



Marketing mix strategy determinants in pork-based agri-businesses: Experiences from Zimbabwe



Authors:

Saul Ngarava¹ 

Abbyssinia Mushunje¹ 

Affiliations:

¹Department of Agri-business, Agricultural Economics and Extension, University of Fort Hare, Alice, South Africa

Corresponding author:

Saul Ngarava,
201501225@ufh.ac.za

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Orientation: Agri-businesses, especially at the farmer level, are devoid of sound marketing strategy.

Research purpose: This study aimed to highlight the marketing mix elements most considered by pork-based agri-businesses.

Motivation for the study: Zimbabwe underwent institutional transformation policies of land reform and indigenisation policies. New industry players came to the fore. However, they were devoid of sound business background.

Research design, approach and method: The study utilised a questionnaire in a cross-sectional survey of 166 pig farmers, 6 pork processors and 24 pork butchers in Mashonaland Central province. Descriptive statistics, logistic regression and multiple linear regression were used to analyse the data.

Main findings: Product, promotion, price and partnership were considered. Category of agri-business, distance the furthest buyer travelled, the merchandise handled and frequency of abattoir or processor buyers determined marketing mix strategy. Perceptive performance of the agri-businesses in terms of marketing mix strategy was determined by category of agri-business, merchandise consideration, frequency of abattoir or processor buyer, seasonality of sales and time of consideration when selling; agri-business location and the experience of the agri-business.

Practical/managerial implications: The study concluded with the myopic use of marketing mix based strategies in the Zimbabwean agri-businesses, targeting product-based characteristics, with varying determinants. There is opportunity to strategically position where place, promotion and pricing advantages exist.

Contribution/value-add: The study added to insights for marketing managers, especially in a structural transformation situation, what marketing strategies are mostly utilised. This tends to avail shortfalls and opportunities that can be taken advantage of, to strategically position pork agri-businesses in Zimbabwe.

Keywords: agri-business; marketing mix; strategy; pork industry; Zimbabwe; 4Ps.

Introduction

Marketing strategy offers solutions to achieve organisational objectives (Schwartz 2014). Of note, farmers have exhibited inability to fully apply marketing strategies mainly because of time, know-how and utility deficiency they attach to it (Schwartz 2014). McLeay, Martin and Zwart (1996) concur, identifying that marketing activities of farmers are not adequately described, assuming homogeneity for all farmers. In livestock products, Mbogoh (1992) identified that there should be scrutiny and balance in optimising the blend and variations of the marketing mix strategies. This was supported by Dodor (2015), who highlighted that understanding the effectiveness of marketing tools was a prerequisite for a suitable marketing strategy, with the marketing mix appearing to be most valuable and significant agro-based industries could use.

The marketing mix debate has acted both as an inspiration and controversy in marketing academia (Constantinides 2006). Take this aspect in the agricultural sector, with undefined grey areas in terms of production and marketing parameters, and coupled with the basic need for agricultural production, has necessitated better scrutiny of such aspects in the agricultural context. Constantinides (2006) highlighted the limited reporting and role of the marketing mix in successful organisations.

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Zimbabwe has been dualistically influenced by the land reform and indigenisation policies. The land reform replaced traditional commercial farmers with a greater number of smallholder farmers, who were inept in marketing strategies (Mavedzenge et al. 2008; Mugeyi 2010). Consequently, in addition to becoming price takers, the farmers themselves could not effectively strategise to improve their position. This produced a crop of livestock farmers under the A₁ model (land size under 10 hectares with temporary leases) and A₂ model (land size above 20 hectares with 99-year leases) over and above the large-scale commercial, small-scale commercial and communal farmers. Equally also, the 51% ceding of agri-business ownership indigenisation policy had a negative, albeit speculative, impact on marketing strategy formulation and implementation (Marazanye 2016). The policy was aimed at shifting 51% ownership of all businesses in the country towards the locals. However, there has been little scrutiny of the marketing strategies that these new pork industry players are employing in achieving their agri-business objectives. These new developments, therefore, necessitate the current study which highlights the marketing mix strategies and their determinants in a policy dynamic environment.

Livestock in Zimbabwe contributes 15%–25% of total agricultural output, with the pork subsector accounting for 3.5% of the total livestock assets in the country, dominated by 88% of subsistence communal farmers (Chazovachii 2012; FAO 2014; Tawonezvi et al. 2004; WTO 2011). The agricultural sector in Zimbabwe is responsible for employing 56.9% of the formal workforce, with a 13.82% account of the GDP of the country, growing at a 4.1% rate, accounting for 30.4% of exports (AfDB 2014; ZIMSTAT 2014a, 2014b). It, therefore, makes the sector a key priority and any developments aimed at the pork industry have significant long-lasting impacts. Mutambara (2013) highlighted the un-competitiveness of the Zimbabwean pork products, especially on the international market. This was because of the low-quality standards, uncompetitive pricing and inadequate market access. In principle, the industry has been devoid of effective marketing strategy, which is mainly explained through the marketing mix concept. The objective of the study is, thus, to identify the most significant marketing mix strategy from the enterprise standpoint, and determinants in the choice of the marketing strategy. Such highlights will provide an overview of industry practice, especially, after the land reform and indigenisation policies. The findings will also play in favour of marketing managers in the industry, who can utilise information obtained herein for better planning and implementation of their marketing strategies. From a policy viewpoint, policymakers are alerted regarding the marketing practices of the land reform beneficiaries, thereby constructing relevant and context-specific extension programmes with an aim to aid new farmers in marketing decision-making.

Literature review: Marketing mix and its determinants

There exist a number of marketing mix decisions faced by agri-business managers. The major parts of a marketing mix are the 4 Ps of promotion, place, price and product (Kotler 2002; Loudon, Stevens & Wrenn 2005; Perreault & McCarthy 2002). Several authors have underpinned the need to expand the existing 4Ps model. The traditional marketing mix as introduced by McCarthy (1960) comprised the 4Ps. It was expanded by Judd (1987) to add people to make it 5Ps. Kotler (1987) further added political power and public formation to make them 6Ps. In addition of people, processes and physical environment, Booms & Bitner (1981) made them the 7Ps. Baumgartner (1991) devised the 15Ps model where politics, partition, public relations, positive implementation, profit, plan, performance, position and people were added to the traditional framework. According to Simister (2009) there are up to 22 additional Ps in the marketing environment. Dodor (2015) identified that policies, physical climate and partners can be added to the traditional 4Ps in agricultural production.

Although marketing mix framework-based studies could be identified in the literature, those focussing on the agri-business and food sector were scanty. In Eastern Croatia, Tolusic, Zmaic and Deze (2002) analysed the functioning of the organic food system using the marketing mix framework and highlighted the impossibility of successfully selling products without the aptitude in marketing mix. Utilising the traditional 4Ps marketing mix framework, Stojanovic, Gligorijevic and Antic (2012) differentiated agricultural insurance based on the framework. Dodor (2013) identified the need to develop, strategically, the 4Ps framework, especially at the farmer level, through provision of the product timeously, through appropriate promotion strategies, in the right channels, setting the right prices and improving the standard of quality of products. In a study of basing marketing mix strategy in building a viable agro business, Dodor (2015) added partners, physical climate and policies to the traditional 4Ps model, which were pertinent in an agricultural setting.

Myriad of studies took the customer viewpoint. Further still, there exists scanty literature in the livestock sector. Most livestock-based marketing strategy studies merely take a narrow and myopic view of marketing based on selling of livestock, neglecting the other core elements involved (Bensemam & Shadbolt 2015; Habtamu & Bekele 2015; Hangara, Teweldemedhin & Groenewald 2011; Thomas, Togarepi & Simasiku 2014). This, Kategile and Mubi (1992) highlighted, was because of the inflexibility in livestock marketing options, influenced by the pork product characteristics such as the animal's sex, age, fleshing, body condition and live weight (Kategile & Mubi 1992). This will have a multiplier effect, determining the promotional strategies utilised, in turn determining the channel through which the animal reaches the marketplace. The type of market and marketing infrastructure will

influence the channel through which the product moves, further determining the transportation system, ultimately affecting the price and cost, influencing the net returns to the industry players (Kategile & Mubi 1992). However, scanty literature exists pertaining to the identification of the most essential and effective marketing mix element. Furthermore, marketing literature and its mix thereof had a shortfall in relating to determinants of choice of marketing mix components. Various authors have found factors such as size of enterprise, experience, capital ownership having a bearing on the marketing strategy (Mavrogiannis et al. 2008; Sudarevic, Radojevic & Lekovic 2015). However, the studies fell short in singling out the determinants influencing the choice of concentrating on a particular marketing mix strategy relative to others. The current study fills such a void by highlighting the determinants of concentrating on a particular marketing mix strategy. The main aim of the study is to highlight the determinants of utilising marketing mix strategy in pork-based agri-businesses in Mashonaland Central province, Zimbabwe.

Agriculture is the main economic activity in Mashonaland Central province, playing a key part in the social and economic development through provision of affordable food and employment, contributing to poverty reduction (Musemwa 2011). Relative to its agro-ecological location, the province is suited for crop production because of the average to above average rainfall (750 mm – 1000 mm annually) contained therein, making pig production a secondary enterprise mainly at the smallholder level and enticing because of the proximity to input production of soya bean and maize. The Land Reform Programme in Zimbabwe has influenced land ownership, having a direct bearing on agro-based activities through influence of security and investment in infrastructure (Chisango 2010). The programme resulted in 152 A₁ pig producers with temporary production licences on less than 10 hectares; 193 A₂ pig producers having 99-year lease agreements with more than 30 hectares of land; 92 small-scale commercial producers; 14 large-scale producers; and 8354 communal farmers. Mashonaland Central province has 14 registered abattoirs, 11.38% of the country's total. The province has 50 registered butchers, potentially higher because of the existence of unregistered butchers (Njaya 2014; Scoones 2008). The power shortages bedevilling the country, ultimately affecting butchery operations, have relegated most of the butcheries to peri-urban and urban areas. The study units were pig producers, pork abattoirs and pork butcheries.

Methodology

Description of the study area

The study was carried out in Mashonaland Central province of Zimbabwe (Figure 1). Mashonaland Central province is agro-based, lying in the north-east part of the country with an area of 28 347 and a population of 1 152 520, representing 8.23% of the total Zimbabwean population (ZIMSTAT 2014a).

Sampling technique

The study used a cross-sectional, descriptive and quantitative survey of pig producers, pork abattoirs and pork butcheries. Purposive sampling was used to select Mashonaland Central province because of the high number of pig producers, pork abattoirs and butchers. Any developments within the sector especially in this province will likely have far-reaching consequences on the country. Policy insights from concentrating in Mashonaland Central province will likely have more encompassing effects. The total population of the study was 518, consisting of 152 A₁ producers; 193 A₂ producers; 92 small-scale commercial producers; 14 large-scale commercial producers; 14 abattoirs and 53 retailers. These different stakeholders represent the role players in the pork value chain from farm to fork. There is value creation along the chain, with the various players pursuing individualistic as well as horizontal strategies. Combining the different horizons of the industry players offers the industry strategy employed, culminated from different value chain players. The strategies identified and policy recommendations will, therefore, have far-reaching effects relative to concentrating on particular strata of industry players. Random sampling was used to select 226 respondents through Yamane's (1967) method, as shown below:

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

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

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

$$n = 226$$

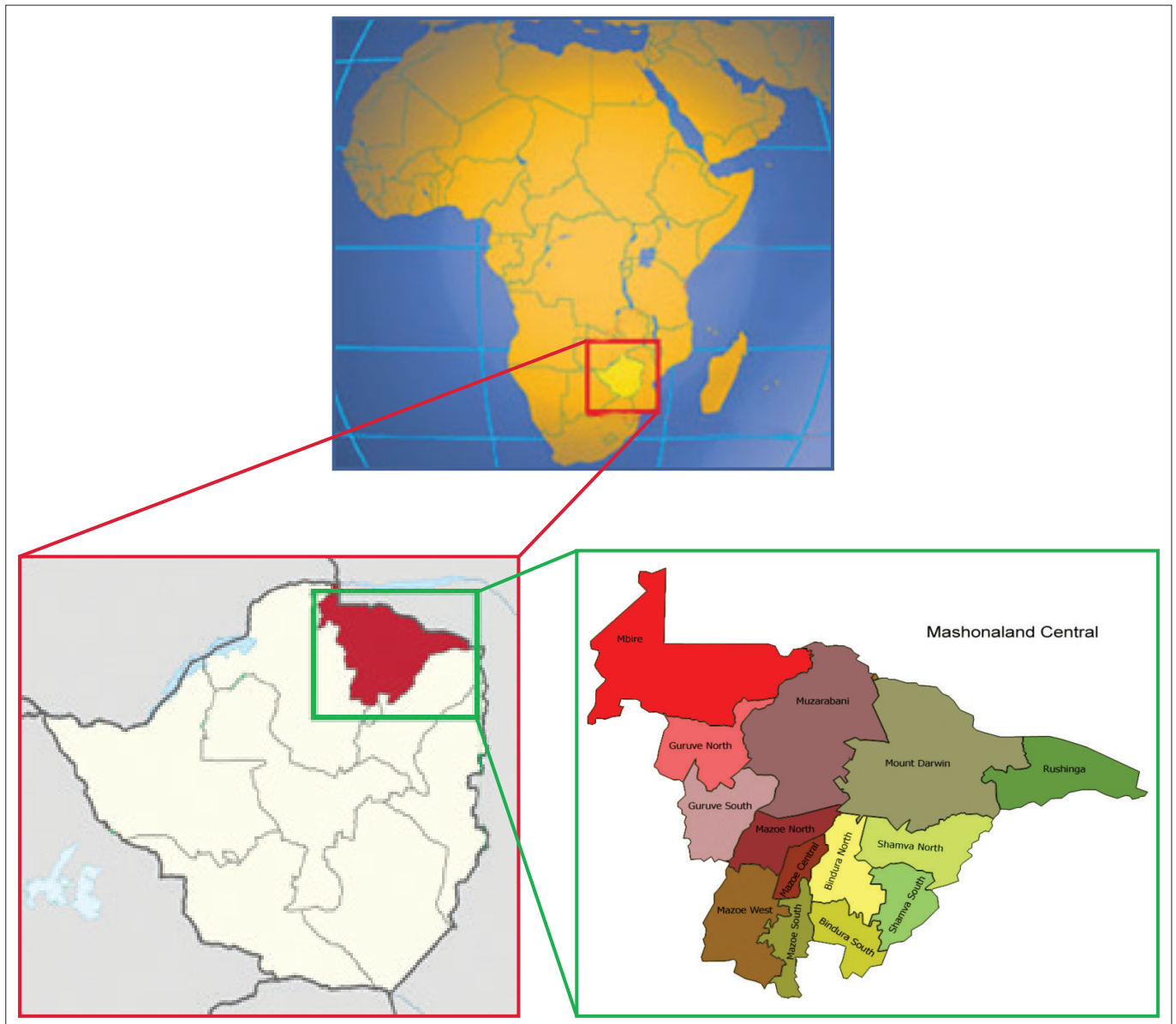
The sample consisted of 66 A₁ producers, 84 A₂ producers, 40 small-scale commercial producers, 6 large-scale commercial producers, 6 abattoirs and 24 retailers. These were influenced and calculated based on the proportion within the industry in Mashonaland Central province as shown in Table 1.

Data analysis

A structured, standardised and pre-coded questionnaire was utilised to collect data pertaining to marketing mix elements considered by agri-businesses as well as the socio-economic, institutional and demographic statistics. Data analysis methods used were descriptive statistics and, multiple linear regression and logit model. SPSS version 23 was the analytical software used. The variables utilised in the multiple linear regression and logit models and their expected signs are presented in Table 2.

Ethical considerations

Ethical clearance was obtained from the University of Fort Hare, reference number: MUS281SNGA01. Ethical considerations pertaining to confidentiality, refusal to participate and anonymity were taken into consideration with adherence to the University of Fort Hare ethical guidelines.



Source: Wikipedia, 2017, *Mashonaland Central Province*, viewed 27 April 2017, from www.en.wikipedia.org/wiki/Mashonaland_Central_Province-constituency2008.gif

FIGURE 1: Geographical location of Mashonaland Central province.

TABLE 1: Sample size by strata.

| Industry player | Total population | Sample size | Percentage 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, *Agriculture and livestock survey: Small scale commercial farms: Large scale commercial farms: Communal lands: A2 Farms: A1 Farms, 2012*, Harare, Zimbabwe, and authors' own calculations

Analytical framework

The logit model was used to identify the determinants of choice of a particular marketing mix element. As shown later in the results, out of the six marketing elements identified from the literature, four were most significant in the

Zimbabwean pork industry. Promotion and partners each had 2 agri-businesses considering them whilst product and pricing had 184 and 88, respectively. In that respect, a logistic model was utilised where promotion and partners were dropped from the analysis. The model is specified as follows:

$$\log \left(\frac{P_{(y=1)}}{1-P_{(y=1)}} \right) = \beta_0 + \sum_{i=1}^n \beta_i \chi_i \quad \text{or as} \quad \left(\frac{P_{(y=1)}}{1-P_{(y=1)}} \right) = e^{(\beta_0 + \sum_{i=1}^n \beta_i \chi_i)} \quad [\text{Eqn 1}]$$

where P is the probability that a product is identified as most significant, $y = 1$, and/or $y = 0$ being pricing is identified as being significant, with χ_i being the set of independent variables. In the second expression, $\left(\frac{P_{(y=1)}}{1-P_{(y=1)}} \right)$ represents the odds ratio with $e^{(\beta_0 + \sum_{i=1}^n \beta_i \chi_i)}$ representing the marginal effects of χ_i on the odds. Each firm or farm was thus faced

TABLE 2: Variables utilised in the binary logistic analysis.

| Variable | Explanation | Definition | Type of measurement | Expected sign |
|---|---|---|---|---------------|
| Dependent variable (logit model) | | | | |
| Y_0, Y_1 | $Y = 0$; Price; $Y = 1$; Product | What is the most significant marketing mix component? | Binary: 0 = Price, 1 = Product | - |
| Dependent variable (multiple regression model) | | | | |
| Y | Perception score | Total perception score on marketing mix components | Continuous | |
| Independent variable | | | | |
| CAT | Category of agri-business | Under which category is your agri-business? | Categorical: 1 = A ₁ farmer, 2 = A ₂ farmer, 3 = Small-scale commercial farmer, 4 = Large-scale commercial farmer, 5 = Registered abattoir, 6 = Unregistered abattoir, 7 = Registered butcher, 8 = Unregistered butcher | +/- |
| PPP | Pork product portfolio | What is your pork product portfolio? | Categorical: 1 = baconer, 2 = porker, 3 = baconer and porker | +/- |
| MARG | Margin (profit to cost ratio) of agri-business | What is your profit to cost ratio? | Ordinal: 1 = less than 0%, 2 = 0%–4%, 3 = 5–9%, 4 = 10%–14%, 5 = more than 14%, 6 = no idea | - |
| LOC | Agri-business location | Where is your agri-business located? | Categorical: 1 = town, 2 = growth point, 3 = rural | +/- |
| EXIST | Period of existence of the agri-business | How long has the agri-business been in existence? | Ordinal: 1 = less than 5 years, 2 = 5–9 years, 3 = 10–14 years, 4 = 15 years and above | - |
| NUMPIG | Average number of pig/carcasses sold/handled | What is the average number of pig/carcasses sold/handled in a month? | Ordinal: 1 = 0–4, 2 = 5–9, 3 = 10–14, 4 = 15 and above | - |
| WEIGPIG | Average weight of pork/pigs handled | What is the average weight of pork/pigs handled in kg? | Ordinal: 1 = Less than 20, 2 = 20–39, 3 = 40–59, 4 = 60–79, 5 = 80 and above | - |
| DIST | Distance furthest buyer travels | What distance does your furthest buyer travel? | Ordinal: 1 = Less than 1km, 2 = 1–9 km, 3 = 10–19 km, 4 = 20–29 km, 5 = 30km and above | - |
| FREQAB | Frequency of abattoir or processor buyers | Frequency of abattoir or processor buyers | Categorical: 1 = all the time, 2 = sometime, 3 = never | +/- |
| FREQRET | Frequency of retailer or butchery buyers | Frequency of retailer or butchery buyers | Categorical: 1 = all the time, 2 = sometime, 3 = never | +/- |
| FREQIND | Frequency of individual customer buyers | Frequency of individual customer buyers | Categorical: 1 = all the time, 2 = sometime, 3 = never | +/- |
| JANMARSA | January to March seasonality of sales | January to March seasonality of sales | Ordinal: 1 = very high, 2 = high, 3 = average, 4 = low, 5 = very low | +/- |
| APRJUNSA | April to June seasonality of sales | April to June seasonality of sales | Ordinal: 1 = very high, 2 = high, 3 = average, 4 = low, 5 = very low | +/- |
| JULSEPSA | July to September seasonality of sales | July to September seasonality of sales | Ordinal: 1 = very high, 2 = high, 3 = average, 4 = low, 5 = very low | +/- |
| OCTDECSA | October to December seasonality of sales | October to December seasonality of sales | Ordinal: 1 = very high, 2 = high, 3 = average, 4 = low, 5 = very low | +/- |
| SIZE | Size of pig/carcass consideration when selling pork/pig | Do you consider size of pig/carcass when selling your pig/pork? | Ordinal: 1 = always considered, 2 = almost always considered, 3 = sometimes considered, 4 = rarely considered, 5 = never considered | - |
| PRICEOTHPL | Price of other industry players consideration when selling pork/pig | Do you consider price of other industry players when selling your pig/pork? | Ordinal: 1 = always considered, 2 = almost always considered, 3 = sometimes considered, 4 = rarely considered, 5 = never considered | + |
| QUALCONS | Quality of pig/carcass consideration when selling pork/pig | Do you consider quality of pig/carcass when selling your pig/pork? | Ordinal: 1 = always considered, 2 = almost always considered, 3 = sometimes considered, 4 = rarely considered, 5 = never considered | - |
| TIMECONS | Time of year consideration when selling pork/pig | Do you consider time of year when selling your pig/pork? | Ordinal: 1 = always considered, 2 = almost always considered, 3 = sometimes considered, 4 = rarely considered, 5 = never considered | +/- |
| CONST | Constant | - | - | - |

with a binary choice: product or pricing. The strategy choice of the firm or farm in this case is dependent on the various institutional and firm or farm-specific factors.

The resultant equation is presented as follows:

$$\log \left(\frac{P_{(y=1)}}{1 - P_{(y=1)}} \right) = \beta_0 + \beta_1 \chi_{1i} + \beta_2 \chi_{2i} + \dots + \beta_n \chi_i \quad [\text{Eqn } 2]$$

A multiple linear regression model was also utilised to identify the factors having a bearing on the perception of agri-businesses on the marketing mix elements. Likert-scaled questions were indexed to calculate a total score, which was the dependent variable in the regression model. Given

$$Y = \beta_0 + \sum_{i=1}^n \beta_i \chi_i \quad [\text{Eqn } 3]$$

where Y is the total Likert score, χ_i represent the explanatory variables and β_i represent the coefficients. The Likert scale

was assigned weights in the following manner: very good (–2); good (–1); average (0); poor (1) and very poor (2). The agri-businesses were asked to rate their business in terms of the 6 marketing mix elements. The total score from each rating was then inputted as the dependent variables in the multiple linear regression.

Results and discussion

Demographic results

Most of the farmers were proprietors of their agri-businesses with 96.4% A₁ farmers, 66.7% A₂ farmers and 57.9% small-scale commercial farmers. Only large-scale commercial farmers had 66.7% respondents being in middle management, whilst a similar percentage was observed for registered abattoirs, whilst 62.5% and 75% of registered and unregistered butchers, respectively, were lower management respondents. All large-scale commercial respondents were aged 40 years and over, with 57.9% small-scale commercial and 46.4% A₁

farmer respondents in the same age group. Two-thirds of the registered abattoir respondents were aged between 35 and 39 years, whilst a third of A_2 farmer respondents were aged 30–34 years with half of both registered and unregistered butcher respondents aged between 25 and 29 years. More than 54% of all respondents in each category of agri-business were men except for unregistered butchers which was dominated by 75% female respondents. None of the respondents had less than secondary level education, with all unregistered butcher respondents and large-scale farmer respondents having obtained secondary and tertiary or college or university level education, respectively. More than 66% of all farmers and abattoirs were in the rural areas, whereas 87.5% of registered butchers were in the urban area, and 75% of unregistered butchers were in the growth points. Relatively younger agri-businesses were found for A_1 farmers and registered butchers with 42.9% and 37.5%, respectively, having been in existence for less than 5 years. The oldest agri-businesses were a third of large-scale commercial farmers and all abattoirs with more than 15 years of existence. Most farmers and registered butchers handle porkers except for two-thirds of large-scale commercial farmers handling both baconers and porkers. All abattoirs and unregistered butchers also tend to combine baconers and porkers. Most pig farmers and all unregistered butchers handle less than 10 pigs per month, whilst all large-scale commercial farmers and abattoirs handle more than 15. More than 74% of each category of agri-business handle merchandise weighing more than 60 kg per animal.

Fifty-three per cent of the agri-businesses identified product characteristics as most significant marketing mix component. This was consistent with literature (Kotler et al. 1999; Kover, Szakaly & Kovach 2002; Luppnow 2007; Samiee 1987; Udell 1964). It was also observed that 53.1% of respondents identified that the identified marketing mix components tend to reinforce other components. It was also observed that 34.6% of the agri-business that prefer to concentrate on the product or form as a marketing mix strategy component were A_1 farmers, whereas all agri-businesses that rather focused on promotion and advertising were unregistered butchers. Tolusic et al. (2002) and Gow, Oliver and Gow (2003) highlighted that consumers tend to regard the quality of the product, making product marketing strategies essential. Kover et al. (2002) partitioned the product into generic and expected product. The generic product being the core benefit of the promised economically produced pork product, with the expected product being quality and design sensitive. According to Ohal (2015), value is created through the quality of the product, confirming Leat and Revoredo-Giha (2013) esteem value proposition. A_2 farmers were the only agri-businesses that cherished creating partnership as well as the 47.7% of agri-businesses that tend to prefer pricing strategy. Dodor (2013) identified that price is the most essential marketing strategy owing to its ease and quick adaptation to environmental stimuli. Sudarevic et al. (2015) found that as firms increase their capital allay, the less they concentrate on a product strategy, and the more they do on the price. Forty-five per cent of the agri-businesses that

identified the marketing mix determining their returns were A_2 farmers, whereas 34.6% agri-businesses that identified that it tends to determine other marketing mix strategy were A_1 farmers. Half of the agri-businesses that identified the marketing mix strategy determining sales were A_1 farmers as well as the other half being unregistered butchers. Half of the A_2 farmers and registered butchers, respectively, identified that if no product existed (making it the most significant strategy element), then there is no business.

Out of all the agri-businesses that were concentrating more on the product strategy, 96.2% identified that it tends to determine other marketing mix strategies. This was also true for agri-businesses that cherished partnerships. All agri-businesses that were concentrating on promotion identified that it tends to determine how much sales are made, with 93.2% of agri-businesses that were concentrating on the pricing strategy identified that it tends to determine the agri-business returns.

Inferential statistics results

Although four marketing mix elements could be identified from the descriptive results, promotion and partners had to be dropped from the analysis because each had a low number. This was because only 1% of respondents identified that partnerships and promotion were significant marketing mix components, relative to 45% and 53% who identified price and product, respectively. Thus, a logistic regression model was used. Table 3 shows the logistic results of determinants of choice on marketing mix strategy by agri-businesses. The low Nagelkerke R^2 shows that 25.2% of the explanatory variables account for choice between a product and price marketing mix strategy. Table 3 shows that the average merchandise handled and frequency of abattoir/processor buyers ($p < 0.01$), category of agri-business and distance the furthest buyer travels ($p < 0.1$) were significant. As the category of agri-business shifts from farmer, processor and retailer, there is a 26.7% possibility that the agri-business will choose a product marketing mix strategy. As the average merchandise of pork handled increases, as well as the distance the furthest buyer travels and the frequency of abattoir/processor buyer increase, the likelihood of agri-businesses utilising a pricing market mix strategy will double.

TABLE 3: Empirical binary logistic regression of determinants of choice between product and price marketing mix.

| Variables | B | Sig. | Exp(B) |
|---|----------|-------|--------|
| Category of agri-business | -0.311* | 0.087 | 0.733 |
| Pork product portfolio | 0.722 | 0.132 | 2.059 |
| Margin (profit to cost ratio) of agri-business | 0.165 | 0.453 | 1.179 |
| Agri-business location | -0.528 | 0.369 | 0.590 |
| Average number of pig/carcasses sold/handled in a month | 0.798** | 0.000 | 2.221 |
| Distance the furthest buyer travels | 0.837* | 0.073 | 2.310 |
| Frequency of abattoir or processor buyers | 0.719** | 0.002 | 2.053 |
| Constant | -6.982** | 0.002 | 0.001 |

Note: χ^2 , 40.177**

(-2) log likelihood, 224.657; Nagelkerke R^2 , 0.252.

*, Significant at 10% and **, significant at 1%.

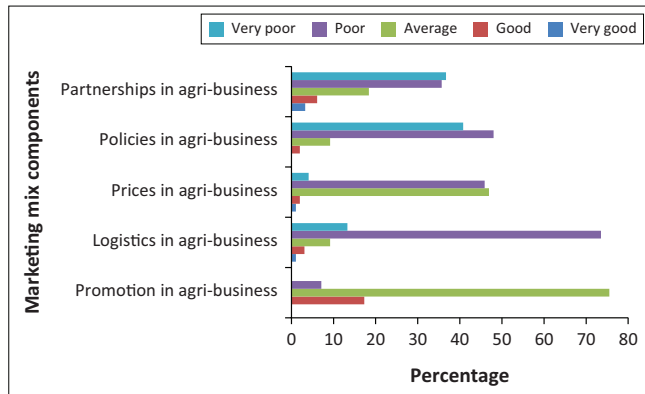


FIGURE 2: Perception of business performance in terms of the marketing mix components.

According to the performance based on the marketing mix strategy, most agri-business, however, rated lowly as shown in Figure 2.

Table 4 shows a multiple linear regression result based on performance perception score of agri-businesses. The table shows a significant R^2 value accounting for 63.5% explanatory variables having a bearing on the performance of the agri-business. It is shown that category of agri-businesses, merchandise handled, frequency of abattoir or processor buyers, April to June seasonality of sales, size of merchandise handled and time of year consideration when selling ($p < 0.01$); agri-business location and average weight of merchandise ($p < 0.05$); and period of existence of agri-business, frequency of retailer or butcher buyer and consideration of industry pricing ($p < 0.1$) were significant variables.

Table 4 shows that as the category of the agri-business shifts from farmer, processor to retailer, the performance of the agri-business tends to improve in terms of the marketing mix strategy and its explains 42.3% of this performance. As the April to June seasonality of sales deteriorates, so too does the marketing mix strategy performance of the agri-businesses, explaining for 37.7% of this performance. This is also compounded by agri-businesses considering the time of year when they are selling, accounting for 24.1% of performance. This is mainly because of the lean demand during the period, accounting for seasonality influencing marketing mix strategy pursued (Ajala & Adesehinwa 2007; Kagira et al. 2010). As the merchandise handled increase, so too does the marketing mix strategy performance of the agri-business, accounting for 29.2% of this performance. As the frequency of abattoir buyer/processor increased as well as the agri-business location shifts from town, growth point to rural, the better the marketing mix performance of the agri-businesses, accounting for 19.9% and 19.3% of the performance of the agri-businesses respectively (Ajala & Adesehinwa 2007; Shiferaw, Hellin & Muricho 2011). This can be attributable to tier effects of a reduced customer base as well as competition based on the agri-business location in rural areas, thus requiring less strategising on the marketing mix, and consequently agri-businesses perceptively highly rating their performance.

TABLE 4: Empirical multiple linear regression of determinants of perceptive performance of agri-business based on the marketing mix components (perception as total score from Likert scale).

| Variables | B | Beta | Sig. |
|---|-----------|--------|-------|
| (Constant) | 22.092*** | | 0.000 |
| Category of agri-business | -0.623*** | -0.423 | 0.001 |
| Pork product portfolio | -0.171 | -0.026 | 0.704 |
| Margin (profit to cost ratio) of agri-business | 0.148 | 0.060 | 0.431 |
| Agri-business location | -0.941** | -0.193 | 0.034 |
| Period of existence of the agri-business | -0.373* | -0.123 | 0.058 |
| Average number of pig/carcasses sold/handled in a month | -0.830*** | -0.292 | 0.000 |
| Average weight of pork/pigs handled | 0.880** | 0.123 | 0.017 |
| Distance furthest buyer travels | -0.092 | -0.026 | 0.819 |
| Frequency of abattoir or processor buyers | -0.723*** | -0.199 | 0.004 |
| Frequency of retailer or butchery buyers | 0.863* | 0.207 | 0.071 |
| Frequency of individual customer buyers | -0.326 | -0.062 | 0.411 |
| January to March seasonality of sales | -0.350 | -0.068 | 0.276 |
| April to June seasonality of sales | 1.859*** | 0.377 | 0.000 |
| July to September seasonality of sales | 0.037 | 0.008 | 0.932 |
| October to December seasonality of sales | -0.189 | -0.044 | 0.584 |
| Size of pig/carcass consideration when selling pork/pig | -1.094*** | -0.268 | 0.000 |
| Price of other industry players consideration when selling pork/pig | 0.325* | 0.091 | 0.078 |
| Quality of pig/carcass consideration when selling pork/pig | 0.048 | 0.007 | 0.902 |
| Time of year consideration when selling pork/pig | -0.828*** | -0.241 | 0.000 |

Note: R^2 , 0.635; adjusted R^2 , 0.595; F_{value} , 16.104; and P_{value} , 0.000***.

*, Significant at 10%; **, significant at 5%; ***, significant at 1%.

Conclusions and recommendations

Marketing mix strategies are essential in Zimbabwean agri-businesses. Whether be intuitive or by sheer luck, Zimbabwean agri-businesses do appear to be practicing and orienting towards particular marketing mix elements. The pork-based agri-businesses appear to overwhelmingly target product-based characteristics, mainly because it is easier to influence than other marketing mix elements such as pricing, promotion and place strategies. Factors such as the merchandise handled reinforce the use of product-oriented strategies. This is also compounded by the resource availability to these agri-business industry players, with farmers 'cocooning' in their price taker behaviour by concentrating on strategies that produce undifferentiated products. The other determinants of marketing mix strategy pursued such as category of agri-business and distances travelled by furthest processor buyers also reinforce the orientation towards the myopic concentration on the product-based strategies.

There is, thus, opportunity in the industry, to strategically position where there are place, promotion and pricing advantages. This is worthwhile especially when factors such as the distances buyers travel, seasonality of sales and time consideration have also been identified as marketing mix strategy determinants in the pork-based agri-businesses. Rather than concentrate on particular marketing mix elements, product and price in this instance, it is recommended that the industry embraces a combination of the elements.

At the farmer-producer level, this can be achieved through appropriate agricultural extension, especially for the newly resettled pig farmers, devoid of marketing strategy formulation and implementation.

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Authors' contributions

S.N. was responsible for conceptualising the problem and the write-up. A.M. acted in a supervisory role and was responsible for proofreading.

Disclaimer

The authors submit that the views expressed in this article are their own and do not reflect an official position of the institution.

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