Balanced score card and competitiveness of firms in the food and animal products export sector in Rwanda

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Abstract

The major purpose of this study was to assess how the use of balanced score card influences competitiveness of firms in the food and animal product export sector in Rwanda. The specific objectives included; to assess the influence of customer service on competitiveness of firms in the food and animal product export sector in Rwanda, and to determine the effects of finance on competitiveness of firms in the food and animal product export sector in Rwanda. The target population consisted of Rwandan firms in Kigali dealing in exports of food and animal products for regional and international markets with a sample of 97 respondents précised by way of Yamane formula from the target population. Stratified random sampling technique was used to determine the sample. A likert scale questionnaire and interviews were used and collected data was analyzed by way of SPSS version 21 using both descriptive and inferential techniques. The findings reveal that customer service and finance positively, significantly and strongly influence export competitiveness of firms within the food and animal products sector in Rwanda. Specifically, finance was found to have the strongest role in terms of contribution to competitiveness of firms. The study recommends among other things, a further investigation into customer service role fostering export competitiveness of export firms in the food and animal products export sector in Rwanda.

Keywords: Balanced score card, competitiveness, finance perspective, customer service

1. Introduction

With the growing globalization of business markets, business strategy has become a fundamental constituent of competitiveness (Galbraith and Lawler, 2013). The balanced scorecard (BSC) is a comprehensive management control system that balances traditional financial measures with operational measures relating to a company’s critical success factors (Bayer, 2009). According to Kiplangat, (2016) balanced scorecard contains four major perspectives:
financial performance, customer service, internal business processes, and the organization’s capacity for learning and growth. The financial perspective evaluates the organization ability to meet the expectations of shareholders (Samir, 2009). The customer perspective focuses on the ability of the firm to meet the demands of the customer (Kaplan and Norton, 2016). The internal business processes perspective seeks to ascertain if the organization has chosen the right business policies and processes that would deliver customer and shareholders’ expectations (Samir, 2009). Lastly, the learning perspective evaluates if the organization is focused on its vision and if it is flexible to sustain its ability to change (Kaplan and Norton, 2011). Therefore, the BSC tool provides a powerful framework for building and communicating strategy by allowing the business model to be visualized in a strategy map which forces managers to think about cause-and-effect relationships (Kaplan and Norton, 2010).

In developed nations such as Canada the BSC has been applied extensively as a strategy to increase global competitiveness in their animal industries (Zizlavsky, 2014). In Australia BSC has been adopted as a strategic management tool to achieve competitiveness by 2% of the meat export industry (Taticchi, Tonelli, and Cagnazzo, 2010). Just like in the developed nations, China has implemented balanced scorecard in 88% of its state-owned enterprises (Cremers, 2010). Indeed, about 123,000 balance score cards are operational in China used by both private and state-owned enterprises.

In Africa, the BSC has been used with measurable success. Studies conducted in Botswana, Kenya, Malawi and Namibia suggests use of BSC in several organizations (Kirstie, 2008). Adoption of the BSC has been reported to accrue a number of benefits, for instance, balancing of traditional financial measures with operational measures relating to a company’s critical success factors (Bayer, 2009), developing targets at the leadership level and using the resulting feedback to develop cohesive direction that provides competitive advantage (Sims, 2009). The BSC also enhances the link between the cause-and-effect and corporate objectives and provides the visual framework for integrating the organization’s objectives of maximizing the shareholders’ wealth (Kaplan et al., 2010).

Studies on BSC in Rwanda include; evaluating the domestic resource mobilization for poverty reduction in East Africa (African Development Bank, 2010), Rwanda Governance Score Card 2012 (Rwanda Governance Board, 2012), a new tool for monitoring quality of care; UNHCR’s Reproductive Health Scorecard (Tappis, 2015), National University of Rwanda’s (NUR) Gender Baseline Survey 2010 (Randell, 2010) and the Rusizi district potentialities assessment for the integrated and self-centered local economic development (Rusizi District, 2013), It should however be observed that none of these studies focused on BSC use to achieve competitiveness within the food and animal products export sector, a gap which this study sees to fill.

1.2 Statement of the Problem

Lack of competitiveness in Rwanda’s export sector is a daunting challenge (Minicom, 2011) and for Rwanda to achieve its development goals, it has to overcome the challenges facing its export growth, which include decrease in export revenue, failure to maximize export products value, low production, lack of niche products for targeted markets, low diversification and innovation (Minicom, 2011). These are attributed to lost revenue since in 2009, Rwanda reportedly lost revenue of US$85 million due to global downtown affecting the export sector (Minicom, 2011). In extant literature, the feasibility and value of using BSC to measure competitiveness has been evidenced.
(Chan, 2014). There is an increasing trend to implementing the BSC as a set of performance indicators (Kariuki, 2012). The BSC fosters the ability to plan for the future in a strategic manner, while meeting the day-to-day operational requirements of providing quality services to customers and creating maximum value for shareholders (Kaplan and Norton, 2010). It allows organizations to develop a logical connection between mission, vision, and its strategies, programs, services, and activities that departments and individuals must implement to succeed.

Several studies have been conducted in Rwanda on BSC, such as Rwanda Governance Score Card 2012 (RGB, 2012) but none of the studies focuses on the use of the BSC as applied in export competitiveness for the food and animal products sector in Rwanda. Therefore, this study seeks to investigate the extent to which BSC use influence the export competitiveness of the food and animal products sector in Rwanda and contribute to filling the existing knowledge gap.

1.3 Study Objectives

The general objective of the study is to investigate the influence of BSC on export competitiveness of firms in the food and animal products sector in Rwanda

The specific objectives of the study include

i. To assess the influence of customer service on competitiveness of firms in the food and animal products export sector in Rwanda.

ii. To determine the effects of financial performance on competitiveness of firms in the food and animal products export sector in Rwanda.

1.4 Research Questions

The study was guided by the following questions:

i. What is the influence of customer service on competitiveness of firms in the food and animal products export sector in Rwanda?

ii. Does financial performance affect competitiveness of firms in the food and animal products export sector in Rwanda?

2.1 Theoretical Review

2.2.1 Porters five forces framework

The Five Forces model is a simple but powerful tool used to determine where power is concentrated in a certain business situation by using the outside-in perspective (Johnson, Scholes and Whittington, 2008). Porter’s five forces model proposes that an industry’s structure depends on five competitive forces: bargaining power of suppliers, bargaining power of buyers, threat of new entrants, threat of substitutes and intensity of rivalry (Slater and Olson, 2012). In order for a firm to deal effectively with the five competitive forces of porter and hence gain a sustainable competitive advantage, the firm needs to develop a defendable position in an industry through competitive strategy. The strategies include differentiator or cost leader. These two strategies used simultaneously, aligned with the competitive scope of activities that a firm seeks to achieve result into three generic strategies for outcompeting rivals.
within an industry; (a) differentiation—launching a differentiated set of products which the company provides to its customers with unique features that satisfies their needs, hence prompting them to pay more. (b) Cost leadership—is a strategy that focuses on reducing costs, hence "the low-cost strategy" and (c) focus which involves focusing on a particular segment in the market (Subramanian, 2010). Barney and Clark (2007) suggest that for firms to create more value than their rivals, firms must produce greater net benefit, through superior differentiation and/or lower cost.

Porter’s five forces, when used simultaneously, greatly determine the strength and profitability of firms in an existing or emerging industry. Firms should be able to identify a position in the industry from which they can stand firm against competitive forces or set the pace of competition in their favor. This is known as the ‘positioning approach.’ An opportunity may be derived from a weak competitive force, while a strong one may serve as a threat. In summary the strength of each of the five forces is inversely proportional to price and profits (Hill and Jones, 2007).

### 2.2.2 Stakeholders Theory

Stakeholders such as shareholders, government, action groups, customers and country citizens determine the type of organization top management staff. Effective monitoring by the stakeholders ensures that stakeholders are accountable on all organization functions and this helps in improving the level of top management support in improvement of organization performance. Hence stakeholders influence improvement of the level of top management support in implementation of balanced scorecard (Freeman, 2014).

Ackermann and Eden (2010) urged that allowing stakeholders to take part in strategy development has proven useful in implementation of balanced scorecard. Stakeholder theory contains a variety of management tools and techniques, particularly developed to assist managers operating in complex settings. Key tenets of the theory include acknowledging that any organization or project is surrounded by a variety of stakeholders and that these stakeholders can affect the organization (André, 2012). It is therefore important to understand the interests of key stakeholders in order to maneuver an organization with a minimum of conflict. Stakeholder analysis is particularly useful in mapping key stakeholders of a project and identifying their respective interests in the project. Management support is greatly determined by the organization stakeholders such as board of directors, shareholders, customers and employees. This is clearly explained by the stakeholder theory which is a theory of organizational management and business ethics that addresses morals and values in managing an organization (Freeman, 2014).

### 2.2 Empirical review

#### 2.2.1 Customer service and export competitiveness

The customer service captures the ability of the organization to provide quality goods and services, the effectiveness of their delivery, and overall customer service and satisfaction. To this effect, many organizations today have a mission focused on the customer and measuring how an organization is performing from its customers’ perspective has become a priority for top management (Kiplangat, 2016).

Sahiti, Ahmet, Sahiti and Aliu (2016) maintain that the customer perspective takes into account the capacity of businesses to secure qualitative goods and services for its clients, effectiveness of offering those goods and services and addresses concerns of customers in order to develop ongoing support. Hence, the focus is towards the customer
and how to give them value. This is because when a business loses the drive to track and retain customers loses credibility. Yet no business can flourish without customer bases which are strong.

### 2.2.2 Financial perspective and export competitiveness

In a study carried out on the impact of export finance on firms’ export profitability in Gujurat, India, it concludes that financing resources play a significant role in escalating export ventures particularly of MSMEs (Micro, Small and Medium Enterprises) which face a stiff competition from the larger firms. Finance is essential not only for successful operation of current activities of the firm but also aids in expanding those activities to grow the firms’ business. There are several financing resources available at a firm’s disposal viz. its own retained profits, commercial loans from banks, loans from specialized development institutions and funding agencies impact greatly on export profitability (Chugan and Singh, 2016).

Sahiti, Ahmet, Sahiti and Aliu (2016) observe that financial measures take a very important dimension under the balanced score card as they depict the long term objectives of a company as a way to provide value for its shareholders towards improvement of profitability and other financial objectives. Financial measures are said to make the basement of the measurement of performance as it takes into account the perceptions of shareholders with regard to financial success of a business. The perspective also seeks to know if the business strategy and implementation are contributing towards the improvement of performance.

### 3. Methodology

This research used descriptive research design. Descriptive design is normally used when collecting information about people’s attitudes, habits or opinions on the issues under study (Heppner, Kernis, Chad and Lakey, 2008). This research design was preferred because it would bring about deeper insights and better understanding of the perceived effect of organizational dimensions on a firm’s export market competitiveness. The study was also cross-sectional in design. The cross-sectional design was adopted because data was collected from food and animal products export firms in Rwanda. This study design is suitable for investigating the topic at specific point in time without need for follow up as suggested by Amin, Kojuri, Lotfi, Karimian and Abad (2005). Since the study sought to examine the relationship between variables, a simple correlation design was adopted to determine the effect of the Balanced Score Card on the export competitiveness of food and animal products export firms in Rwanda

### 3.1 Target Population

Burns and Grove (2017) described a study population as all the elements that meet the criteria for inclusion in a study. The population of interest in this study was 128 respondents who work in management, finance, Human resources, operations, sales and marketing departments of the selected companies (Sosoma, Rwanda tea, Azam and Inyange industries) for the study.
3.2 Sample Size determination

A sample size of 97 respondents was determined from a total population of 128 individuals using the formula by Yamane (1967).

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

Where \( n \) = the desired sample size
\( e \) = probability of error (i.e. the desired precision, e.g. 0.05 for 95% confidence level)
\( N \) = the estimate of the population size.

\[ n = \frac{128}{1 + 128 (0.05)^2} = 97 \]

3.3 Sampling Techniques

Sampling is defined as the process of selecting a number of individuals for a study in such a way that they represent the larger group from which they are selected (Mugenda and Mugenda, 2003). Stratified random sampling technique ensures that different groups of a population are adequately represented in the sample. Stratified sampling divides the population into homogeneous groups such that the elements within each group are more alike than the elements in the population as a whole (Nachimas and Nachimas, 2008).

3.4 Data collection Instruments

This study used a 5 point likert scale questionnaire for primary data collection. The questionnaire ranged from 1 – strongly disagree to 5 – strongly agree. The likert scale questionnaires were preferred because they are straightforward and less time consuming for both the researcher and the participants (Owens, 2002).

3.5 Data analysis

The collected data was examined and checked for completeness and comprehensibility. The data was then be summarized, coded and tabulated. Before processing the responses, the completed questionnaires were edited and classified for completeness and consistency. Data was then be coded and tabulated to enable the responses to be grouped into various categories using Statistical Package for Social Science (SPSS version 21). Data was analyzed into frequency distribution to indicate variable values and number of occurrences in terms of frequency. Descriptive statistics such as means, standard deviation and frequency distribution was used to analyze the data. Frequency distribution tables were summarized where percentages and frequencies were used during the analysis. The organized data was interpreted on account of weighted average means and standard deviations. Descriptive analysis and inferential were triangulated to give an in depth insight into findings revealed by data analysis. Results were presented in prose which is a form of content analysis. Inferential techniques involving use of correlation and regression analysis were used to assess the influence of the independent over the dependent variable.
4. Presentation of findings

4.1 Demographic characteristics of respondents

Table 4.1 portrays the socio-demographic profile of the respondents for this particular study. It focuses on the sex, age, educational accomplishment levels and the number of years respondents have spent with the export firm.

<table>
<thead>
<tr>
<th>Table 4.1 Respondents’ Demographic data</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondents’ sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>62</td>
<td>68</td>
</tr>
<tr>
<td>Female</td>
<td>29</td>
<td>32</td>
</tr>
<tr>
<td>Total</td>
<td>91</td>
<td>100</td>
</tr>
<tr>
<td>Education attainment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Certificate</td>
<td>18</td>
<td>20</td>
</tr>
<tr>
<td>Ordinary Diploma</td>
<td>34</td>
<td>37</td>
</tr>
<tr>
<td>Degree</td>
<td>28</td>
<td>31</td>
</tr>
<tr>
<td>Postgraduate Diploma</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Masters Degree</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>91</td>
<td>100</td>
</tr>
<tr>
<td>Age bracket</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 - 30</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td>31 - 40</td>
<td>26</td>
<td>29</td>
</tr>
<tr>
<td>41 - 50</td>
<td>37</td>
<td>41</td>
</tr>
<tr>
<td>Above 50</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>Total</td>
<td>91</td>
<td>100</td>
</tr>
</tbody>
</table>

As observed from Table 4.2, the proportion of male respondents comprised of 68% and the female counterparts made up 32%. In terms of educational accomplishment, respondents with ordinary diplomas contributed the largest proportion with nearly 37%. University graduates were significantly represented among respondents making up to 31%. With regard to age, the dominant age group among respondents was that between 41 – 50 years of age with a proportion 41% followed by those between 31 – 40 years who comprised approximately 29% of the respondents. The smallest proportion was those below 30 years who contributed only 12 %.

<table>
<thead>
<tr>
<th>Table 4.2 Countries Exported to by Firms</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>East African Community</td>
<td>36</td>
<td>40</td>
</tr>
<tr>
<td>Other African countries</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>Europe</td>
<td>22</td>
<td>24</td>
</tr>
<tr>
<td>Asia</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>America</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>91</td>
<td>100</td>
</tr>
</tbody>
</table>
The East African community was the leading destination for the goods from the food and animal products sector of Rwanda with a total percentage of 40% among respondents indicating they mostly exported to EAC countries. This was followed by Europe at 24% and Asia at 18%. Firms that reported exports to America were the fewest at 7%.

4.2 Descriptive analysis of independent Variables

Descriptive analysis results on the independent variables are first presented as portrayed in Table 4.3 that follows.

<table>
<thead>
<tr>
<th>Table 4.3 Descriptive statistics of the study variables</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Customer service</strong></td>
</tr>
<tr>
<td>1. Customized product features in export sector</td>
</tr>
<tr>
<td>2. Customer desks fully operational</td>
</tr>
<tr>
<td>3. Customer queries attended to on time</td>
</tr>
<tr>
<td>4. Customers offered alternative solutions</td>
</tr>
<tr>
<td><strong>Financial perspective</strong></td>
</tr>
<tr>
<td>1. Food and animal product export firms are constrained by financing</td>
</tr>
<tr>
<td>2. Exports firms are constrained by low markets</td>
</tr>
<tr>
<td>3. There are poor accounting procedures in sector</td>
</tr>
<tr>
<td>4. Food and animal products export industry is constrained by low profits</td>
</tr>
</tbody>
</table>

As indicated in Table 4.3, there were 4 attributes under the variable customer service perspective. The variable comprised of four attributes related to customer service in the food and animal products exports sector in Rwanda; customized product features, operational customer desks, attendance to customer queries and offering alternative solutions to customer problems. Hence, the results of descriptive analysis indicate a general mean response (close to 4 = agree) on items which shows a majority of respondents agree with the statements. Thus, respondents generally agree that there are customized product features in export sector. They also nearly agree that customer desks in their firms are fully operational (mean close to 4) and that customer queries are attended to (mean close to 4). There were however deviations on the last item that demanded whether customers were offered alternative solutions with a standard deviation close to 1 (0.974). Thus, respondents were not unanimous in response to the attribute.

Under financial perspective, there were also 4 attributes related to finance and they inquired whether; the food and animal product firms were constrained by financing, exports firms are constrained by low markets, there are poor accounting procedures in export sector and whether food and animal products export industry is constrained by low profits. The results from descriptive analysis indicate an average weighted mean response of 4 (agree). This means a majority of the respondents agree that: the food and animal product firms were constrained by financing (average weighted mean at 4.25), exports firms are constrained by low markets (average weighted mean at 4.01), there are poor accounting procedures in export sector (average weighted mean close to 4) and that food and animal product export industry is constrained by low profits (average weighted mean at 4.13). The widest deviation in response to
attributes was realized on accounting procedures in the export sector where a standard deviation of 0.816 was registered.

4.3 Correlation analysis

The researcher undertook a correlation analysis to triangulate the findings of descriptive analysis and those of inferential analysis and the results are depicted in Table 4.5.

<table>
<thead>
<tr>
<th>Table 4.5 correlation Analysis between Finance, customer service, internal business processes, learning and growth and Export Competitiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Finance perspective</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td>2. Customer Service</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td>3. Export competitiveness</td>
</tr>
</tbody>
</table>

Table 4.5 illustrates 2 independent variables; finance perspective and customer service. The dependent variable of the study is export competitiveness of firms in the food and animal products sector in Rwanda. The Pearson correlation values for the independent variables against the dependent are portrayed in the correlations table. The values show the influence of each independent variable on the dependent variable. Testing for influence or relationship between variables is important as it forms the basis for making interpretations and conclusions (Pallant, 2014) regarding the study objectives as follows in the next section.

4.4 Discussion

To assess the influence of customer service on competitiveness of firms in the food and animal product export sector in Rwanda.

The first objective of the study was to assess the influence of customer on the competitiveness of firms in the food and animal products sector in Rwanda. The researcher made use of Pearson correlation analysis as depicted in Table 4.5. According to the findings in the Table, customer service positively and significantly influences export competitiveness of firms in the food and animal products export sector in Rwanda at a P value with strong magnitude at \( r = 0.731**, p \leq 0.01 \).

This implies that customizing product features in the export firms to suit target customers, attending to questions posed by customers to export firms timely and effectively as well as relaying alternative solutions to questions posed positively significantly and strongly improves the competitiveness of the food and animal products sector in Rwanda.

The results of inferential analysis were triangulated with those of descriptive analysis and both results are congruent. Hence, the results of descriptive analysis on customer service indicate a general average weighted mean response (close to 4 = agree) on items which shows a majority of respondents agree that customized product features boost
competitiveness of firms in export sector, fully operational customer desks and attending to customer queries also does the same. There was however deviation on whether customers were offered alternative solutions with a standard deviation close to 1 (0.974). Thus, respondents were not unanimous in response to the attribute which points to the need for further investigation.

To determine the effect of financial perspective on competitiveness of firms in the food and animal products export sector in Rwanda.

The second objective of the study was to determine the effect of the financial performance on the competitiveness of firms in the food and animal products sector in Rwanda. The researcher equally used Pearson correlation analysis as depicted in Table 4.5 for the objective. According to the findings in Correlation Table 5, the financial perspective positively, significantly and strongly influences export competitiveness of firms in the food and animal products export sector in Rwanda at a P value with strong magnitude of \( r = 0.795^{**} p \leq 0.01 \). This implies that elimination of constraints such as the lack of financing, limited market access and slow profit growth in the sector improves the competitiveness of firms in the food and animal sector in Rwanda. It also means that improving accounting procedures within the food and animal products export sector will boost the competitiveness of the sector in Rwanda.

These results were further triangulated with findings of descriptive analysis. Hence, results from descriptive analysis on financial performance reveal an average weighted mean response of 4 (agree) on nearly all attributes. Thus, a majority of the respondents agree that: the food and animal product firms were constrained by financing, exports firms are constrained by low markets, there are poor accounting procedures in export sector and that export firms in the food and animal products industry are constrained by low profits. The widest deviation in response to attributes was realized on accounting procedures in the food and animals products export sector where a standard deviation of 0.816 was registered. Therefore, there is need for further research on the attribute.

5. Conclusion

The study sought to investigate the influence of the balanced score card (BSC) on export competitiveness of firms in the food and animal sector in Rwanda. The specific study objectives were to: i. to assess the influence of customer service on competitiveness of firms in the food and animal product export sector in Rwanda and ii. to determine the effects of finance on competitiveness of firms in the food and animal product export sector in Rwanda. Among the findings, customer service and finance were generally found to positively, significantly and strongly influence export competitiveness of exporting firms within the food and animal products export sector in Rwanda. Specifically, financial performance was found to have the strongest role from regression analysis results assessing individual variable contribution to outcome prediction. This was followed by customer service.

5.1 Recommendations

Based on the above findings from the study, the researcher makes the following recommendations.

i. There should be more investigation on the role of accounting practices and procedures within the Rwandan export sector and how they influence or impact on export competitiveness of the food and animal products sector in Rwanda. Therefore, there is need for further research.
ii. The exporting firms within Rwanda’s food and animal products sector should focus on customer services as descriptive analysis results on the variable highlight a wide deviation on whether customers were offered alternative solutions with regard to their queries. Thus, there is need to strengthen customer feedback mechanism and boost competitiveness within the sector.
References


