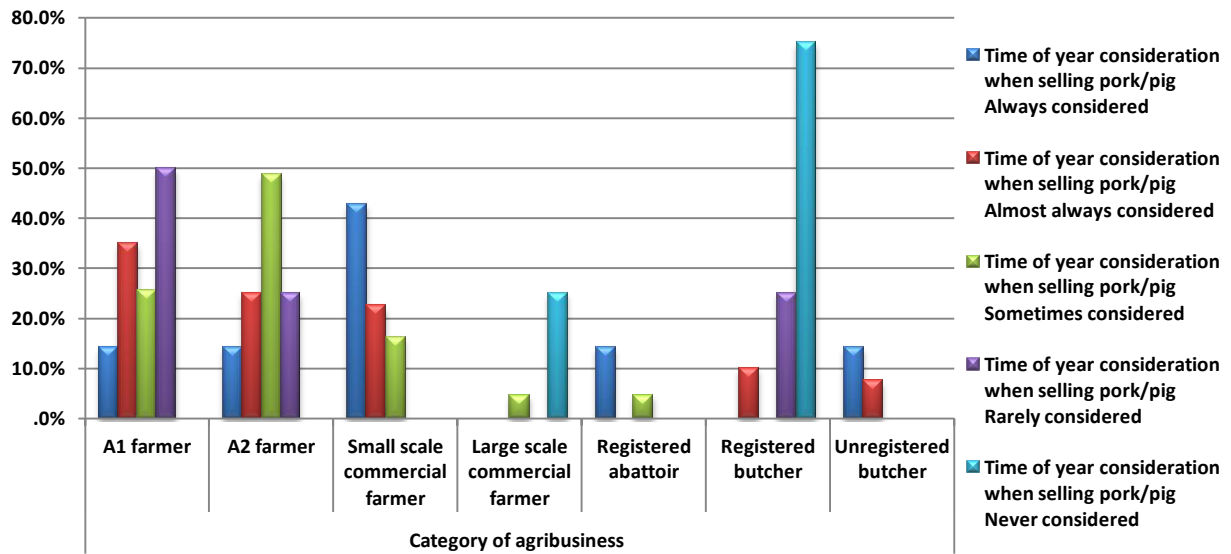


Figure 5.8: Time of year considerations when selling
Source: Survey data

Levy (2014) found out that seasonality results in reduced sales and lowered prices. Sales were more pronounced from August to December, confirming the findings of the current study. There were however indications that much of the seasonality in sales was more attributable to the availability of disposable income rather than to weather phenomena. For instance, there was higher sales in the festive season mainly due to the more pronounced spending during the time, and thus, pig and pork production was more significant during such a time. Thus, time of year consideration of the agribusiness will go a long way in determining which particular pricing strategy the agribusiness will adjudicate as significant.

Figure 5.9 showed that 92.9% of agribusinesses considered the size of the pig and/or its carcasses when selling. Only 3.1%, especially butcheries, do not take the size of the carcass into consideration. A₁, A₂ and small scale commercial farmers were more considerate to the size of the pig when selling, with lower numbers considering the size down the value chain. Out of those who almost always consider the size of the pig/carcass, half are A₂ farmers and the other half are small scale commercial farmers. Registered butcheries were the only industry players that never considered the size of the pig/carcass.

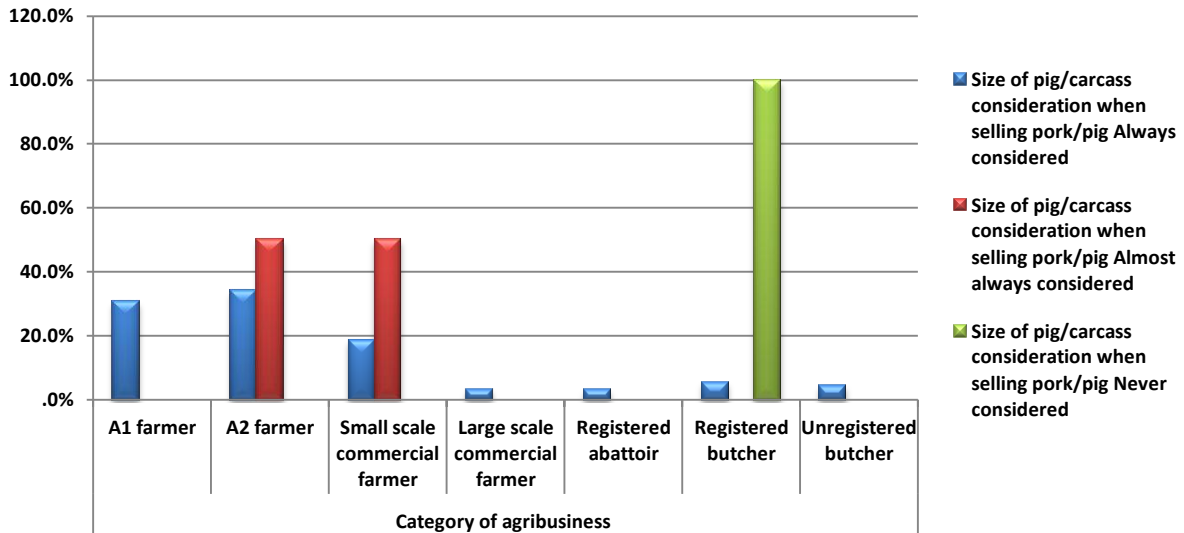


Figure 5.9: Size of pig/carcass consideration when selling
Source: Survey data

Carcass size considerations had an indirect influence on which particular strategy the agribusiness considered significant in terms of the value creating activities, marketing mix component and pricing strategy. Agribusinesses that did not consider the size were more likely to pursue conservative strategies much aimed at staying afloat. Agribusinesses that do consider the size of their product are likely to be more flexible and explorative in their strategies.

Figure 5.10 showed that all agribusinesses considered prices set by other industry players. All A₂ and 78.6% of the other producers almost and always considered price set by other industry players. Thirteen (13) percent of the registered butcheries, on the other hand, represent all of the players that never considered prices set by other industry players. Out of all those who always considered price by other industry players, higher numbers were observed for A₁ and A₂ farmers, with consideration decreasing down the value chain. Registered butchers were the only industry players who never considered price set by other players.

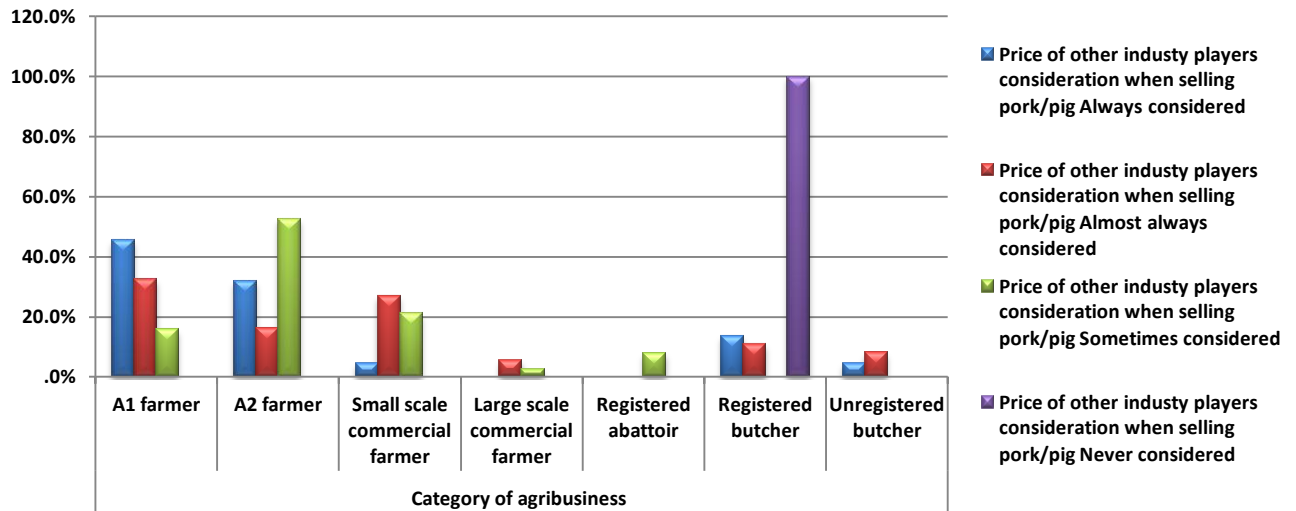


Figure 5.10: Price of other industry player considerations when selling
Source: Survey data

A consideration of other industry players' pricing strategy goes a long way in determining an agribusiness' pricing behaviour. Agribusinesses that always consider other industry players' pricing strategies were more likely to have a dynamic pricing strategy, equally matched with dynamic considerations to the marketing mix components as well as value creating activities. On the other hand, agribusinesses that do not consider other industry players' strategy will have a rigid pricing strategy with a more pronounced marketing mix component as well as value creating activity.

All industry players considered the quality of their pig or pork carcasses when selling. Eighty seven (87) percent always considered, whereas 10.2% almost always and 2.0% sometimes considered the quality of the pork/pig when selling their products. Mutambara (2013a) and Mutambara and Chingozho (2011) indicate that it is one of the major non-regulatory constraints requiring attention in order to improve the operating environment especially at the farm level. Figure 5.11 showed that the farmers were the most considerate of the quality when selling their pigs.

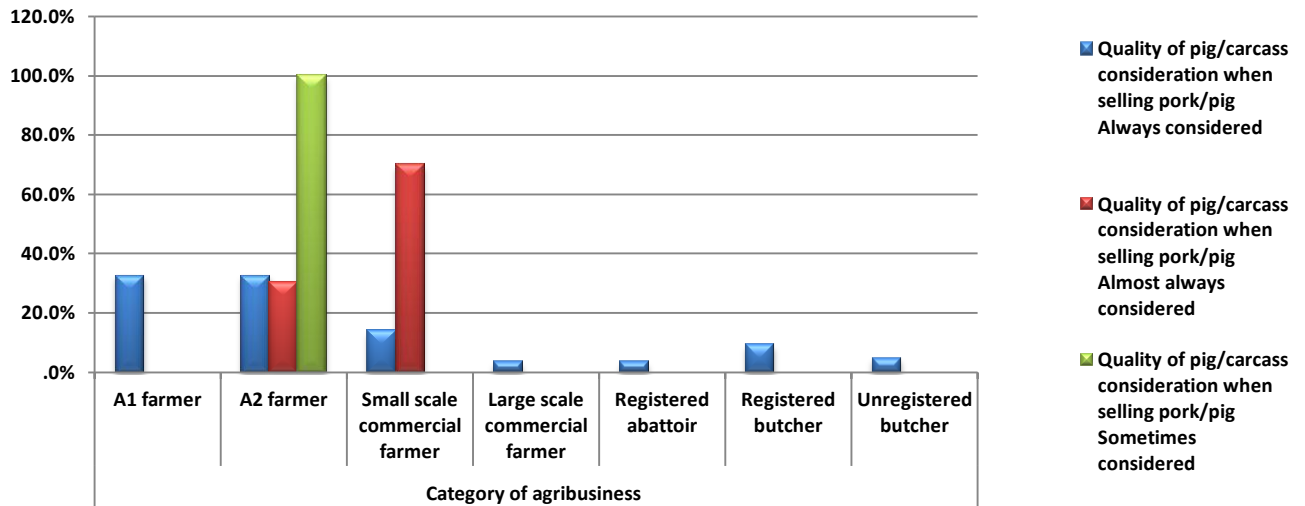


Figure 5.11: Quality of pigs/carcass selling considerations
Source: Survey data

Quality of product considerations has significant influence into the value creating activities, marketing mix and pricing strategy effectiveness by agribusinesses. Triekens and Wognum (2013) support this notion through “intense collaboration in pork supply chains through tuning of quality management systems of the different actors”. Luppnow (2007) supports quality consideration with findings that most industry players indicate it having the biggest influence in driving sales. In such scenarios, differences in quality considerations of the different industry players will ultimately tend to influence which and how the value creating activities and strategies are pursued. It is more probable that non consideration of quality will induce a rigid pricing strategy, matched also by rigid considerations of the marketing mix component and value creating activity. However, agribusinesses that do consider quality will likely have flexible value creation, marketing mix and pricing strategy consideration.

Seventy five (75) percent of all respondents indicate that selling all the pigs proves a challenge. Figure 5.12 showed that it is a challenge for 93.9% A₁ farmers, 84.8% A₂ farmers, 26.3% small scale commercial producers, 66.7% large scale commercial producers, 50.0% registered butchers and 75.7% unregistered butchers. The selling challenge gradually changes to being never a challenge down the value chain as 50.0% of registered butcheries, constituting all of the industry players that never face a challenge in selling their pork product.

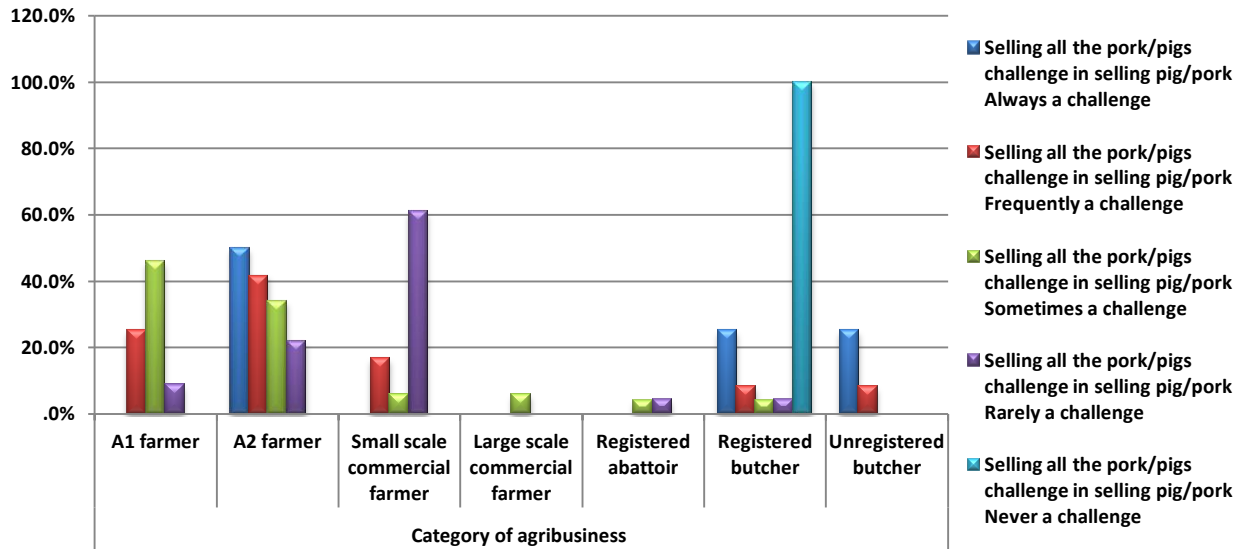


Figure 5.12: Challenge in selling all pig/pork meat
Source: Survey data

Figure 5.13 showed that setting a price is not a challenge for 37.5% of registered butchers, whereas all other industry players and 62.5% of butchers had a challenge in setting the right price. It is always a challenge for 33% of A₂ farmers, registered butchers and unregistered butchers, respectively. It is frequently a challenge for the farmers with gradual decrease down the value chain. Registered butchers constituted all the industry players that rarely and never had a challenge in setting the right price.

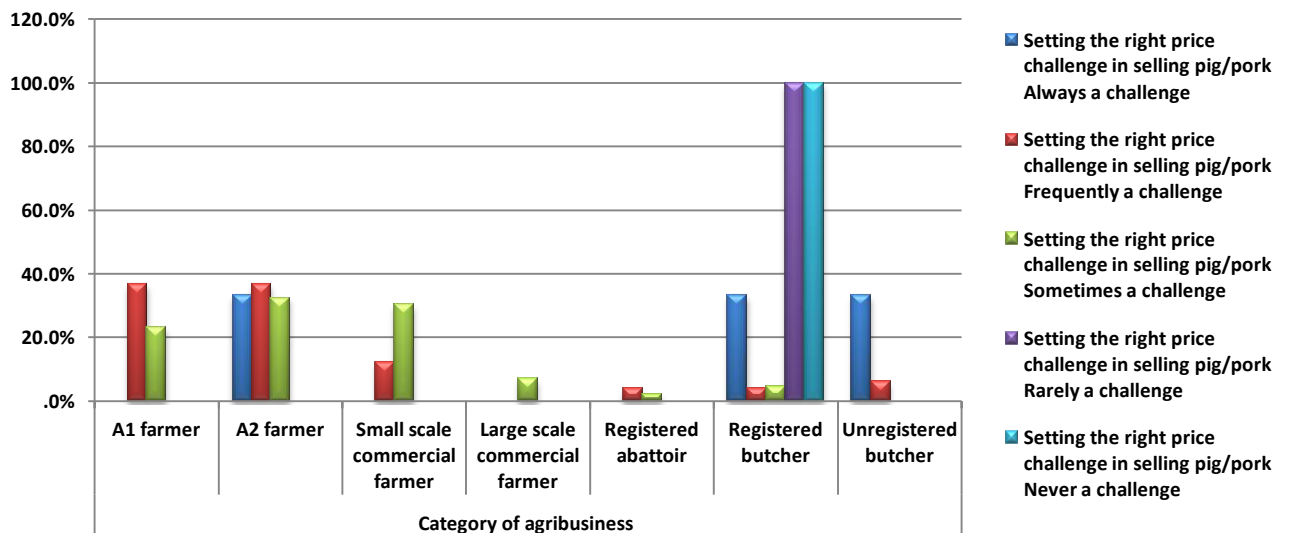


Figure 5.13: Challenge in setting the right price
Source: Survey data

Earning a profit does not prove a challenge for 50.0% and 3.0% of registered butchers and A₂ producers, respectively, whilst all other industry players have a challenge in earning a profit. Figure 5.14 showed that the highest numbers for those who always have a challenge in earning a profit was for A₁ farmers followed by registered abattoirs. Most of the industry players that appear to sometimes and frequently have a challenge in earning a profit were the farmers. The profit challenge decreases as the product moves down the value chain as it becomes rarely a challenge to never a challenge for some of the butcheries.

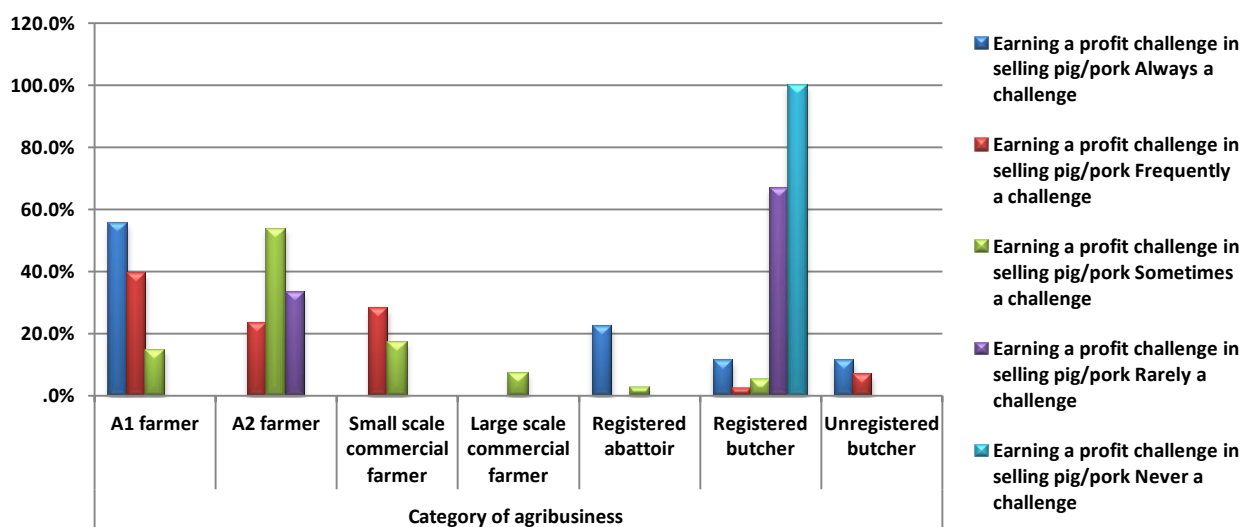


Figure 5.14: Challenge in earning a profit
Source: Survey data

Challenges in selling the pork meat, setting the right price and earning a profit is essential in determining the value creating activities, marketing mix and pricing strategies that agribusinesses will underscore as essential. Strategies will be at variance between those that always have a challenge and those that never have a challenge. Levy (2014) supports this notion with findings in Busia, Kenya, where respondents indicated that setting pig prices was their biggest challenge. Selling all the pork was not much of a challenge for the respondents.

Most respondents highlighted that if government were to come and fix the price, their agribusinesses would range from being less successful to actually having no effect. Sixty four (64) percent of A₁ producers, 30.3% of A₂ producers, 57.9% of small scale producers, all large scale producers, 33.3% of registered abattoirs, 37.5% of registered butchers and 25.0% of unregistered butchers indicated that their

agribusinesses would be less successful if the government introduced such a move. However, 5.3% of small scale producers and 12.5% of registered butcheries indicated that their agribusiness would likely improve if government made such a move. Figure 5.15 showed that out of all who indicated that their agribusiness would improve, 50.0% were small scale farmers and 50.0% were registered butchers. Majority of those who indicated that it would not change their agribusinesses position were the farmers and all those who indicated their agribusinesses would actually be much less successful were small scale commercial farmers.

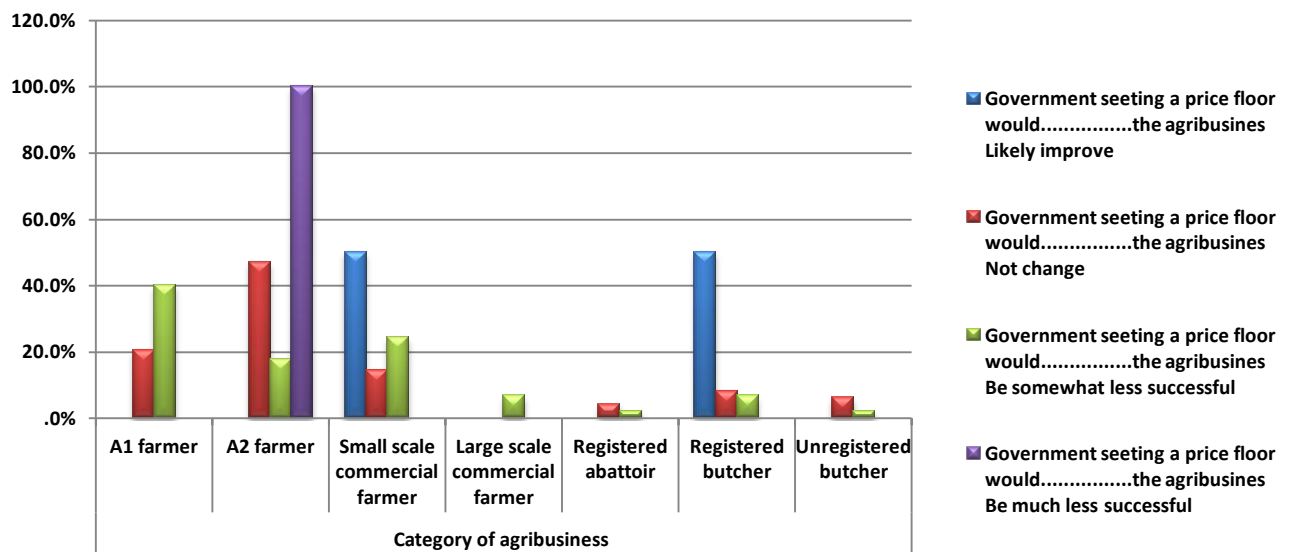


Figure 5.15: Agribusiness performance relative to government intervention
Source: Survey data

Government influence in the pricing process will likely have a bearing on how agribusinesses strategize their value creating activities, marketing mix components and pricing. Chikweche and Fletcher (2012) indicate that government interventions, especially price controls to ensure affordability and access of products, are likely to determine an agribusiness pricing strategies and their impact. Agribusinesses that view their position actually improving due to government intervention are likely to be currently underperforming and thus struggling to survive. Their strategies are most likely to be conservative. On the other hand, those who regard their position actually being compromised by government intervention are most likely explorative, risk takers, who embrace flexibility at the expense of rigidity.

The current subsection managed to give form and structure of the respondents by characterizing their gender orientation, educational levels, experience, location, seasonality in production and challenges. This characterization puts a “face” to the respondents who predisposed the ensuing sections on influence of marketing in value creation, influence of price in marketing mix, pricing strategy, attitudes, feelings and behaviours towards pricing objectives and pricing efficiency.

5.2.2 Most influential value creating activity results

Reference is made to SPSS correlation results in Appendix Five.

From the analysis, only three out of the five value creating activities had a significant influence on value creation. Acquiring inputs, goods and services; processing or producing; as well as transportation of produce had a significant influence on value creation. Marketing and sales, and after sales services/networking did not have a significant influence on value creation. The correlations are observed in Table 5.2 below.

Table 5.2: Correlation of profit to cost ratio and value creating activities

	PRIMARY VALUE CREATING ACTIVITY	PEARSON CORRELATION COEFFICIENT	RANK	P_{VALUE}
Profit to cost ratio (Margin)	Acquiring inputs, goods and services	-0.144	3	0.044
	Processing/Producing	-0.360	1	0.000
	Transportation of produce	0.200	2	0.005
	Marketing and sales	-0.055	5	0.448
	After sales services and networking	0.076	4	0.287

Source: Survey data

From the Pearson’s correlation, the highest correlation, in magnitude, with profit to cost ratio, as a proxy of value creation, was observed for processing or producing ($r = -0.360$) followed by transportation of produce ($r = 0.200$). Acquiring inputs, goods and services came third ($r = -0.144$); after sales services and networking fourth ($r = -0.076$) while marketing and sales ($r = -0.055$) was in the fifth position. Gow *et al* (2003) findings support production/processing as being the most significant value creating activity by highlighting that successful value creation requires exploiting productivity gaps as well as the opportunity gaps. This was however attributable to agribusinesses being price takers that seek to optimize performance through operational efficiencies key to unlocking value. However, overly focusing on the productivity gap is a myopic pursuit of short term value creation

opportunities at the expense of the long term (Gow *et al*, 2003). Despite Buhr's (2004) findings that the bottom line for success for agribusinesses is differentiating marketing strategies, it cannot be attained without referring to the production process. In particular, success is attained through managing the product price/yield relationships and inventories and coordinating production systems (Buhr, 2004).

From the significant values, acquiring inputs, goods and services; processing or producing; and transportation of produce were significant, having $P_{values} < 0.05$. On the other hand, marketing and sales as well as after sales services/networking had $P_{values} > 0.05$ and were thus insignificant.

Figure 5.16 indicated that 53.6% of the A₁ farmers opined that acquiring inputs, goods and services is the most significant value creating activity. This was supported by 36.8% and 66.7% of small scale and large scale commercial producers respectively. Sixty seven (67) percent of A₂ farmers indicated that marketing and sales as the most important. This was supported by 50.0% of unregistered butchers. Half of the registered butchers highlighted that processing was actually more important and 66.7% of registered abattoirs were in support of after sales services and networking.

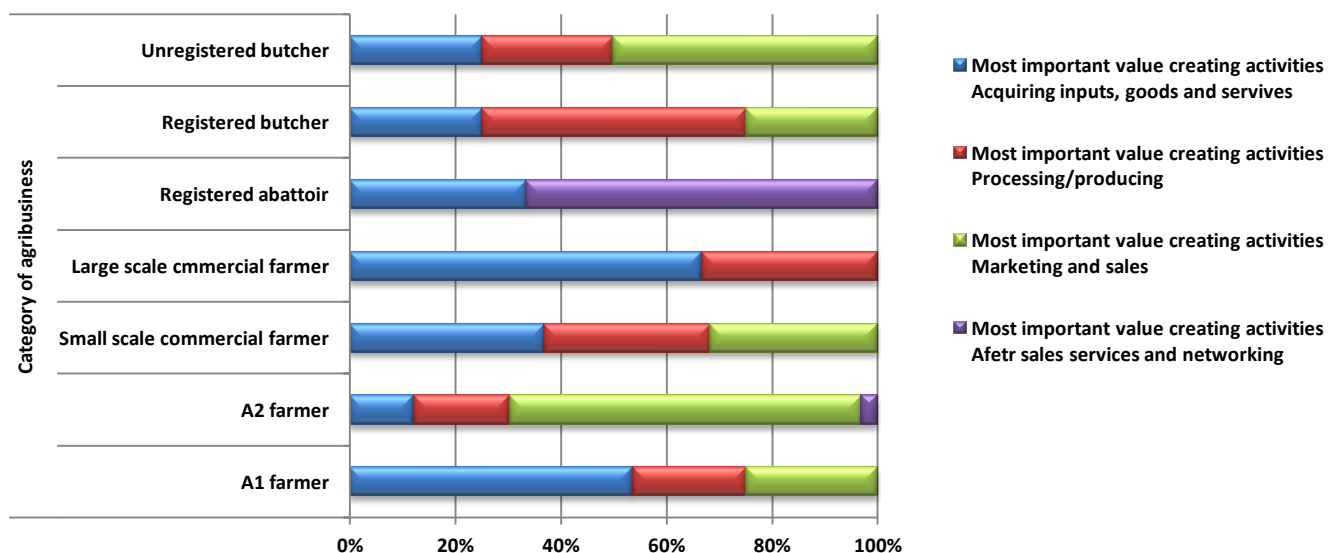


Figure 5.16: Category of agribusiness and value creating activities
Source: Survey data

The above findings of processing/producing being highly regarded over the other value creating activities; and transportation of produce and acquiring inputs, goods

and services dominating as the major value creating activities, can be attributed to the following reasons: low production capacity and productivity due to use of substandard breeds within the industry, unavailability of electricity, the informal stock feed supply, weak public services, costly environmental management regulations, costly labour laws, costly abattoir fees and availability of finance constraints in Zimbabwe (Chamboko and Erasmus, 2014; Mutambara, 2013a, 2013b; Mutambara and Chingozho, 2011). Informal stock feed supplies do not go through the normal quality assurance and are thus unreliable. This has resulted in productivity losses and costs to producers. Efficiency in acquiring quality stock feed will thus ensure enhanced production and value within the industry. Public services such as public health, laboratory testing, research and veterinary field services have been on a decline due to resource limitation. For instance, there are currently 130 veterinarians in Zimbabwe relative to 330 a decade ago (Mutambara, 2013b). Access to such services offers an advantage in surviving within the industry. The cost of service such as waste management through the Environmental Management Agency (EMA), employing and retaining skilled staff, transport and abattoir costs have further impeded margin and value within the industry. Advantage in access to such inputs and services will offer an advantage in creating value. The costly and erratic nature of public electricity, which is a major factor input in production, processing and retailing of pork meat, has necessitated use of private energy sources. Accessibility of these alternatives becomes a determinant in creating value within the industry. Access to appropriate and cheap credit has also been an impediment to creating value within the industry. Short term credits, which are available at exorbitant interest rates not suitable to the long term investments required in the industry. Any advantage in access to favourable credit will thus offer an opportunity for value creation.

From the cross tabulations in Appendix Five, those who highly rated marketing and sales as the most important value creating activity had a profit to cost ratio between 0% and 4%. Figure 5.17 showed that out of all that are making losses (i.e. not creating value) those who rated marketing and sales as most influential are 28.6%. Fifty seven percent of all that are marginally creating value (i.e. 0% - 4% margin) rated marketing and sales as the most influential value creating activity. Twenty eight percent of agribusinesses making a reasonable returns at between 5% and 9%

adjudicate marketing and sales as being the most important and influential value creating activity. This is also true for half of all agribusinesses that are making a profit to cost ratio between 10% and 14%.

Twenty seven percent of agribusinesses making a profit of cost ratio of more than 14% indicate that marketing and sales was the most significant value creating activity. The low profit to cost ratio and marketing and sales interface can be attributed to the low demand for pork products within the Zimbabwean economy (Mutambara, 2013a). Coupled with the fact that those who highly regard marketing and sales as the most crucial included those operating at the extreme ends of the value chain, i.e. the producers and the butchers, it puts Mutambara’s (2013a) findings into perspective that the low demand has exacerbated the need for enhanced marketing and sales such that the players can improve their profit to cost ratio standings. Marketing and sales would make the product more visible and improve turnover, thereby improving the relative margins, that is why it is highly regarded by those with low profit to cost ratios.

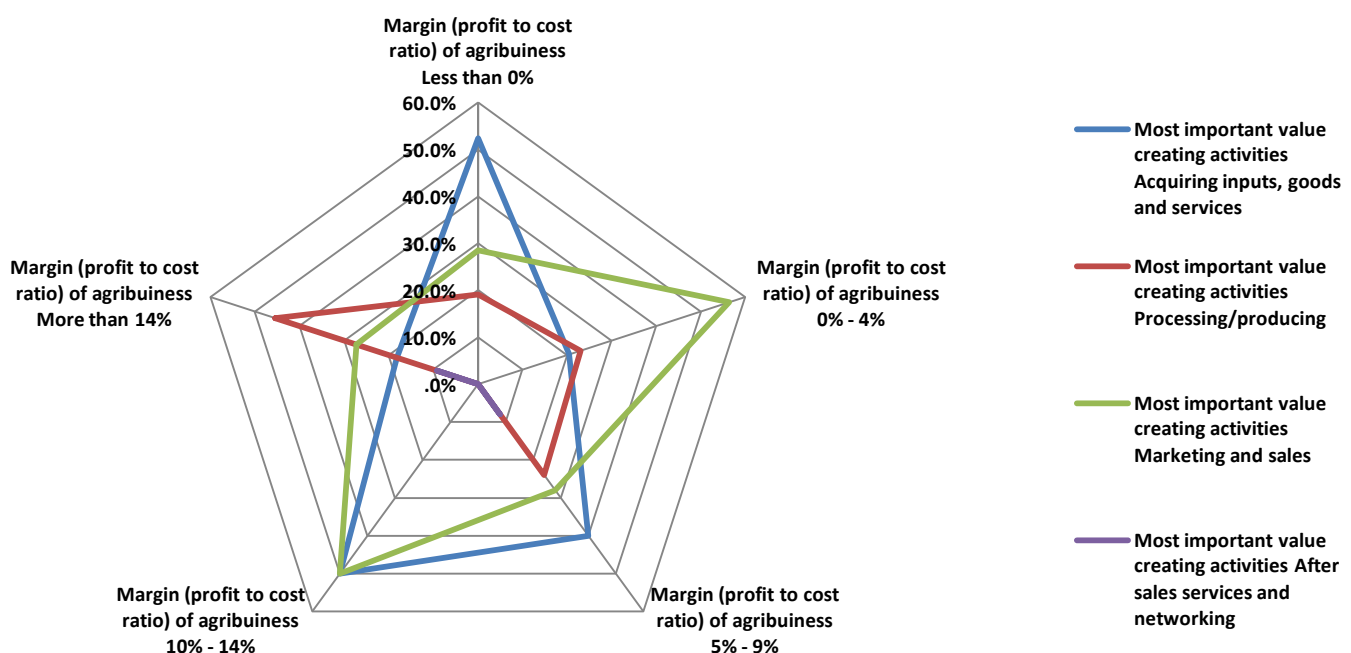


Figure 5.17: Profit to cost ratio and value creating activities
Source: Survey data

From the above analysis, the H_0 hypothesis was accepted, at $P_{values} > 0.05$ for marketing and sales. It is therefore concluded that marketing and sales has no, and

is not the most, influential value creating activity. Regardless of this however, there are comprehensible marketing strategies that agribusinesses are pursuing through the marketing mix interface, as the ensuing section reveals.

5.2.3 Most influential marketing mix component results

Reference is made to SPSS one way ANOVA and cross tabulation results in Appendix Six.

Fifty three (53) percent of the industry players indicated that the product was the most influential marketing mix component. Figure 5.18 showed that 45.0% indicate that price was most influential whilst only 1.0% opined that partners and promotion, respectively, were the most essential marketing mix components within the industry. The reasons for adjudicating these various marketing mix spanned from some of the elements determining returns thus highlighting the intertwining nature of these marketing mix elements. For instance for all those who indicated that the product was the most essential, 96.2% explained that the reason for this is that it tends to determine the other marketing mix elements that agribusinesses can use, whilst 1.9% indicate that it tends to determine the returns. About 2.0% argued that if there is no product, there can be no business. On the other hand, for respondents who indicated price as being essential, 93.2% attribute it to determining the returns whilst 2.3% said that it determines the other marketing mix elements how much sales you make and the product.

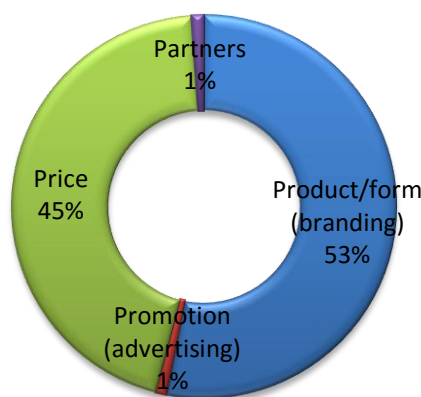


Figure 5.18: Influence of marketing mix components
Source: Survey data

The findings in Figure 5.18 are consistent with Udell (1964), Samiee (1987), Kover, Szakaly and Kovach (2002), Kotler (1991) and Luppnow (2007) findings of pricing

alone playing second fiddle to product through its quality as the most significant marketing mix component. The findings are also consistent with Tolusic *et al* (2002) where the customers highlighted the product through the quality as the most essential marketing mix component. In addition, the product is however related to the price, its distribution and promotion. Further to that, those who highlight the product as being essential do so through the quality of the product, and those who were swayed towards the price did not regard the product quality. Gow *et al* (2003) justifies the product through the quality by agribusinesses focusing on the performance gaps. The findings are however contrary to Dodor (2013) findings that it is actually pricing which is essential because it can be easily and quickly adapted to environmental stimuli.

Figure 5.19 showed that 64.3 % of all A₁ farmers indicated that the product is the most important marketing mix component within the industry. This was supported by 68.6% of small scale commercial producers, 66.7% of registered abattoirs, 62.5% of registered butchers and 75% of unregistered butchers. On the other hand, 63.6% of all A₂ producers adjudicated price as the most significant marketing mix component. This was supported by all the large scale commercial producers. Twenty five (25) percent of the unregistered butchers highlighted that it was promotion which was significant and 3.0% of A₂ farmers indicated that partners were the significant marketing mix component within the industry.

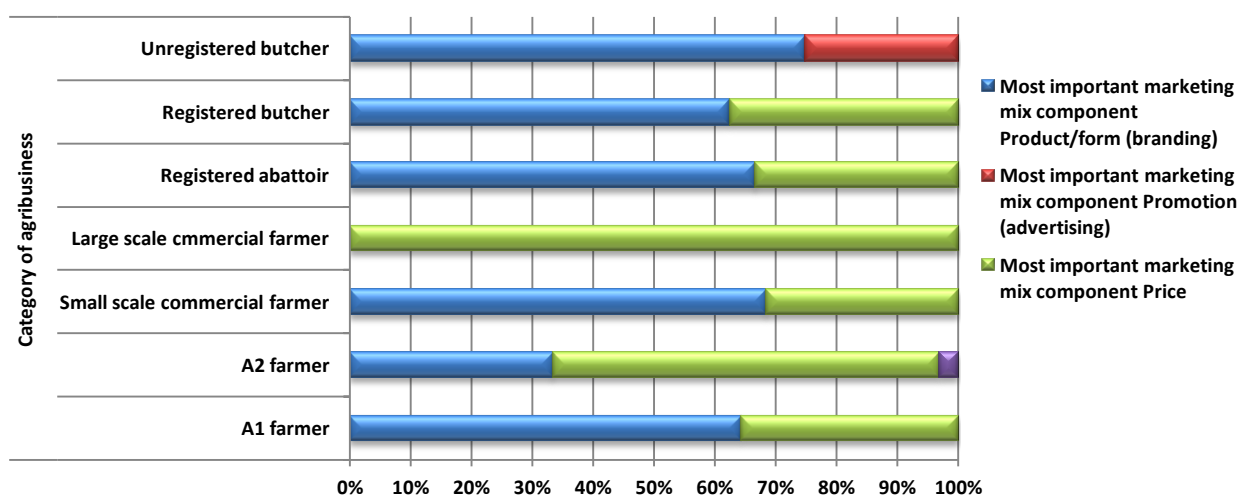


Figure 5.19: Most important marketing mix components
Source: Survey data

The above product dominated findings can be attributed to what Kover *et al* (2002) term the generic product as well as the expected product. The generic product is a derivative of the core benefit of the promised economically produced pork. In this case, the generic product refers to the product portfolio of whether a baconer (for bacon) or a porker (for meat) is produced. The particular product portfolio mix becomes a heavily significant determinant to the returns for the enterprises. Equally important, the expected product, referring to the set of attributes and conditions, in terms of quality and design, also determine the particular margins that the agribusiness will attain. More so, these two aspects of the product will also tend to influence the price, place and promotion strategies that the agribusinesses will pursue.

Table 5.4: Mean difference in marketing mix components

ANOVA					
Margin (profit to cost ratio) of agribusiness					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups (Combined)	5.792	3	1.931	1.394	.246
Linear Term Weighted	.001	1	.001	.000	.983
Deviation	5.791	2	2.896	2.091	.126
Within Groups	265.902	192	1.385		
Total	271.694	195			

Source: Survey data

Table 5.3 shows that within profit to cost ratio (margin), as a proxy for value creation, there was no significant difference in the marketing mix component influencing value creation. All $P_{values} > 0.05$, indicated there were no significant differences in the means of the marketing mix components with reference to value creation. However, within the marketing mix components, the $P_{values} < 0.05$ indicated that there was a difference in the absolute mean difference between the marketing mix components. This is reflected in Table 5.3. The large F value indicated a large difference between the groups of marketing mix components. This indicated that though differences could be detected in absolute terms, relating to value creation, no difference could be established. No particular relationship could be established between the marketing mix elements and any level of value creation. This, however farfetched, highlights that consideration or concentrating on any particular marketing mix component will unlikely differentiate attainment of any particular level of returns. This

might be due to the interconnectivity of the marketing mix elements, which renders any particular one useless without the others (Dodor, 2015; Indounas, 2006; Kategile and Mubi, 1992).

Table 5.3: Mean difference in marketing mix components

	Sum of Squares	Mean Square	F value	ANOVA <i>P</i> _{VALUE}
Between Groups	65.449	21.816	10.743	0.000
Within groups	389.898	2.031		
Total	455.347			

Source: Survey data

The Tukey Post Hoc analysis in Table 5.4 indicated that there was a significant difference between price and product, with $P_{values} < 0.05$. The negative mean difference indicated that there was a higher average for those that opine to product as a marketing mix component being relatively more important and significant than pricing. As alluded to before, the various reasons why product supersedes other marketing mix elements spanned from it determining the other marketing mix elements, especially in relation to returns. Also, if there is no product, there is no business.

Table 5.4: Mean difference in marketing mix components

Tukey HSD Post Hoc			
		Mean difference	<i>P</i> _{VALUE}
Price	Product	-0.50350	0.000
	Promotion	0.22727	0.961
	Partners	0.77273	0.340

Source: Survey data

Within price itself, there exists a significant difference in terms of industry performance. The Tukey Post Hoc analysis in Table 5.5 indicated that there was a significant difference between those that opine to price being very good, good and average, with $P_{values} < 0.05$. There was no significant difference between those that adjudicate very good, good and average pricing performance to those that considered it to be poor. Caution should however be exercised as price performance is subjective, with no cut off standard per category of performance. Equally significant was the set of decision making respondents who were unlikely to have poorly rated their pricing performance.

Table 5.5: Mean difference in marketing mix ratings

Tukey HSD Post Hoc			
		Mean difference	<i>P</i> _{VALUE}
Very good	Good	0.96667	0.046
	Average	1.71751	0.000
	Poor	-0.30000	0.992
Good	Average	0.75088	0.006
	Poor	-1.26667	0.604
Average	Poor	-2.01754	0.197

Source: Survey data

From the above analysis, the H_0 hypothesis was accepted, at $P_{values} > 0.05$ It was hence concluded that price is not the most, influential marketing mix component. However, there is a significant absolute difference within the marketing mix elements, which is also dominated by product at the expense of price, at $P_{values} < 0.05$. Most price performance was adjudicated to be average and above average. None the less, the fact that price is not an influential marketing mix component does not negate the definitive pricing strategies that pork industry agribusinesses are pursuing. The ensuing section reveals this.

5.2.4 Pricing strategy results

Reference is made to SPSS results Appendix Seven.

Figure 5.20 supports Dhyvetter (2004); Mussell *et al* (2003) and Kunkel and Buhr (1999) use of formula pricing in pork industries where 67.3% of the agribusinesses utilise formulas when setting their prices. This is followed by 31.6% utilising decentralised negotiations and 1.0% using centralised spot markets as a mechanism in setting prices. However, the findings fall contrary to Hayenga and Schrader's (1980) finding of most of the transaction within pork agribusinesses utilising price lists and negotiation pricing at the expense of formula pricing.

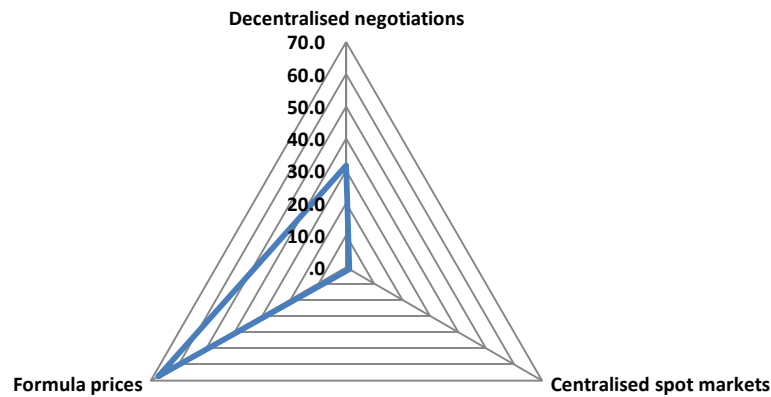


Figure 5.20: Price setting mechanisms by agribusinesses
Source: Survey data

Figure 5.21 showed that 53.6% of A_1 producers use formulas in setting their price. This was supported by 75.8% of A_2 producers, 66.7% of large scale commercial producers and all registered abattoirs, registered and unregistered butchers, respectively. However, 52.6% of small scale commercial producers adjudicate use of decentralised negotiations in setting the price. This was supported by 46.4% of A_1 producers and 24.2% of A_2 producers. Thirty three (33) percent of large scale commercial producers used centralised spot markets in setting their price. Hayenga and Schrader (1980) indicated that formula pricing is gainful in assuring market outlets or supply sources, greater quality assurance associated with continuing buyer-seller relationships and improved physical marketing and transaction efficiency. Formula pricing was mainly used as the agribusinesses were operating in cognisance of their costing structure and adjudicated that to stay afloat, the pricing method should operate vis-à-vis cost. The agribusinesses indicated that this formula template, which contemplates the costs, was quite easy to implement and, relative to decentralised negotiations, it guaranteed better returns. This was augmented by stability in formula pricing as the formula is the same temporal, unlike decentralised negotiations which tended to fluctuate and is thus horrendous as a planning tool. Decentralised negotiations and centralised spot markets had the possibility of offering prices lower than the agribusinesses cost of production, hence most opted for formula prices.

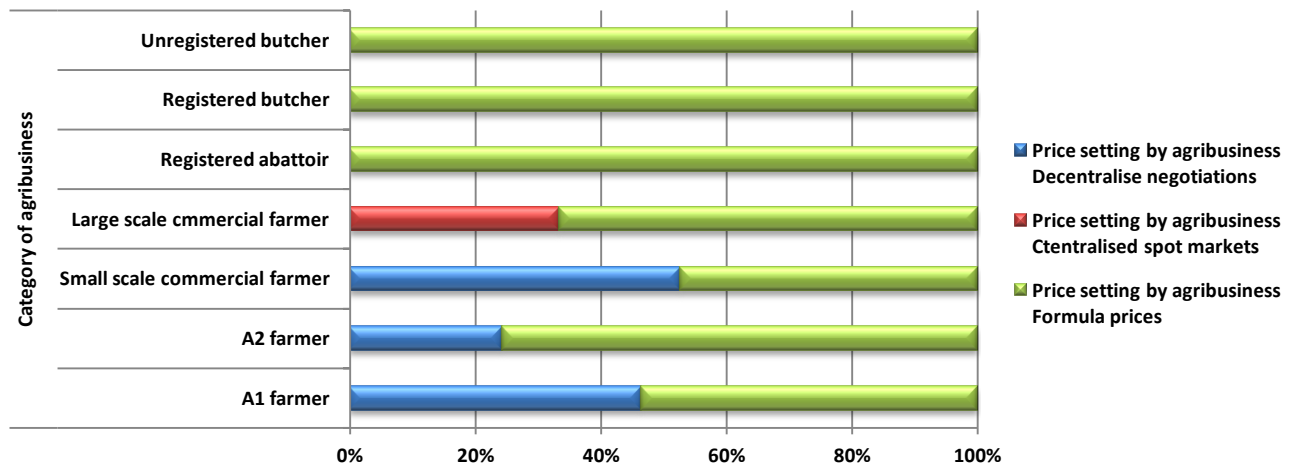


Figure 5.21: Price setting mechanisms by agribusinesses
Source: Survey data

Fifty six (56) percent of the agribusinesses are pursuing profit oriented objectives, relative to 6.1% following sales oriented objectives, 1.0% comparing with the competition and 36.0% are focusing on pricing objectives concentrating on survival. These tally with Shipley (1981) findings of profit oriented objectives dominating other objectives. Figure 5.22 showed that 46.4% of A₁ producers was aiming for a profit objective in their agribusiness. This is true for 48.5% A₂ producers, 47.4% of small scale commercial producers, all the large scale commercial producers, 66.7% of registered abattoirs and all registered and unregistered butchers, respectively. However, half of A₁ producers was aiming to just survive. This is also the objective of 33% A₂ producers, 52.6% of small scale commercial producers and 33.3% of registered abattoirs. Eighteen (18) percent of A₂ farmers was pushing for sales whilst 3.6% of A₁ producers was doing so to compare with competition. As much as objectives are end results of planned activities (Wheelen and Hunger, 2011), a worrying trend however is the emergence of unplanned objectives such as survival due to viability constraints. Unsustainable credit facilities, low demand and productivity constraints due to intermittent electricity supply (Mutambara, 2013a) for instance have contributed immensely to agribusinesses intending to just survive at the expense of growth. Further worrying is that 97.3% of agribusinesses that was intending to survive was producers. This is quite debilitating to the industry especially since they provide the raw material in the industry value chain. Any subdued growth from this value chain level will ultimately have a multiplier in suppressing growth of the entire industry.

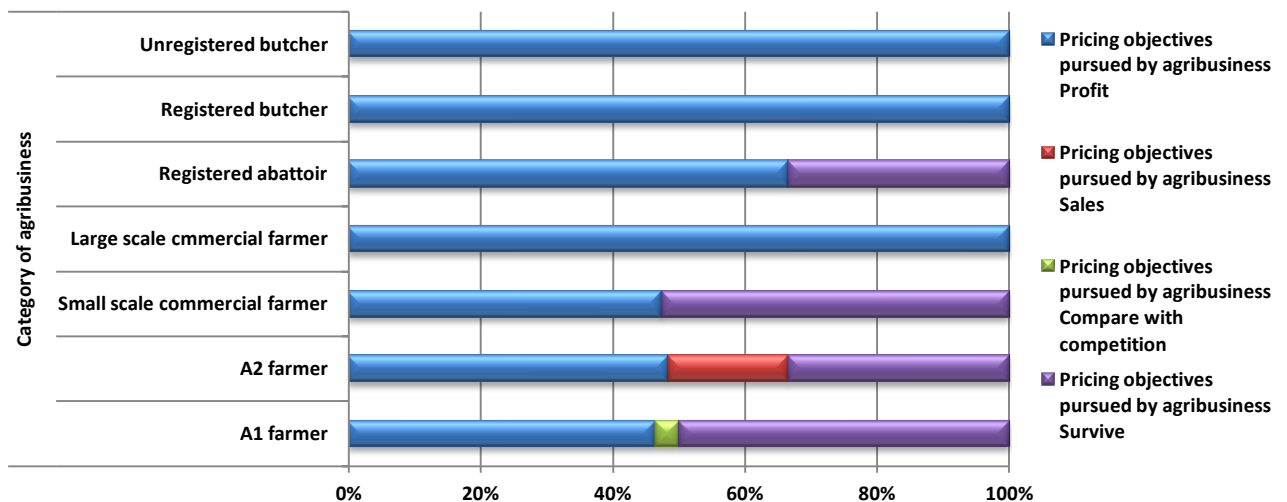


Figure 5.22: Pricing objectives by agribusinesses
Source: Survey data

Figure 5.23 showed that out of the agribusinesses utilising price flexibility policies, 28.9% was pursuing profit oriented pricing objectives, against 13.3% following sales oriented, 2.2% comparing with competition and 55.6% just wanting to survive. Seventy nine (79) percent of the 56.1% pursuing profit oriented pricing objectives utilise a one price policy, whilst 20.8% of those who wanted to survive was doing so through a one price policy. Of all the players aiming for a profit oriented objective, 1.02% are pursuing a skimming price level, 1.02%, are aiming for a profit oriented pricing objective, whereas 55.7% are achieving their objective through penetration pricing policy. All agribusinesses that are aiming for sales oriented, comparing with the competition and surviving, 6.2%, 1% and 37.1% respectively are doing so through a penetration price level policy respectively. Fifty three percent of agribusinesses utilising quantity discounts as a price discount policy do so pursuing a profit oriented objective. Twenty seven (27) percent, 6.7% and 13.3% of those using quantity discounts are pursuing sales oriented, comparing with the competition and survival pricing objectives, respectively. All agribusinesses utilising seasonal discounts do so with the aim of profit orientation. Ninety three (93) percent and 6.7% of players utilising sale price as a price discount policy are aiming for profit and survival, respectively. Out of all the players that do not utilise any price discount policy, 47.8%, 3.0% and 49.3% are pursuing profit oriented, sales oriented and survival oriented pricing objectives, respectively.

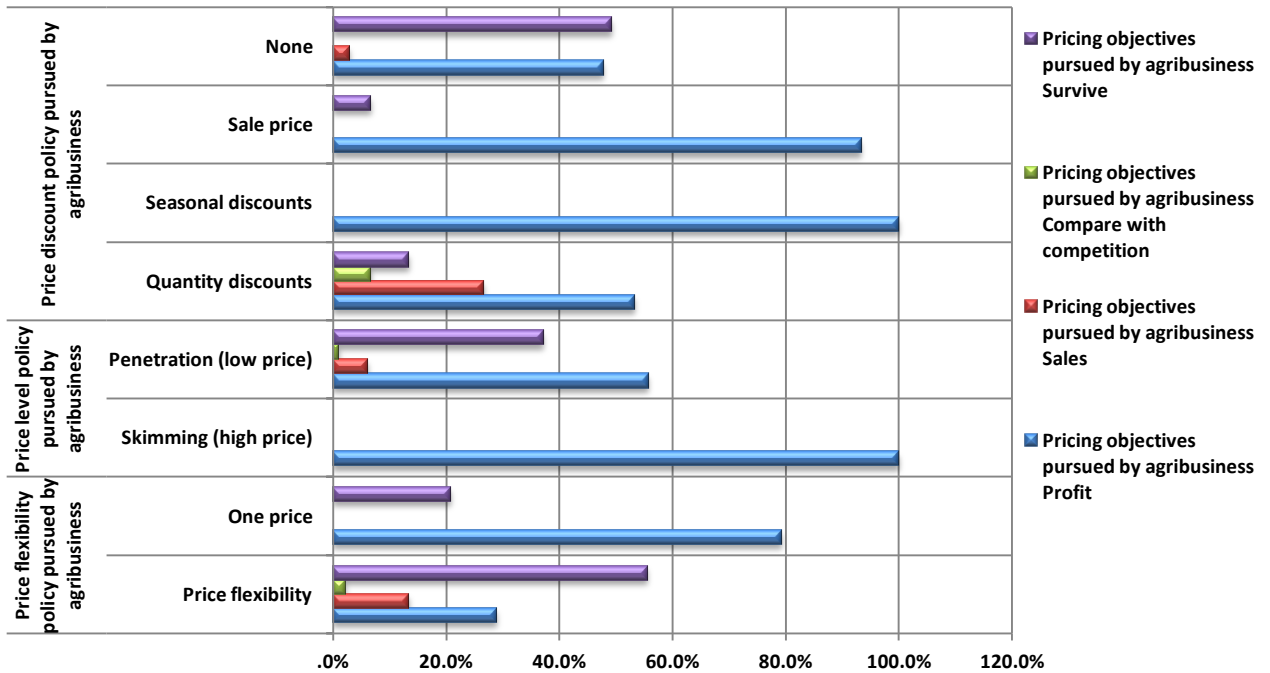


Figure 5.23: Pricing objectives, flexibility, levels and discounts
Source: Survey data

Figure 5.24 showed that out of all agribusiness that are making a loss, 10.9%, 33.3% and 36.1% are pursuing profit, sales and survival oriented pricing objectives. Thirty one (31) percent and 13.2% are utilising price flexibility and one price policy, respectively. None are pursuing a skimming price level policy, whilst 21.6% are utilising price penetration level policy. Seven percent, 6.7% and 28.4% are utilising quantity discounts, sale price and no discount policy respectively. Worryingly, all respondents that fell within this bracket were the A₁, A₂ and small scale commercial producers with 71.4% having been in existence for less than 9 years. There have been many suggestions as to the causes of such inefficiencies and the notable ones include lack of training and scarcity of investment (Anseeuw *et al*, 2012). Inadequate farmer training programs especially in business aspects have resulted in myopic perspectives, with lack of utilisation of sound business strategies to fulfilling their agro-organizational objectives. Lack of investment has equally affected agribusinesses' flexibility in strategizing to meet their objectives. This has resulted in a large number of the producers just wanting to survive, utilising low, flexible pricing, limiting their discount options and consequently, not earning a return.

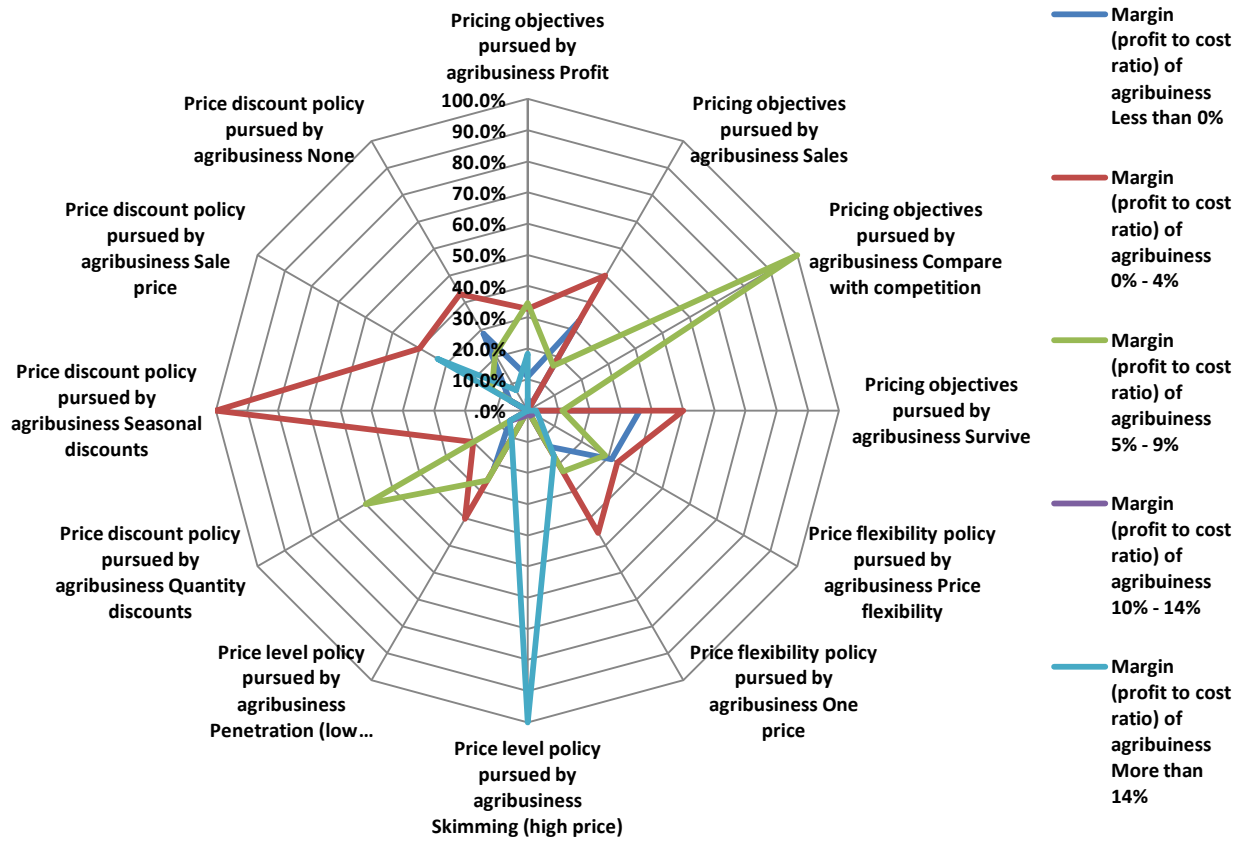


Figure 5.24: Pricing objectives, policies and margins
Source: Survey data

Alternatively, agribusinesses making a very high returns of a profit to cost ratio of more than 14% are characterised by 18.2% and 2.8% pursuing profit oriented and survival oriented pricing objectives respectively; 4.4% and 17% pursuing price flexibility and one price policy, respectively; all that are utilising skimming price level policy and 10.3% utilising penetration price level policy; and 6.7%, 33.3% and 7.5% pursuing quantity discounts, sale price and no discount policies, respectively. Not surprisingly, all agribusinesses making very high returns consisted of registered abattoirs, as well as the registered and unregistered butcheries, with period of existence not having much an influence. These findings are consistent with Davids *et al* (2014) of higher returns down the value chain. Various reasons have been put forth to account for this high returns down the value chain and the most notable is asymmetric information (Bakucs and Ferto, 2005). Most of the registered abattoirs and butchers were in towns, with easier access to information regarding prices. They take advantage associated with search costs in quickly changing prices relative to other industry players up the value chain. They are thus at the liberty of making very

high returns. This is also reflected in their strategies where most are pursuing a profit, utilising a high, single price and a sale in some instances.

Table 5.6 highlights that Pillai's Trace, Wilk's Lambda, Hotelling's Trace as well as Roy's Largest Root are all significant with $P_{values} < 0.05$. This indicated significant differences in the use of cost oriented versus demand oriented pricing mechanisms.

Table 5.6: Mean differences in price setting mechanisms

	Cost oriented		Demand oriented	
	F	Sig.	F	Sig.
Pillai's Trace	3.657	0.002	18.453	0.000
Wilk's Lambda	3.639	0.002	18.453	0.000
Hotelling's Trace	3.621	0.002	18.453	0.000
Roy's Largest Root	4.726	0.004	18.453	0.000

Source: Survey data

Between subject effects showed that there are significant average differences ($P_{values} < 0.05$) for cost as well as demand oriented price setting mechanism with reference to margin and category of agribusiness. However, Table 5.7 highlights that there are higher F values for demand oriented price setting mechanisms than cost oriented which have smaller value. This depicts greater variability within the demand mechanisms themselves.

Table 5.7: Mean variability difference in price setting mechanisms

Source	Dependent Variable	F	Sig.
Cost oriented	Margin (profit to cost ratio)	3.746	0.013
	Category of agribusiness	2.726	0.047
Demand oriented	Margin (profit to cost ratio)	26.817	0.000
	Category of agribusiness	13.765	0.000

Source: Survey data

From the Post Hoc tests for cost oriented pricing strategies, there were significant differences between use of break even pricing and target return to cost at $P_{values} < 0.05$. Table 5.8 showed that no significant differences exists between break even and mark up on cost as well as with marginal pricing.

Table 5.8: Mean difference in cost oriented pricing mechanisms

Tukey HSD Post Hoc			
		Mean difference	P_{VALUE}
Break even	Target return to cost	1.0914	0.010
	Mark up on cost	0.5200	0.733
	Marginal pricing	0.5200	0.733

Source: Survey data

However, Post Hoc analysis of demand oriented price mechanisms could not be performed because there were fewer than three categories for which the industry players identified, which are negotiated pricing and pricing the same as the competition.

Figure 5.25 confirmed that the most utilised price setting mechanism at 51.0% is break even pricing which is cost oriented. Thirty three (33) percent of the industry utilised negotiated pricing followed by 7.1% utilising target return on cost, 2.0% pricing the same as the competition, and 3.1% for marginal pricing and mark up on cost, respectively. This falls contrary to Li and Sexton (2013) and Kunkel and Buhr (1999) findings of the most utilised mechanism of mark up pricing in pork industries and any variance thereof exacerbating price volatility. Buhr (2004) goes further to indicate that demand oriented pricing mechanisms are utilised in pork industries at the expense of cost oriented. The findings however support Carson *et al* (1998) findings that cost oriented approaches are the most utilised price setting mechanisms. In as much as other pricing mechanisms such as mark up on cost and target return on cost being relatively simpler in implementing, they do not take cognisance of the demand side or profit side of the business. Further to that, mechanisms such as negotiated pricing as well as pricing the same as the competition, work as a mirror reflection, in this case, proffering lip service to the cost side of the agribusiness. This shortfall is addressed by break even pricing. Through the Cost Volume Profit (CVP) price setting mechanism, which is a derivative of break-even pricing, various aspects of the pricing mechanism, such as costs and demand, are taken into consideration. In essence, break even pricing allows for a trade-off between costs which establishes the volume at a certain price to determine the returns for an agribusiness. This makes break even an ideal pricing mechanism.

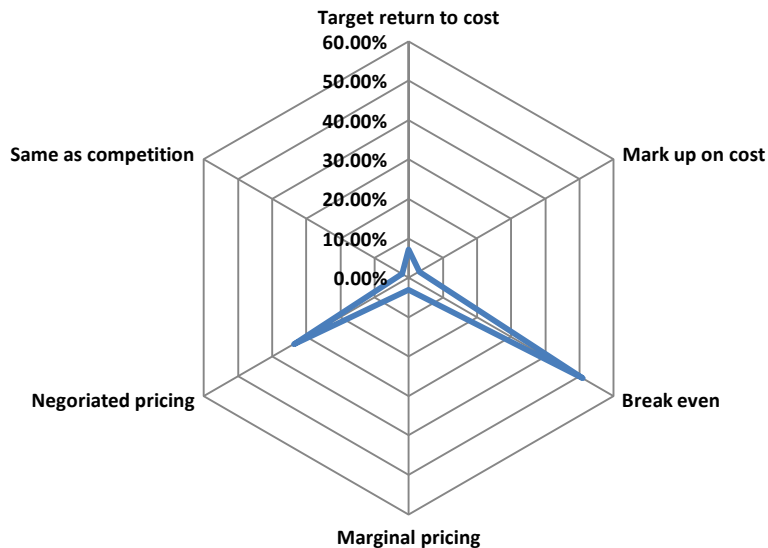


Figure 5.25: Price setting mechanisms by agribusinesses
Source: Survey data

From the above analysis, the H_0 hypothesis was accepted, at $P_{values} > 0.05$ for pricing-the-same-as-competition as a proxy to price follower behaviour. It is thus concluded that pricing the same as competition, or price follower behaviour, was not the most utilised price setting mechanism. In any case, the particular pricing strategy agribusinesses utilise will be ultimately influenced by the industry players' attitudes, feelings and behaviours, as the subsequent section reveals.

5.2.5 Pricing attitudes, feelings and behaviour results

Reference is made to SPSS multiple regression and cross tabulation results in Appendix Eight.

Table 5.9 shows that attitudes had a 10.8% significant influence on pricing objectives at $P_{values} < 0.05$. The most influential attitudes is when players disregard any pricing mechanism as long as it covers their costs of production (29.9%) and when they highlight that price strategy does not matter because they are determined by substitute products (16.5%). The table also showed that industry player feelings did not have a significant influence on achieving pricing objectives when taken in total at $P_{values} > 0.05$. However, disaggregating the feelings, one feeling becomes evidently significant at $P_{values} < 0.05$, that of being indifferent to a price change as it is offset by corresponding changes in units sold (15.6%). Out of all the attitude and feeling influencing attainment of pricing objectives, the indifference attitudes appears to be

the only one positively influencing pricing objectives, whereas the others negatively influenced it.

Table 5.9: Influence of attitudes, feelings and behaviours towards pricing and their influence on attainment of pricing objectives

FACTOR INFLUENCE					MOST INFLUENTIAL COEFFICIENT			
FACTOR	R ²	ADJUSTED R ²	P _{VALUE}	COEFFICIENT	B VALUE	BETA VALUE	P _{VALUE}	
Pricing Objectives	Attitudes	0.108	0.085	0.001	It doesn't matter what price I set, as long as it covers my cost of production	-0.422	-0.299	0.001
					It doesn't matter what price strategy I utilise, price of substitutes will determine what price to use	0.496	0.165	0.023
	Feelings	0.032	0.006	0.285	I feel that a low price will change nothing as it is offset by the increased sale	-0.235	-0.156	0.046
Profit to cost ratio (Margin)	Attitudes	0.225	0.204	0.000	It doesn't matter what price strategy I use, God will make a plan for me	0.393	0.165	0.013
					It doesn't matter what price strategy I utilise, pork imports will still undercut our price	-0.393	-0.212	0.002
					It doesn't matter what price strategy I utilise, price of substitutes will determine what price to use	-0.759	-0.303	0.000
	Feelings	0.087	0.063	0.004	I feel no urge to worry about price since buyers always buy at their own preferred price	-0.334	-0.173	0.035
					I feel that there is no other means to maximizing profit than through the highest price possible	0.306	0.178	0.028
					I feel that a low price will change nothing as it is offset by the increased sales	0.210	0.168	0.028
Behaviours	0.084	0.059	0.005	Changing the price will do nothing since other players will follow suit	-0.607	-0.329	0.000	

Source: Survey data

Table 5.9 also showed the major attitudes (22.5%), feelings (8.7%) and behaviours (8.4%) influencing industry profit to cost ratio. The major attitudes that influenced profit to cost ratio include leaving everything to chance (16.5%), imports influencing pricing (21.2%) and substitutes determining the price (30.3%). Major feelings affecting margin include inferiority especially when price bargaining (17.3%), price skimming maximizing profit (17.8%) and indifference to a price change as it is offset by corresponding changes in units sold (16.8%). Indifference in changing a price as competitors followed suit (32.9%). It was the major behaviour that influences profit to cost ratio.

Tests of between subjects as revealed in Appendix Eight also revealed significant influence of various combinations of the attitudes, feelings and behaviours identified above. Table 5.10 highlighted some of the significant combinations of the various attitudes, feelings and behaviours affecting pricing objectives at $P_{values} < 0.05$.

Table 5.10: Combinational influence of attitudes, feelings and behaviours of pricing towards pricing objectives

	Source	Sig.
Attitudes	It doesn't matter, as long as it covers my cost of production*It doesn't matter, pork imports will still undercut our price	0.004
	It doesn't matter, God will make a plan*It doesn't matter, pork imports will still undercut our price	0.015
	It doesn't matter, as long as my meat gets bought*It doesn't matter, God will make a plan*It doesn't matter, pork imports will still undercut our price	0.011
Feelings	I feel no need to worry about price setting since there is a low supply*I feel there is no other means to maximize profit than through the highest price possible	0.004
	I feel no need to worry about price setting since there is a low supply*I feel a low price changes nothing as its offset by increased sales	0.012
	I feel no need to worry about price setting since there is a low supply*I feel the price I am getting is fair	0.004
	I feel no urge to worry about prices since buyers buy at their preferred prices*I feel a low price changes nothing as its offset by increased sales	0.035
	I feel there is no other means to maximize profit than through the highest price possible* I feel the price I am getting is fair	0.023
Behaviours	I will not spend time setting a price as it is too difficult and time consuming*I will settle for any price as long as I get to keep my clientele	0.018
	I will not strategise on right price instead will follow price set by others*Changing price will change nothing since others follow suit	0.001
	Changing price will change nothing since others follow suit* I will settle for any price as long as I get to keep my clientele	0.011
	I will not worry about price strategy since bigger players dominate the industry*I will settle for any price as long as I get to keep my clientele	0.001
	I will not spend time setting a price as it is too difficult and time consuming* I will not strategise on right price instead will follow price set by others* Changing price will change nothing since others follow suit	0.014

Source: Survey data

From the above analysis, the H_0 hypothesis was accepted, at $P_{values} > 0.05$ for behaviours and feelings. It is then concluded that absolute behaviours and feelings did not have an effect on attainment of pricing objectives. However, disaggregating the feelings, the feeling of being indifferent to a price change as it is offset by corresponding changes in units sold stood out as significant at $P_{values} < 0.05$. The H_0 hypothesis was rejected in this regard. It is also rejected for attitudes at $P_{values} < 0.05$, the major attitudes being players disregarding any pricing mechanism as long as it covers their costs of production and when they highlight that price strategy does not matter because they are determined by substitute products.

5.2.6 Pricing efficiency results

Reference is made to SPSS results Appendix Nine.

Table 5.11 showed that the mean pork retail price is \$4.08 per kilogram, whilst the mean producer price is \$2.47 per kilogram.

Table 5.11: Mean retail price, producer price and marketing margin

Model	R	R ²	ADJUSTED R ²	B (Constant)	B (dependent)	Beta (dependent)	P _{VALUE}
$P_r = M + \alpha P_f$	0.073	0.005	0.000	3.904	0.070	0.073	0.316
$M = \alpha + \beta P_r$	0.516	0.266	0.263	-1.622	0.788	0.516	0.000
Mean (pork retail price \$/kg) = 4.08				Mean (pig producer price \$/kg) = 2.47			
$\frac{d(\log P_r)}{d(\log P_f)} = (1 - \beta) \frac{P_r}{P_{fa}} = \mathbf{0.35018}$							

Source: Survey data

The $P_{values} > 0.05$ suggested that no significant relationship exists between the retail and farm price. This relationship can be represented by the regression equation:

$$P_r = 3.904 + 0.070P_f$$

Any unit change in pig producer price induced a 0.07 unit change in the retail price from an absolute of \$3.90. The Beta value showed that 7.3% of the retail price is accounted for by the producer price. A significant relationship at $P_{values} < 0.05$ does however exist between the marketing margin and the retail price. This relationship is represented by the equation below

$$M = -1.622 + 0.788P_r$$

A unit change in retail price induced a 0.788 unit change in the marketing margin. The marketing margin tends to increase by 51.4% per unit change in retail price. The Beta value indicated that 51.6% of the marketing margin was accounted for by the retail price.

Table 5.11 showed that producer price elasticity to retail price is elastic, meaning there is a more than corresponding retail price difference induced by a producer price difference. This depicted an inefficient pricing market and thus the H_0 hypothesis was rejected. The findings concurred with Levy (2014) and Ajala and Adesehinwa (2007) where a relatively smaller producer price difference induced larger retail price differences. Levy (2014) highlighted that the different price ranges were induced by the retailers realizing that producers are desperate to sell their pigs especially when they are at low weights and are at disadvantageous positions in price negotiations. Further to that, these low prices are justified when taking costs such as slaughter, transportation and inspections, into consideration. These costs are incurred per animal rather than per kilogram. Agribusiness location also induced

a large variability in the retail price relative to the producer price, mainly induced by variability in business (Levy, 2014).

5.3 CHAPTER SUMMARY

The results of the data gathered from the questionnaires have assisted the researcher to reach certain conclusions on the formulated hypotheses. Through the results, the researcher discovered that marketing was not the most essential value creating activity. In addition, pricing was also not the most significant marketing mix element contributing to this effect. Furthermore, price follower behaviour was not exhibited by the industry players. Attitudes and feelings exhibited by industry players have varied influences on attainment of pricing objectives and the pricing within the industry was inefficient.

The next chapter will focus on the discussions, conclusions and recommendations of the study and will suggest areas for further research. Conclusions related to the research proposition and the five hypotheses will be discussed. Finally, the chapter will examine areas for further research.

CHAPTER SIX

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

6.1 INTRODUCTION

The major objective of the study is to give a reflection of the pricing strategies, articulate organizational attitudes, feelings and behaviours regarding these strategies and how all of this influence value creation within agribusinesses in the Mashonaland Central Province pork industry. The research proposition that flows from this objective stated that the particular agricultural pricing objectives, strategies and policies utilized within this subsector have an indirect influence on how organizations within the subsector create value.

The first hypothesis stated that marketing is the most influential primary value creating activity in the Zimbabwean pork industry. The second hypothesis was that pricing is the most influential marketing mix component in the Zimbabwean pork industry. The third hypothesis indicated that Zimbabwean pork industry players utilize follow-the-leader pricing strategies. The fourth hypothesis put forth that attitudes, feelings and behaviour towards pork pricing have an influence on attainment of pricing objectives. The fifth and last hypothesis specified that Zimbabwe has an inefficient pork pricing market.

The discussion of the results of this study and conclusions are explained in relation to each of these hypotheses and the research proposition. This chapter serves to give a conclusive end to the study laying bare the major highlights and findings of the research. Recommendations and areas for further studies will be suggested.

6.2 DISCUSSION

The characterization of the respondents played a significant role in the various value creating activities, marketing mix components and pricing strategies that were highlighted to be significant within the pork agribusinesses in the study area. The respondents consisted of 65.3% males with 40.8% attaining secondary school education. Forty (40) percent of the respondents was aged 40 years and above with 63.3% owning their agribusinesses. Forty two (42) percent of agribusinesses was in

existence for between 5 and 9 years with 87.2% located in rural areas. Forty one (41) percent of the agribusiness handled less than 5 pigs/carcasses per month with 87.5% averaging between 60 and 79 kgs in weight. This goes to show that majority of the enterprises were still relatively young handling relatively small merchandise. Seventy five (75) percent of the agribusinesses handled porkers exclusively, with most sales occurring from October to December. About 92% of agribusinesses considered October to December as sales period. Ninety three (93) percent of agribusinesses also considered the size of their merchandise, with 99.0% considering prices set by other industry players whilst 87.0% consider the quality of their merchandise. Selling all the pigs/carcasses proved a challenge for 75.0% of agribusinesses whereas setting a price was a challenge for 97.0% of agribusinesses and 94.9% of agribusinesses had a challenge in earning a profit. Ninety eight percent of agribusinesses indicated that they would be somewhat less successful if government intervened in their pricing processes.

The study utilised Porter's (1985), Reclies' (2001) and the Cambridge Performance Partners' (2013) intra-organizational value chain and creation analysis through the 4Ps framework to offer a pathway through which price, as an element of a marketing mix, could influence value creation. The study supports Ohal's (2015) findings of value creation through the quality of the product than through the hypothesised marketing. The study also confirmed Leat and Reverodo-Giha's (2013) esteem value proposition in terms of the product and its quality. However, the findings put into doubt Al Tawalbek and Abu-Rumman's (2015) findings that marketing is the only value creating function producing a benefit and thus most effective in creating value. The study also puts into perspective Tsourgiannis' *et al* (2006) and Gegner's (2004) findings that marketing function has less emphasis in the farming sector. Schwatz (2014) augments the findings with the assertion that marketing strategy cannot be applied because of lack of time, knowledge and the need for it.

Most agribusinesses were utilising price setting systems as proposed by Rhodes *et al* (2007) instead of price discovery systems. Hayenga and Schrader (1980) indicate that price setting mechanisms are more preferable because, though market information is available, it is hard to generalize or summarize. Furthermore, it secures better quality hogs, leaving lower quality hogs in the spot markets (Mussell *et al*, 2003). However, Mussell *et al* (2003) highlight that price setting tends to

remove volume from spot markets resulting in volatile spot markets. The study supports Mussell *et al* (2003) findings of use of both negotiated and formula prices in pork industries. It also supports Volpe *et al* (2015) and Jumah's (2000) findings of use of profit orientation in pork industries. However, it falls contrary to Buhr's (2004) findings of competitiveness, i.e. *status quo* pricing objectives, in pork industries. Formula prices were mainly precipitated by high information asymmetry in the value chain (Mutambara, 2013b). Trierweiler (2011) supports the use of formula pricing by highlighting that price discovery mechanisms could not coordinate vertically related stages of production and marketing, being unresponsive to consumer preferences and threatening the viability of the entire system. Hayenga and Schrader (1980) indicate that formula pricing facilitates coordination of physical transfer, both buyer and seller are assured a price in line with competitive prices, reduces bargaining disparities between small firms and larger better informed suppliers or customers, enhancing long term viability. Dhuyvetter (2004) negates negotiated pricing as costly in terms of collecting and analysing information and negotiating individual transactions, as well as lack of useable public information. Hayenga and Schrader (1908) indicate that formula pricing lowers internal transaction costs, freeing personnel from task of negotiating prices.

The study supports Kunkel and Buhr's (1999) findings of fixed prices in pork industries, falling contrary however to Kenyon and Purcell (1999) as well as Shao and Roe (2002) flexible pricing policies through the price window system. This was shown through 79% of the agribusinesses aiming for profit doing so through a one price policy. Hinterhuber (2004) avers that businesses that offer inflexible prices tend to generate highest gross margin levels. The study also falls contrary to Brorsen *et al* (1998) and Buhr (2004) findings of skimming price level policies mainly attributable to premium pork pricing in pork industries. It supports Chaumhuri and Batt's (2013) notion of reduced prices. Reduced prices through penetration price level policies are necessitated by the reduced demand and consumption of pork products (Mutambara, 2013a), unfair trade practices through illegal imports, import of GMO finished products and dumping (Mutambara and Chingozho, 2011), substitute competition (Mutambara, 2013b) and the liquidity crisis bedevilling Zimbabwe (Mutambara, 2013a).

The study identifies with Dhuyvetter (2004) as well as McEwan and Duffy's (2000) findings of formula prices. However, there is disparity in the use of negotiated pricing as identified by Nagler *et al* (2015); Kenyon and Purcell (1999) and Ajala and Adehesinwa (2007). Findings of break-even pricing superceding other pricing strategies falls contrary to Kunkel and Buhr's (1999) findings of cost plus pricing. Use of break even pricing was mainly attributable to reduced demand, costly environmental management and compliance regulations and costly inputs such as stock feeds (Mutambara, 2013a and 2013b; Mutambara and Chingozho, 2011). Break even pricing has been utilised within the industry because of the ease of its practical implementation. However, cost based pricing mechanisms were misleading since they cannot themselves be determined without price itself (Hinterhuber, 2004).

The following factors were identified by the study as having a bearing on the value creating activities, marketing mix component and pricing objectives, policies and mechanisms recognized as effective:

- ✚ A patriarchal-male-dominated decision making industry (Chazovachii, 2012; Narayan, 2000)
- ✚ Educational levels (Bester *et al*, 1980; Sabatja, 1999)
- ✚ Experience curve i.e. age (Starkey, 1996; Scoones, 1992)
- ✚ Location (Levy, 2014; Ajala and Adehesinwa, 2007; Sniferaw *et al*, 2011)
- ✚ Seasonality (Ajala and Adehesinwa, 2007; Kagira *et al*, 2010)
- ✚ Quality considerations (Triekens and Wognum, 2013; Luppnow, 2007)
- ✚ Challenges in selling the pork meat, setting the right price and earning a profit (Levy, 2014).

6.3 CONCLUSIONS

6.3.1 Most influential value creating activity conclusions

Based on the results in Section 5.2.2, the H_0 was accepted and it was confirmed that marketing was not the most influential value creating activity in the pork industry. Production and processing appeared to be the most influential value creating activity within the industry. Other value creating activities that proved significant were acquiring inputs, goods and services as well as transportation of produce.

The correlation analysis highlighted that production and processing had the largest correlation coefficient magnitude with a negative correlation. This depicted a relationship where those who adjudicated production and processing as most significant were in the bracket of lower value creators. As more value is created, production and processing became less effective in creating value. On the other hand, transportation had the second largest correlation coefficient magnitude which was positive. In this case, increasing advantage in transportation will likely improve value creation within the industry. The least significant correlation was with acquiring inputs, goods and services, which was also negative and thus concentrating in acquiring inputs, goods and services will likely have an inverse effect on value creation. Marketing and sales as well as after sales services and networking were not significant in influencing value creation within the industry.

Henceforth, it is concluded that marketing is not the most influential value creating activity in the pork industry.

6.3.2 Most influential marketing mix component conclusions

Based on the one way ANOVA and cross tabulation results, the H_0 was accepted and it was affirmed that price is not the most influential and significant marketing mix component within the pork industry. Worth noting is that it had no significant influence. The most and only significant marketing mix component was the product itself. Comparable to price, there was a significant difference in the average of those that adjudicated product being the relatively more important and influential marketing mix component. Within price itself, there was significant difference in those who highlighted they had very good and average prices.

For that reason, it was concluded that price was not the most influential marketing mix component in the pork industry.

6.3.3 Pricing strategy conclusions

Based on the results in Section 5.2.4, the H_0 was accepted and it was averred that follow-the-leader pricing strategy was not the most significantly utilised price setting mechanism within the pork industry. Break even pricing was the most utilised price setting mechanism, which is cost oriented, followed by negotiated pricing, which is

demand oriented. Other price setting mechanisms consideration were target return on cost, mark up on cost, marginal pricing and pricing in relation to competitors.

Most industry players utilised formula prices, pursuing profit oriented pricing objectives through a one price policy, aiming for a low penetration pricing policy, with no discount policy and managing a profit to cost ratio of between 0% and 4%.

Hereafter, it was concluded that follow-the-leader pricing is not the most utilised price setting mechanism in the pork industry.

6.3.4 Pricing attitudes, feelings and behaviour conclusions

Based on the results in Section 5.2.5, there appeared to be mixed results, the H_0 was rejected in some instances whilst being accepted in some other instances. It was generally observed that:

- i. behaviour towards pricing had no influence towards attainment of pricing objectives in the pork industry;
- ii. absolute feelings towards pricing had no influence towards attainment of pricing objectives in the pork industry, but when disaggregated, it did; and
- iii. attitudes towards pricing had an influence towards attainment of pricing objectives.

The major contributory feeling is that of being indifferent to a price change as it is offset by corresponding changes in units sold. Major attitudes towards pricing include:

- i. industry players disregarding any pricing mechanism as long as it covers their costs of production; and
- ii. industry players highlighting that price strategy does not matter because they are determined by substitute products.

It is therefore concluded that attitudes and feelings towards pricing had an influence on attainment of pricing objectives in the pork industry.

6.3.5 Pricing efficiency conclusions

Based on the results in Section 5.2.6, the H_0 was rejected and it was determined that pricing within the pork industry was inefficient. Pork retail price averaged \$4.08 whereas the pig producer price averaged \$2.47 per kilogram, respectively. The marketing margin was \$1.60 per kilogram. Retail prices tended to increase by 0.07 for every unit increase in producer price, from an absolute of \$3.90. The marketing margin tended to change by 51.4% per unit change in retail price. There is an elastic relationship between producer price and retail price. Thus there was a more corresponding retail difference induced by a producer price difference.

Consequently, it was concluded that pricing within the pork industry is inefficient.

6.4 RECOMMENDATIONS

The following TOWS matrix was utilised in coming up with the recommendations based on the conclusions in Section 6.2 above.

Table 6.1: Recommendations

External Factors	Internal Factors	Strengths	Weaknesses
		<ol style="list-style-type: none"> 1. Production and processing 2. Product 	<ol style="list-style-type: none"> 1. Low profit to cost ratio
<p>Opportunities</p> <ol style="list-style-type: none"> 1. Myopic pricing objectives 2. Price flexibility 3. Premium skim pricing 4. Lack of discount policy 5. Inefficient pricing 		<ol style="list-style-type: none"> 1. Leverage the production and processing to take advantage of the myopic pricing objectives 2. Exploit the product to make use of premium skim pricing 3. Leverage the production and processing to take advantage of the lack of discount policy 4. Leverage on the product to take advantage of the inefficient pricing 	<ol style="list-style-type: none"> 1. Utilise price flexibility policies to induce increased returns in the long run
<p>Threats</p> <ol style="list-style-type: none"> 1. Substitute products 2. Inefficient pricing 		<ol style="list-style-type: none"> 1. Leverage on the product to avoid the substitute 2. Leverage on the production and processing to avoid the substitute 3. Leverage on the product to avoid inefficient pricing 	<ol style="list-style-type: none"> 1. Minimize the low to profit to cost ratio and avoid substitutes

Source: Survey data

The matrix highlights the industry threats, opportunities, weaknesses as well as its strength, and in this case, in terms of pricing. The framework tries to leverage the strengths to take advantage of the opportunities; use the strengths to avoid the threats; take advantage of opportunities by overcoming weaknesses; whilst trying to minimize weaknesses at the same time trying to avoid the threats (Wheelen and Hunger, 2011). Birungi, Ouma, Dorresteiijn, Kawuma and Smith (2015) state that the SWOT matrix is an effective tool for evaluating market opportunities or business options. The matrix was obtained by combining the research findings and literature already existent on the pork industry and its environment.

6.4.1 Leveraging on the production and processing

From the conclusions in Section 6.2.2, it was concluded that production and processing was the most significant value creating activity in the pork industry, albeit marketing as the research hypothesized. It is therefore recommended that the production and processing value creating activity can be exploited through:

- a. Leveraging the production and processing to take advantage of the myopic pricing objectives. Flexibility in production and processing can lead to players adopting pricing objectives such as sales oriented which are likely to improve turnover with however a short run drop in profit to cost ratio, which will likely improve in the long run because of established “good will” with other industry players.
- b. Leveraging the production and processing to take advantage of the lack of discount policy. Proffering discount will likely reduce the profit to cost ratio in the short run but will induce long run “good will” with likely increase in the profit to cost ratio in the long run and thus value within the industry.
- c. Exploiting the production and processing to avoid substitute threat. At the producer level, the producers should conform to automation to reduce cost and improve efficiency in production. This will likely make the product more price competitive relative to the substitutes. Processing at the retail level to make the product more attractive will likely improve the products competitive edge over its substitutes.

6.4.2 Leveraging on the product

From the conclusions in Section 6.2.3, it was concluded that the product was the most influential marketing mix component in the pork industry, instead of pricing as the research hypothesized. Henceforth, it is recommended that the product can be exploited through:

- a. Leveraging on the product to make use of premium pricing. Conforming to high quality product can induce premium high market pricing increasing the value created at each level within the industry.
- b. Leveraging on the product to take advantage of the inefficient pricing. The processor and abattoir can actually proffer for a low cost and/or quality product which they can pass on at high price, creating value for themselves and the industry in the process. The inefficient pricing offers opportunity for arbitrage, especially for spatially distributed markets and thus an industry entry point for increasing value.
- c. Exploit on the product to avoid substitute. A high quality product can be utilised as a means to an end in combating substitute threat.
- d. Exploit the product to avoid inefficient pricing. A high quality product will likely induce a fairer price spread than a low quality product and thus avoid the inefficient pricing technicalities.

6.4.3 Evading the low profit to cost ratio

From the conclusions in Section 6.2.3, it was concluded that the industry has a low profit to cost ratio. Consequently, it is recommended that the low profit to cost ratio (value) in the industry can be evaded through:

- a. Utilising price flexibility to induce increased returns in the long run. This will likely induce short run variability in profit to cost ratio with however a positive trend in the long run. It also allows adaptability to prevailing economic conditions in setting prices and less shock to agribusinesses in times of depressed business.
- b. Minimizing the low profit to cost ratio and avoiding substitutes at the same time. Various strategies can be utilised including integration, both forward and backward vertical integration, which will likely improve industry player access to the customer dollar and improve profit to cost ratio.

6.5 CHAPTER SUMMARY

The chapter provides a conclusive end to the study. The research rejected the proposition that agricultural pricing objectives, strategies and policies, through marketing, have an indirect influence on how organizations within the Zimbabwean pork industry create value. This rejection was based on the conclusions that marketing was not the most influential value creating activity within the pork industry. Equally so, pricing was also not the most influential marketing mix component in the pork industry. It was also concluded that the industry was not utilising follow the leader pricing strategies and that feelings and attitudes influence pricing objectives and the industry pricing was inefficient.

Recommendations reached by the research include industry players leveraging on the production and processing, which was concluded to be most influential value creating activity, to take advantage of the myopic pricing objectives, lack of discount policy and avoiding substitute threat. The research also recommended that industry players leverage on the product itself, which was concluded to be the most influential marketing mix component, to take advantage of the lack of premium pricing, inefficient pricing and avoiding substitute threat. Furthermore, the research recommended that industry players evade the low profit to cost ratio through utilising price flexibility policies and vertical integration.

6.6 AREAS FOR FURTHER STUDY

The research work suggests some line of enquiry for further research. Firstly, there is need to replicate the research in other parts of Zimbabwe to confirm if the results of this research can be generalized across the whole country. Secondly, a co-integration time series marketing margin analysis can be incorporated to identify marketing margin spread and transmission. This can go a long way in cementing the pricing inefficiency assertion. This can be achieved by reorienting the methodology to incorporate secondary time-series data. Finally, further studies can also be carried out to determine if pricing can be utilized as a competitive tool since the study at hand did not focus on competitiveness.

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Value Creating Activities

1. Are you aware of the value creating activities in your agribusiness?

Yes 1

No 2

2. Which of the following value creating activities would you consider most important? (tick one)

Acquiring inputs, goods and services 1

Processing/Producing 2

Transportation of produce 3

Marketing and sales 4

After sales services and networking 5

How would you rate your agribusiness in the following value creating activities? (tick one for each)

	Very Good	Good	Ave.	Poor	Very Poor
3. Acquiring inputs, goods and services	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
4. Processing/Producing	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
5. Transportation of produce	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
6. Marketing and sales	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
7. After sales services and networking	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

Marketing

8. Which of the marketing mix elements do you consider most important? (tick one)

Product/Form (Branding) 1

Promotion (Advertising) 2

Place (Transportation and Logistics) 3

Price 4

Policies (e.g. GMO; Trade) 5

Partners (Middlemen) 6

9. Why do you think your choice in the previous question is the most important one?

.....

.....

.....

.....

.....

.....

.....

.....

How would you rate your agribusiness in relation to the following marketing mix practices? (tick one for each)

	Very Good	Good	Ave.	Poor	Very Poor
10. Product/Form (Quality, Branding)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
11. Promotion (Advertising)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
12. Place (Transportation and Logistics)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
13. Price	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
14. Policies (e.g. GMO; Trade)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
15. Partners (Middlemen)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

Pricing

16. Are you aware of your agribusiness' pricing objectives?

- Yes 1
- No 2

17. Which pricing objective is your agribusiness pursuing? (tick one)

- Profit 1
- Sales 2
- Compare with the competition 3
- Survive 4

How would you rate your agribusiness in the following pricing objectives? (tick one for each)

	Very Good	Good	Ave.	Poor	Very Poor
18. Profit	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
19. Sales	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
20. Compare with the competition	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
21. Survival	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

22. Are you aware of your agribusiness' pricing policies?

- Yes 1
- No 2

23. Which price flexibility policy is your agribusiness pursuing? (tick one)

- Price flexibility 1
- One price 2
- Have no idea 3

24. Which price level policy is your agribusiness pursuing? (tick one)

- Skimming (high price) 1
- Penetration (low price) 2
- Have no idea 3

25. Which price discount policy is your agribusiness pursuing? (tick one)

- Quantity discounts 1
- Seasonal discounts 2
- Sale price 3
- None 3

How would you rate your agribusiness in the following pricing policies? (tick one for each)

	Very Good	Good	Ave.	Poor	Very Poor
26. Price flexibility	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
27. One price	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
28. Skimming (high price)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
29. Penetration (low price)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
30. Quantity discounts	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
31. Seasonal discounts	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
32. Sale price	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

Pricing (cont...)

33. Are you aware of your agribusiness' price setting mechanism?

Yes 1

No 2

34. Which price setting mechanism is your agribusiness pursuing? (tick one)

Target return on cost 1

Mark up on cost 2

Break even 3

Marginal pricing 4

35.

Negotiated pricing 5

Bid pricing 6

Psychological pricing 7

Same as competition 8

Have no idea 9

36. How do you set your prices? (tick one)

Decentralised negotiations 1

Centralised spot markets 2

Bargaining 3

Formula prices 4

Administered prices 5

How would you rate your agribusiness in the following price setting approaches? (tick one for each)

	Very Good	Good	Ave.	Poor	Very Poor
37. Target return on cost	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
38. Mark up on cost	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
39. Break even	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
40. Marginal pricing	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
41. Negotiated pricing	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
42. Bid pricing	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
43. Psychological pricing	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
44. Same as competition	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

Attitudes

(tick one for each)

- 45. It doesn't matter what price I set,
as long as my pork/pig meat gets bought
- 46. It doesn't matter what price I set as long as it
covers my cost of production
- 47. It doesn't matter what price strategy I use,
God will make a plan for me
- 48. It doesn't matter what price strategy I utilise,
pork imports will still undercut our price
- 49. It doesn't matter what price strategy I utilise, price of
substitutes (chicken and beef) will determine what price to use

Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

Feelings

(tick one for each)

- 50. I feel that there is no need to worry about price setting
since there is a low supply of pork meat
- 51. I feel no urge to worry about price since buyers always
buy at their own preferred price
- 52. I feel that there is no other means to maximizing profit
than through the highest price possible
- 53. I feel that a low price will change nothing as it is offset by
the increased sales
- 54. I feel that the price that I am getting is fair

Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

Behaviours

(tick one for each)

- 55. I will not spend my time in setting a price as it is too
difficult and time consuming
- 56. I will not strategize on the right price, but instead will
just follow prices set by others
- 57. Changing the price will do nothing since other players will
follow suit
- 58. I will not worry about price strategy since bigger players
dominate the industry
- 59. I will settle for any price as long as I get to keep my
clienteles

Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

Demographics

60. Under which category is your agribusiness? (tick one)

Pig producer/Farmer

A1 1

A2 2

Small scale 3

Large scale 4

Processor/Abattoir

Registered 5

Unregistered 6

Retailer/Butcher

Registered 7

Unregistered 8

61. What is your pork product portfolio? (tick one)

Baconer 1

Porker 2

Baconer and porker 3

62. What is the average producer price range for your meat product/kg? (pig farmer) (tick one)

\$2.00 - \$2.49 1 \$2.50 - \$2.99 2

\$3.00 - \$3.49 3 \$3.50 - \$3.99 4

63. What is the average retail price range for your meat product/kg? (butcher) (tick one)

\$3.00 - \$3.49 1 \$3.50 - \$3.99 2

\$4.00 - \$4.49 3 \$4.50 - \$4.99 4

\$5.00 - \$5.49 5 \$5.50 - \$5.99 6

\$6.00 - \$6.49 7 \$6.50 - \$6.99 8

64. What is your profit to cost ratio in the pork meat agribusiness? (tick one)

Less than 0% 1

0% - 4% 2

5% - 9% 3

10% - 14% 4

More than 14% 5

No idea 6

65. Position of respondent in the agribusiness (tick one)

Proprietor/Owner 1

Management 2

Supervisor 3

66. Gender of respondent

Male 1

Female 2

67. Age group of respondents (tick one)

19 - 24 years 1

25 - 29 years 2

30 - 34 years 3

35 - 39 years 4

40 years and above 5

68. What is your highest educational qualification? (tick one)

None 1

Primary education 2

Secondary/High school education 3

Tertiary/University/College 4

69. Where is your agribusiness located? (tick one)

- Town 1
- Growth point 2
- Rural 3

70. How long has the agribusiness been in existence? (tick one)

- Less than 5 years 1
- 5 – 9 years 2
- 10 – 14 years 3
- 15 years and above 4

71. What is the average number of pigs/carcasses you sell/handle in a month? (tick one)

- 0 – 4 1
- 5 – 9 2
- 10 – 14 3
- 15 and above 4

72. What is the average weight of the pork/pigs you handle in kg? (tick one)

- Less than 20 1
- 20 – 39 2
- 40 – 59 3
- 60 – 79 4
- 80 and above 5

73. What distance does your furthest buyer travel? (tick one)

- Less than 1 km 1
- 1 – 9 km 2
- 10 – 19 km 3
- 20 – 29 km 4
- 30 km and above 5

Who frequent constitute your buyers? (tick one for each)

	All the time	Some time	Never
74. Abattoirs/ Processors	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
75. Retailers/ Butcheries	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
76. Individual customers	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3

Seasonality of sales (tick one for each)

	Very high	High	Ave.	Low	Very low
77. Jan – March	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
78. Apr - June	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
79. Jul – Sep	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
80. Oct – Dec	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

Which of the following do you consider when selling your pork/pig meat? (tick one for each)

	Always considered	Almost always considered	Sometimes considered	Rarely considered	Never considered
81. Size of pig/carcass	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
82. Price of other industry players	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
83. Quality of pig/carcass	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
84. Time of year	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

What is the biggest challenge in selling your pig/pork product? (tick one for each)

	Always a challenge	Frequently a challenge	Sometimes a challenge	Rarely a challenge	Never a challenge
85. Selling all the pork/pigs	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
86. Passing government inspections	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
87. Setting the right price	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
88. Earning a profit	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

If the following happened I think my agribusiness would (tick one for each)

	Definitely improve	Likely improve	Not change	Be somewhat less successful	Be much less successful
89. Permit use of GMO inputs	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
90. Ban pork imports	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
91. Government set a price floor	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
92. Government subsidised veterinary and extension	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

APPENDIX 2: COVER LETTER



University of Fort Hare
Together in Excellence

Confidentiality Form

Please note:

This form is to be completed by the researcher(s) as well as by the interviewee before the commencement of the research. Copies of the signed form must be filed and kept on record

I, **NGARAVA, SAUL**, Department of Agricultural Economics and Extension, University of Fort Hare, Eastern Cape, South Africa is asking people from your **community / sample / group** to answer some questions, which we hope will benefit your community and possibly other communities in the future.

The student in the Department of Agricultural Economics and Extension at University of Fort Hare, Eastern Cape, South Africa is conducting research regarding **value creation and pricing in the pork industry**. We are interested in finding out more about **the perceptions on value creation and pricing**. We are carrying out this research to help **the pork industry on identifying alternative pricing strategy to aid in value creation**.

Please understand that you are not being forced to take part in this study and the choice whether to participate or not is yours alone. However, we would really appreciate it if you do share your thoughts with us. If you choose not take part in answering these questions, you will not be affected in any way. If you agree to participate, you may stop me at any time and tell me that you don't want to go on with the interview. If you do this there will also be no penalties and you will NOT be prejudiced in ANY way. Confidentiality will be observed professionally.

I will not be recording your name anywhere on the questionnaire and no one will be able to link you to the answers you give. Only the researchers will have access to the unlinked information. The information will remain confidential and there will be no "come-backs" from the answers you give.

The interview will last around **(10)** minutes. I will be asking you a questions and ask that you are as open and honest as possible in answering these questions. Some questions may be of a personal and/or sensitive nature. I will be asking some questions that you may not have thought about before, and which also involve thinking about the past or the future. We know that you cannot be absolutely certain about the answers to these questions but we ask that you try to think about these questions. When it comes to answering questions there are no right and wrong answers. When we ask questions about the future we are not interested in what you think the best thing would be to do, but what you think would actually happen.

If possible, our organisation would like to come back to this area once we have completed our study to inform you and your community of what the results are and discuss our findings and proposals around the research and what this means for people in this area.



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Together in Excellence

Informed Consent Form

INFORMED CONSENT

I hereby agree to participate in research regarding **An Evaluation of Effectiveness of Agricultural Pricing in Value Creation in the Zimbabwean Pork Industry.** I understand that I am participating freely and without being forced in any way to do so. I also understand that I can stop this interview at any point should I not want to continue and that this decision will not in any way affect me negatively.

I understand that this is a research project whose purpose is not necessarily to benefit me personally.

I have received the telephone number of a person to contact should I need to speak about any issues which may arise in this interview.

I understand that this consent form will not be linked to the questionnaire, and that my answers will remain confidential.

I understand that if at all possible, feedback will be given to my community on the results of the completed research.

.....
Signature of participant

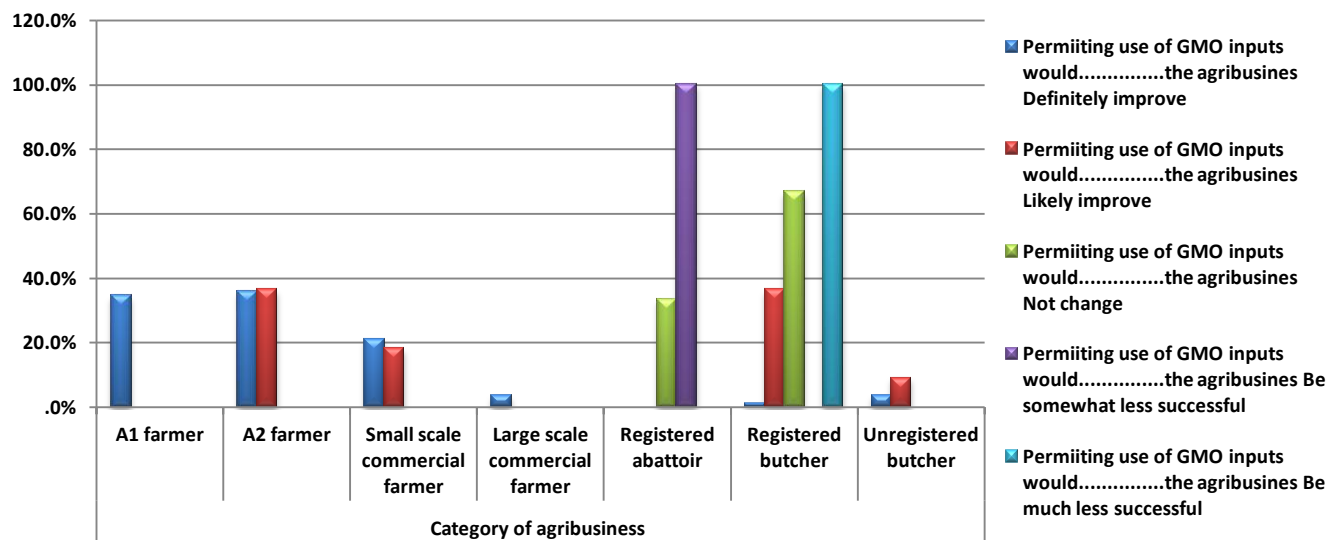
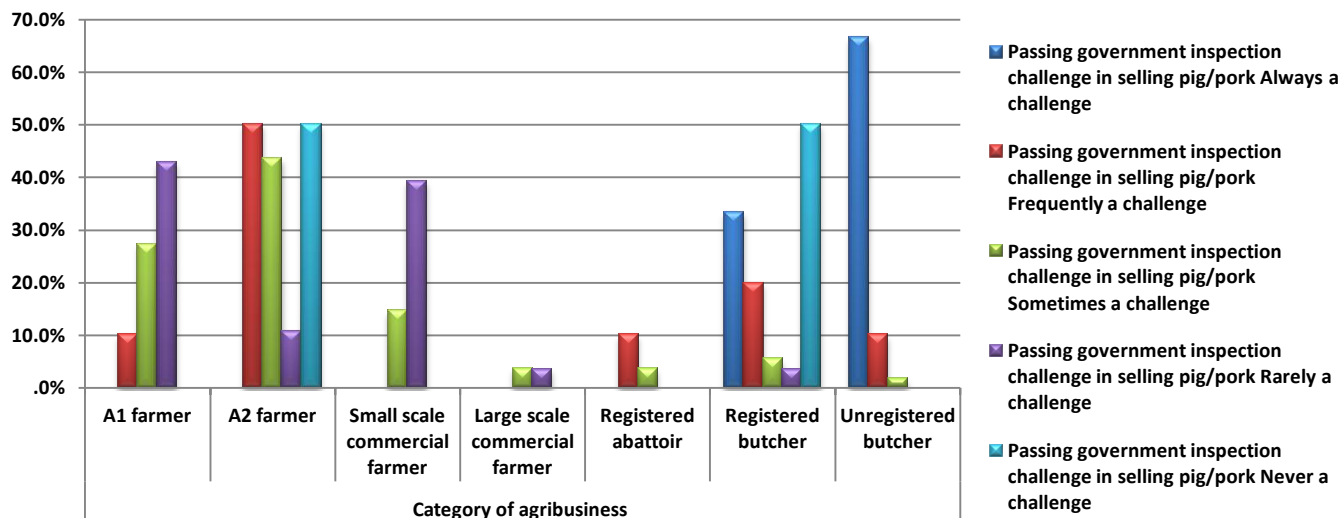
Date:.....

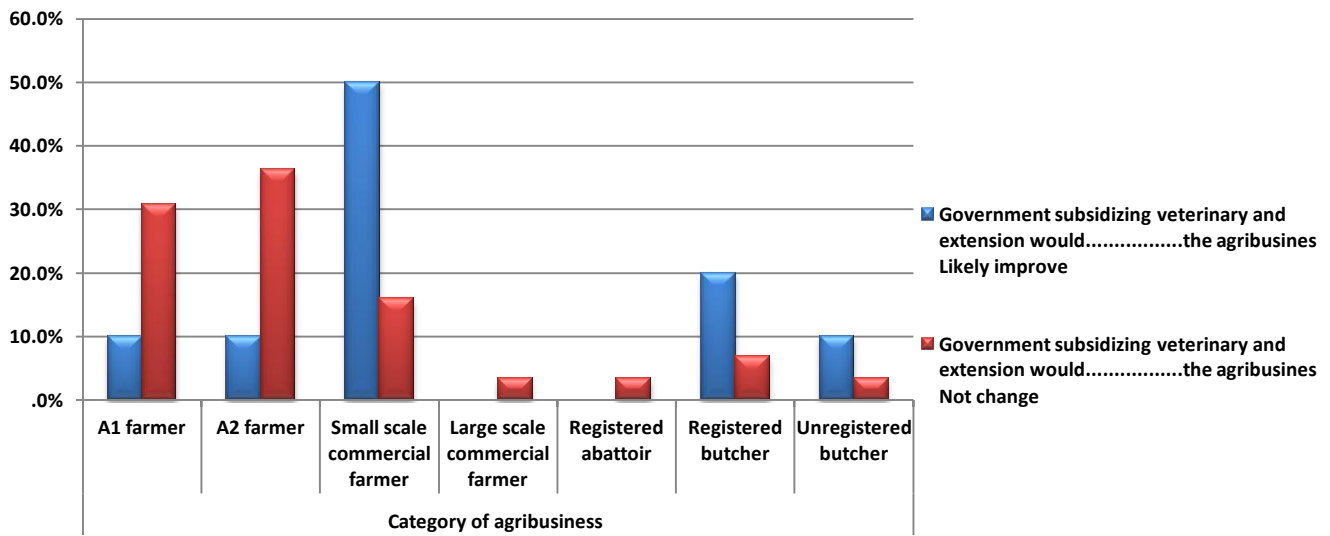
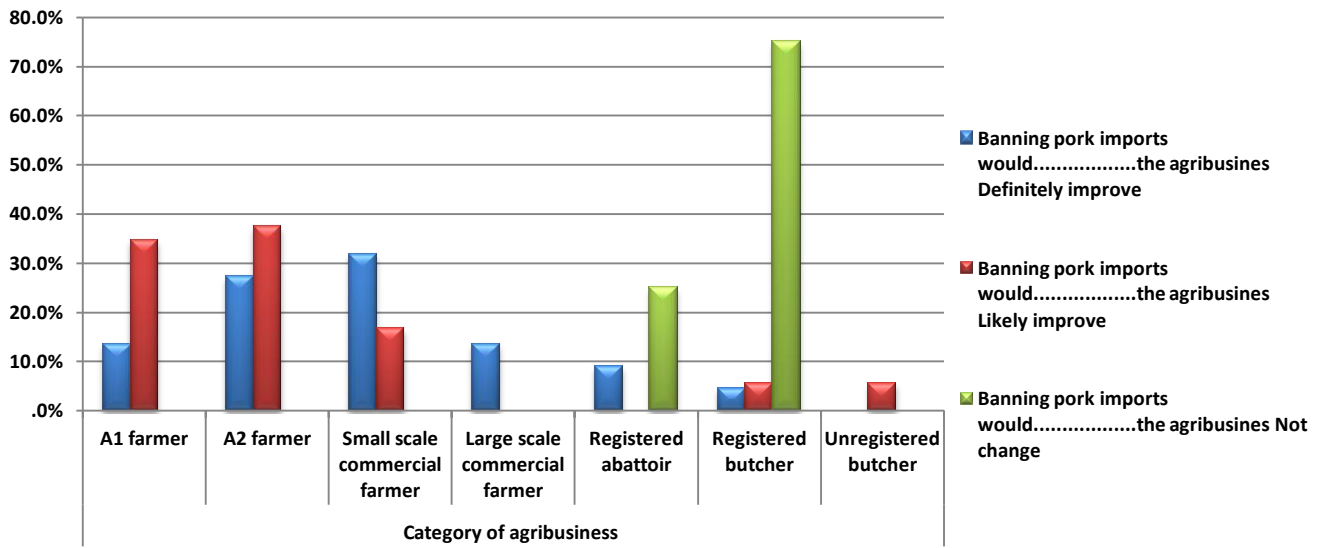
I hereby agree to the tape recording of my participation in the study

.....
Signature of participant

Date:.....

APPENDIX 4: CHALLENGES, BY AGRIBUSINESSES





APPENDIX 5: SPSS CORRELATION AND CROSS TABULATION RESULTS

[DataSet1] C:\Users\SAUL\Desktop\FORTHARE\DRAFTS\FINAL CHAPTERS\DRAFT\RESULTS_1.sav

Correlations

		Rate agbusiness in terms of acquiring inputs, goods and services	Rate agbusiness in terms of processing or producing	Rate agbusiness in terms of transportation of produce	Rate agbusiness in terms of marketing and sales	Rate agbusiness in terms of after sales services and networking
Margin (profit to cost ratio) of agribusiness	Pearson Correlation	1	-.144*	-.360**	.200**	-.055
	Sig. (2-tailed)		.044	.000	.005	.448
	N	196	196	196	196	196
Rate agbusiness in terms of acquiring inputs, goods and services	Pearson Correlation	-.144*	1	.158*	.024	-.005
	Sig. (2-tailed)	.044		.027	.739	.950
	N	196	196	196	196	196
Rate agbusiness in terms of processing or producing	Pearson Correlation	-.360**	.158*	1	-.139	-.066
	Sig. (2-tailed)	.000	.027		.052	.361
	N	196	196	196	196	196
Rate agbusiness in terms of transportation of produce	Pearson Correlation	.200**	.024	-.139	1	.165*
	Sig. (2-tailed)	.005	.739	.052		.021
	N	196	196	196	196	196
Rate agbusiness in terms of marketing and sales	Pearson Correlation	-.055	-.005	-.066	.165*	1
	Sig. (2-tailed)	.448	.950	.361	.021	
	N	196	196	196	196	196
Rate agbusiness in terms of after sales services and networking	Pearson Correlation	.076	-.068	.054	.320**	.213**
	Sig. (2-tailed)	.287	.344	.453	.000	.003
	N	196	196	196	196	196

*. Correlation is significant at the 0.05 level (2-tailed).

** . Correlation is significant at the 0.01 level (2-tailed).

APPENDIX 6: SPSS ONE WAY ANOVA AND CROSS TABULATION RESULTS

[DataSet1] C:\Users\SAUL\Desktop\FORTHARE\DRAFTS\FINAL CHAPTERS\DRAFT\RESULTS_1.sav

ANOVA

Margin (profit to cost ratio) of agribusiness

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups (Combined)	5.792	3	1.931	1.394	.246
Linear Term	.001	1	.001	.000	.983
Weighted Deviation	5.791	2	2.896	2.091	.126
Within Groups	265.902	192	1.385		
Total	271.694	195			

Most important marketing mix component

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	65.449	3	21.816	10.743	.000
Within Groups	389.898	192	2.031		
Total	455.347	195			

	Sum of Squares	df	Mean Square	F	Sig.	
Rate agribusinessin terms of product or form (quality, branding)	Between Groups	1.711	3	.570	2.475	.063
	Within Groups	44.248	192	.230		
	Total	45.959	195			
Rate agribusinessin terms of promotion (advertising)	Between Groups	12.860	3	4.287	11.332	.000
	Within Groups	72.629	192	.378		
	Total	85.490	195			
Rate agribusinessin terms of place (transportation and logistics)	Between Groups	2.024	3	.675	1.562	.200
	Within Groups	82.976	192	.432		
	Total	85.000	195			
Rate agribusinessin terms of price	Between Groups	13.084	3	4.361	10.478	.000
	Within Groups	79.916	192	.416		
	Total	93.000	195			
Rate agribusinessin terms of policies (e.g. trade, GMO)	Between Groups	4.874	3	1.625	3.310	.021
	Within Groups	94.248	192	.491		
	Total	99.122	195			
Rate agribusinessin terms of partners (middlemen)	Between Groups	10.246	3	3.415	3.286	.022
	Within Groups	199.570	192	1.039		
	Total	209.816	195			

Multiple Comparisons

Margin (profit to cost ratio) of agribusiness

Tukey HSD

(I) Most important marketing mix component	(J) Most important marketing mix component	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Product/form (branding)	Promotion (advertising)	-1.59615	.84010	.231	-3.7734	.5811
	Price	.01748	.17045	1.000	-.4243	.4592
	Partners	-.59615	.84010	.893	-2.7734	1.5811
Promotion (advertising)	Product/form (branding)	1.59615	.84010	.231	-.5811	3.7734
	Price	1.61364	.84154	.224	-.5674	3.7946
	Partners	1.00000	1.17682	.831	-2.0499	4.0499
Price	Product/form (branding)	-.01748	.17045	1.000	-.4592	.4243
	Promotion (advertising)	-1.61364	.84154	.224	-3.7946	.5674
	Partners	-.61364	.84154	.885	-2.7946	1.5674
Partners	Product/form (branding)	.59615	.84010	.893	-1.5811	2.7734
	Promotion (advertising)	-1.00000	1.17682	.831	-4.0499	2.0499
	Price	.61364	.84154	.885	-1.5674	2.7946

Multiple Comparisons

Most important marketing mix component

Tukey HSD

(I) Rate agribusinessin terms of price	(J) Rate agribusinessin terms of price	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Very good	Good	.96667*	.36794	.046	.0131	1.9203
	Average	1.71754*	.34547	.000	.8222	2.6129
	Poor	-.30000	1.05683	.992	-3.0390	2.4390
Good	Very good	-.96667*	.36794	.046	-1.9203	-.0131
	Average	.75088*	.22729	.006	.1618	1.3399
	Poor	-1.26667	1.02431	.604	-3.9213	1.3880
Average	Very good	-1.71754*	.34547	.000	-2.6129	-.8222
	Good	-.75088*	.22729	.006	-1.3399	-.1618
	Poor	-2.01754	1.01645	.197	-4.6519	.6168
Poor	Very good	.30000	1.05683	.992	-2.4390	3.0390
	Good	1.26667	1.02431	.604	-1.3880	3.9213
	Average	2.01754	1.01645	.197	-.6168	4.6519

*. The mean difference is significant at the 0.05 level.

Rate agribusiness in terms of price

Tukey HSD

(I) Most important marketing mix component	(J) Most important marketing mix component	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Product/form (branding)	Promotion (advertising)	.73077	.46056	.389	-.4629	1.9244
	Price	.50350*	.09345	.000	.2613	.7457
	Partners	-.26923	.46056	.937	-1.4629	.9244
Promotion (advertising)	Product/form (branding)	-.73077	.46056	.389	-1.9244	.4629
	Price	-.22727	.46135	.961	-1.4229	.9684
	Partners	-1.00000	.64516	.410	-2.6720	.6720
Price	Product/form (branding)	-.50350*	.09345	.000	-.7457	-.2613
	Promotion (advertising)	.22727	.46135	.961	-.9684	1.4229
	Partners	-.77273	.46135	.340	-1.9684	.4229
Partners	Product/form (branding)	.26923	.46056	.937	-.9244	1.4629
	Promotion (advertising)	1.00000	.64516	.410	-.6720	2.6720
	Price	.77273	.46135	.340	-.4229	1.9684

*. The mean difference is significant at the 0.05 level.

APPENDIX 7: SPSS MANOVA RESULTS

[DataSet1] C:\Users\SAUL\Desktop\FORTHARE\DRAFTS\FINAL CHAPTERS\DRAFT\RESULTS_1.sav

Descriptive Statistics

Price setting mechanism pursued by agribusiness (cost oriented)		Mean	Std. Deviation	N
Margin (profit to cost ratio) of agribusiness	Target return to cost	3.5714	1.34246	14
	Mark up on cost	3.0000	.89443	6
	Break even	2.4800	1.21006	100
	Marginal pricing	3.0000	.89443	6
	Total	2.6508	1.24140	126
Category of agribusiness	Target return to cost	3.8571	2.85164	14
	Mark up on cost	5.0000	2.36643	6
	Break even	2.8400	2.08273	100
	Marginal pricing	3.6667	1.36626	6
	Total	3.0952	2.21062	126

Descriptive Statistics

Price setting mechanism pursued by agribusiness (demand oriented)		Mean	Std. Deviation	N
Margin (profit to cost ratio) of agribusiness	Negotiated price	1.8788	.77490	66
	Same as competition	4.0000	1.15470	4
	Total	2.0000	.93250	70
Category of agribusiness	Negotiated price	1.9091	.83624	66
	Same as competition	4.0000	3.46410	4
	Total	2.0286	1.19141	70

Multivariate Tests^c

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.674	124.817 ^a	2.000	121.000	.000
	Wilks' Lambda	.326	124.817 ^a	2.000	121.000	.000
	Hotelling's Trace	2.063	124.817 ^a	2.000	121.000	.000
	Roy's Largest Root	2.063	124.817 ^a	2.000	121.000	.000
Pricesettingmechanismagribizpursuingcostoriented	Pillai's Trace	.165	3.657	6.000	244.000	.002
	Wilks' Lambda	.841	3.639 ^a	6.000	242.000	.002
	Hotelling's Trace	.181	3.621	6.000	240.000	.002
	Roy's Largest Root	.116	4.726 ^b	3.000	122.000	.004

a. Exact statistic

b. The statistic is an upper bound on F that yields a lower bound on the significance level.

c. Design: Intercept + Pricesettingmechanismagribizpursuingcostoriented

Multivariate Tests^b

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.811	143.567 ^a	2.000	67.000	.000
	Wilks' Lambda	.189	143.567 ^a	2.000	67.000	.000
	Hotelling's Trace	4.286	143.567 ^a	2.000	67.000	.000
	Roy's Largest Root	4.286	143.567 ^a	2.000	67.000	.000
Pricesettingmechanismagrib izpursuingddoriented	Pillai's Trace	.355	18.453 ^a	2.000	67.000	.000
	Wilks' Lambda	.645	18.453 ^a	2.000	67.000	.000
	Hotelling's Trace	.551	18.453 ^a	2.000	67.000	.000
	Roy's Largest Root	.551	18.453 ^a	2.000	67.000	.000

a. Exact statistic

b. Design: Intercept + Pricesettingmechanismagribizpursuingddoriented

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	Margin (profit to cost ratio) of agribusiness	16.246 ^a	3	5.415	3.746	.013
	Category of agribusiness	38.370 ^b	3	12.790	2.726	.047
Intercept	Margin (profit to cost ratio) of agribusiness	350.169	1	350.169	242.196	.000
	Category of agribusiness	569.114	1	569.114	121.281	.000
Pricesettingmechanismagrib izpursuingcostoriented	Margin (profit to cost ratio) of agribusiness	16.246	3	5.415	3.746	.013
	Category of agribusiness	38.370	3	12.790	2.726	.047
Error	Margin (profit to cost ratio) of agribusiness	176.389	122	1.446		
	Category of agribusiness	572.488	122	4.693		
Total	Margin (profit to cost ratio) of agribusiness	1078.000	126			
	Category of agribusiness	1818.000	126			
Corrected Total	Margin (profit to cost ratio) of agribusiness	192.635	125			
	Category of agribusiness	610.857	125			

a. R Squared = .084 (Adjusted R Squared = .062)

b. R Squared = .063 (Adjusted R Squared = .040)

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	Margin (profit to cost ratio) of agribusiness	16.970 ^a	1	16.970	26.817	.000
	Category of agribusiness	16.488 ^b	1	16.488	13.765	.000
Intercept	Margin (profit to cost ratio) of agribusiness	130.341	1	130.341	205.976	.000
	Category of agribusiness	131.688	1	131.688	109.936	.000
Pricesettingmechanismagrib izpursuingddoriented	Margin (profit to cost ratio) of agribusiness	16.970	1	16.970	26.817	.000
	Category of agribusiness	16.488	1	16.488	13.765	.000
Error	Margin (profit to cost ratio) of agribusiness	43.030	68	.633		
	Category of agribusiness	81.455	68	1.198		
Total	Margin (profit to cost ratio) of agribusiness	340.000	70			
	Category of agribusiness	386.000	70			
Corrected Total	Margin (profit to cost ratio) of agribusiness	60.000	69			
	Category of agribusiness	97.943	69			

a. R Squared = .283 (Adjusted R Squared = .272)

b. R Squared = .168 (Adjusted R Squared = .156)

Multiple Comparisons

Tukey HSD

Dependent Variable	(I) Price setting mechanism pursued by agribusiness (cost oriented)	(J) Price setting mechanism pursued by agribusiness (cost oriented)	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Margin (profit to cost ratio) of agribusiness	Target return to cost	Mark up on cost	.5714	.58672	.765	-.9569	2.0997
		Break even	1.0914*	.34312	.010	.1977	1.9852
		Marginal pricing	.5714	.58672	.765	-.9569	2.0997
	Mark up on cost	Target return to cost	-.5714	.58672	.765	-2.0997	.9569
		Break even	.5200	.50540	.733	-.7965	1.8365
		Marginal pricing	.0000	.69422	1.000	-1.8083	1.8083
	Break even	Target return to cost	-1.0914*	.34312	.010	-1.9852	-.1977
		Mark up on cost	-.5200	.50540	.733	-1.8365	.7965
		Marginal pricing	-.5200	.50540	.733	-1.8365	.7965
	Marginal pricing	Target return to cost	-.5714	.58672	.765	-2.0997	.9569
		Mark up on cost	.0000	.69422	1.000	-1.8083	1.8083
		Break even	.5200	.50540	.733	-.7965	1.8365
Category of agribusiness	Target return to cost	Mark up on cost	-1.1429	1.05701	.702	-3.8961	1.6104
		Break even	1.0171	.61815	.357	-.5930	2.6273
		Marginal pricing	.1905	1.05701	.998	-2.5628	2.9438
	Mark up on cost	Target return to cost	1.1429	1.05701	.702	-1.6104	3.8961
		Break even	2.1600	.91050	.088	-.2117	4.5317
		Marginal pricing	1.3333	1.25067	.711	-1.9244	4.5911
	Break even	Target return to cost	-1.0171	.61815	.357	-2.6273	.5930
		Mark up on cost	-2.1600	.91050	.088	-4.5317	.2117
		Marginal pricing	-.8267	.91050	.801	-3.1983	1.5450
	Marginal pricing	Target return to cost	-.1905	1.05701	.998	-2.9438	2.5628
		Mark up on cost	-1.3333	1.25067	.711	-4.5911	1.9244
		Break even	.8267	.91050	.801	-1.5450	3.1983

Based on observed means.

The error term is Mean Square(Error) = 4.693.

*. The mean difference is significant at the .05 level.

APPENDIX 8: SPSS MULTIPLE REGRESSION AND CROSS TABULATION RESULTS

[DataSet1] C:\Users\SAUL\Desktop\FORTHARE\DRAFTS\FINAL CHAPTERS\DRAFT\RESULTS_1.sav

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std.	Beta		
		Error			
1 (Constant)	1.261	1.660		.760	.448
It doesn't matter what price I set, as long as my pork/pig meat gets bought	.056	.157	.032	.359	.720
It doesn't matter what price I set, as long as it covers my cost of production	-.422	.125	-.299	-3.389	.001
It doesn't matter what price strategy I use, God will make a plan for me	-.091	.202	-.032	-.448	.655
It doesn't matter what price strategy I utilise, pork impots will still undercut our price	.155	.161	.069	.966	.335
It doesn't matter what price strategy I utilise, price of substitutes will determine what price to use	.496	.217	.165	2.291	.023

a. Dependent Variable: Pricing objectives pursued by agribusiness

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std.	Beta		
		Error			
1 (Constant)	2.322	1.199		1.937	.054
I feel that there is no need to worry about price setting since there is a low supply of pork meat	-.143	.225	-.047	-.638	.524
I feel no urge to worry about price since buyers always buy at their own preferred price	.184	.195	.079	.944	.346
I feel that there is no other means to maximizing profit than through the highest price possible	.069	.172	.033	.401	.689
I feel that a low price will change nothing as it is offset by the increased sales	-.235	.117	-.156	-2.005	.046
I feel that the price that I am getting is fair	.018	.107	.014	.172	.863

a. Dependent Variable: Pricing objectives pursued by agribusiness

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.211	1.093		2.023	.045
I will not spend any time in setting a price as it is too difficult and time consuming	-.136	.197	-.063	-.691	.491
I will not strategise on the right pice, but instead will just follow prices set by others	-.333	.175	-.197	-1.908	.058
Changing the price will do nothing since other players will follow suit	.166	.186	.075	.891	.374
I will not worry about price strategy since bigger players dominate the industry	.132	.194	.058	.680	.497
I will settle for any price as long as I get to keep my clientele	.163	.187	.064	.869	.386

a. Dependent Variable: Pricing objectives pursued by agribusiness

APPENDIX 9: SPSS LINEAR REGRESSION RESULTS

[DataSet1] C:\Users\SAUL\Desktop\FORTHARE\DRAFTS\FINAL CHAPTERS\DRAFT\RESULTS_1.sav

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.073	.005	.000	.44747

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.904	.175		22.321	.000
	Averagepdcer\$.070	.070	.073	1.005	.316

a. Dependent Variable: Averageretail\$

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.516	.266	.263	.57756

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.622	.385		-4.212	.000
	Retailprice	.788	.094	.516	8.394	.000

a. Dependent Variable: Marketingmargin