STRATEGY ADOPTION AND THE PERFORMANCE OF SMALL SCALE RICE PROCESSORS: EMPIRICAL ASSESSMENT OF KOGI STATE

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ABSTRACT

This study focused on the effects of strategy adoption on the performance of small scale rice processors in Kogi State, Nigeria. The study adopted research survey design. The population of the study comprised of 1200 rice processors, from which the sample size of 291 was determined. The study adopted the multi-stage sampling technique to select small scale rice processors in the study area. Data obtained were analyzed using descriptive statistics and Multiple Regression Model. Findings showed that low cost, growth, value and differentiation rice business strategies have significant effects on competitive advantage of small scale rice processors in Kogi State. The study concluded that the choice of strategy to adopt must not be based on intuition, but rather on technical ground and analysis; and that the adoption of combined rice business strategies will depend on adequate level of resources, strategic orientation, knowledge and skills of the small scale rice processors in Kogi State. The study therefore recommended that low costs and differentiation rice business strategies should be combined to achieve increased competitive advantage of small scale rice processors in Kogi State.

Contribution/ Originality: This study contributes to existing literature by investigating the effects of strategy adoption on the performance of small scale rice processors in Kogi State, Nigeria

1. INTRODUCTION

In recent time, rice business environment is observed to have witnessed aggressive competition based on increasing new entrants of many small scale rice processors and adoption of strategies by large scale rice enterprises. This competition has transitioned the rice supply in Nigeria as observed today. Previously, Adeoye (2003) noted that Nigeria imported $600 million worth of rice annually. The increased domestic demand for rice, coupled with the recent economic recession, has driven economic growth in the present agricultural sector of Nigeria. Rice importation is gradually being reduced in Nigeria while a lot of supply is being provided by inward
acceleration of rice production, thereby calling for better strategies to be the fittest. A small scale rice processor who lack correct strategy for value addition may therefore not fit into the competition train and as such fall by the way side. This appears to be a pointer to the competition effect and a threat to the survival of small scale rice processors in Kogi State. This is because, competitors within and outside Kogi State have been observed to constantly adopting and reviewing strategies to improve quality at lower cost of rice produced, and this may eventually lead to rice market war. The small scale rice processors in Kogi State appear to be battling with quality assurance and price attraction. Wilfred (2006) related quality issues with “poor handling and storage practices”. Other quality issues relating to small scale rice processors in Kogi State are poor packaging and low technology adoption among others. These appear to be a function of little or no orientation by small scale rice processors on rice business strategy adoption and implementation in the phase of the aggressive competition. Strategy that can fit-in for particular entrepreneurial situation in the rice market requires distinct strategy orientation. Biyi (2005) suggested investment strategy that can enhance increased Nigeria’s domestic share of the rice market. Designing flexible strategies (such as low cost, value-chain and differentiation strategies) to promote entrepreneurial rice marketing is highly important in Kogi State presently.  

Studies (Babafada, 2003; Biyi, 2005; Kolawole, 2010; Okoruwa & Ogundele, 2006; Saliu, Ibrahim, & Eniojukan, 2016) have shown that much attention has been given to rice production and economy by Nigerian policy makers, politicians, practitioners and academics. Though, the study conducted by Saliu et al. (2016) focused on improved rice technology adoption as a strategic approach among rice farmers in Kogi State. This study considers this as a narrow phase of strategic management. In this regard, Oyedijo (2012) had argued that little research has been done on strategic management practices within the small business sector of the Nigerian economy. This is believed to be contributory to the observed little or no strategy adoption among small scale entrepreneurial rice processors in Kogi State, Nigeria. In addition, it appears that the rice business strategy of some rice processors yields little or no results as the market niche within Kogi State is dominated by external rice producers’ products. This may be connected with the lack of clear understanding of what strategy is necessary and the ability to display strategic thinking in the course of addressing competition issue in terms of superior quality, price attraction, technologies adoption and so on.

1.1. Objectives of the Study

The main objective of the study was to investigate the effects of strategy adoption on the performance of small scale rice processors in Kogi State, Nigeria. The specific objective of the study was to identify the effects of low cost, growth, value-chain and differentiation strategy on the competitive advantage of small scale rice processors in Kogi State, Nigeria.

1.2. Research Questions

It was pertinent to ask that what are the effects of strategy adoption on the performance of small scale rice processors in Kogi State? Can low cost, growth, value-chain and differentiation strategy predict the competitive advantage of small scale rice processors in Kogi State?

2. CONCEPTUAL FRAMEWORK

Coupled with economic recession of the recent time in Nigeria, the decision of many rice producers to diversify into radical rice marketing has translated into aggressive competition in Kogi State. Kahan (2012) is of the opinion that small scale rice processors must ask questions such as:

1. What do they need to do to compete, progress and meet their goals?
2. How does the decision they have made contribute to their goals?

The small scale rice processors need to adopt Rice Business Strategies (RBS) like innovative strategy, high-low cost, high-low quality or combination of these to compete, progress, survive and expand under a competitive situation. High-low cost technology and effective rice marketing facilities are also adoptable rice business strategies that may distinguish small scale rice processors in agri-business competition. Kahan (2012) also submitted that ‘growth, value addition and
differentiation strategies’ are important. Abdullahi (2012) takes rice technology to include “high yielding varieties, pesticides, improved cultural practices, timely planting and minimum tillage”. It appears that there is too little literature on rice business strategies, though literature in strategic management and theories is increasing.

In practice, Wang, Walker, and Redmond (2007) argued that small firms get oriented towards short-term operation rather than long-term strategic issues, and their decision-making tends to be reactive rather than proactive. This appears to be similar case in Kogi State, as majority of small scale rice processors may base their marketing plan on short-term basis. The observed non-interest in strategic issues by small scale rice processors and non-adoption of rice business strategy is presumably lack of strategy orientations. The ability to adapt in a constantly changing agri-business environment may be linked with strategy learning process. In their view, Aremu and Lawal (2012) expressed that competitive strategies are dependent on the firms’ strategic choice and orientations about how to compete for better performance. This implies that small scale rice processors who lack strategy orientation are likely to perform below average at the long run. Choy and Mula (2008) also pointed to the fact that careful selection of appropriate strategies depends on managerial skillfulness, entrepreneurial capacity and likelihood of long-term firm survival. In addition, theories of Porter (1985) and Chandler (1962) have demonstrated the need for strategy adoption and are committed to achieving it.

The Figure 1 indicates that strategy adoption may start with knowing how to analyze both internal and external environment. A SWOT analysis enables the small scale rice processors to take advantage of the best rice business strategy from several alternatives; having known their core competence and external environmental threats. It is important to note that rice business strategy may be affected negatively if small scale rice processors’ weaknesses and threats from external environment override their strength.

![Figure 1. Conceptual framework of strategies and performance.](image-url)
Rice business strategies that are open to small scale rice processors are low cost, growth, value added and differentiation among others. Diaconu (2007) expressed that “low cost strategy focuses on obtaining a competitive price, and it can also be regarded as strategy of low-price or penetration price”.

Growth strategy focuses on how rice processors increase their capacity, capital stock, sales, profitability and energy input. Oncer (2012) upholds that it is concerned with “increase in the reputation and value of a business in public opinion”. Scholars and author (Durmaş & İlhan, 2015; Erköç, 2006) added that “intensive growth strategy is a reasonable strategy for businesses which have not been able to use the opportunities in the market with their available products”. Akgöbek (2011) supported that “it is an appropriate strategy for businesses which have little market share”.

Porter (1980) expressed that value chain is concerned with consistent process re-engineering to create avenue for competitive advantage. Bolo, Lorika, and Obonyo (2011) posited that “value chain focuses on various activities of a firm and how they interact in order to provide a source of competitive advantage by performing these activities better. The differentiation strategy is based on non-price strategies. On the general note, differentiation strategy is cardinal to developing a product with distinctive features. McGee (2014) added that “differentiation requires the investment of resources – typically time, capital cost, and higher variable costs – in a risky bet that the customer will respond to the differentiated product by buying it at a premium price and/or more frequently”.

The target of low cost strategy is a preferable distinguishing price in the rice market. Kahan (2012) believed that this can be achieved by finding less expensive resources and inputs and using more efficient technologies for rice production. This strategy may also be possible through economies of scale and low cost herbicide among others. The growth strategies involve expanding all or some aspects of the rice enterprise. Kahan (2012) buttressed that expansion in rice enterprise may include capacity expansion (increased rice farm land, facilities and equipment), replication (copying other successful rice processors’ strategies, otherwise known as copied strategy) and modernization (planning obsolescence and adopting the latest technology). This kind of rice business strategy is adoptable by rice processors who have larger market share and consistent profit margin. The value chain strategy simply involves creating and adding value in the operational process of small scale rice marketing. This is proactive approach to addressing the changing consumers’ demand. The kind of rice brand that consumers demand for varies based on what they are looking for as the utmost value. The value chain strategy is considered most appropriate for a market niche in which consumers have good understanding of value addition. Differentiation strategy involves distinguishing rice product among others in the rice market. Porter (1985) expressed that it involves establishing a unique quality, delivery and outlook for the product. Kahan (2012) added that a rice processor needs to establish unique perceptions regarding his/her rice product in the rice market. In order to achieve this, Porter ibid suggested that a unique quality of rice must be pursued by the small scale rice processors. These strategies aim similar payoff (such as performance in terms of competitive advantage among others). Meanwhile, the study of Sanusi (2003) found that competitive strategies are significant to achieving desirable performance.

3. METHODOLOGY

A research survey was conducted on rice processors in KADP. This is because there is no time series data to support strategy adoption of rice processors in Kogi State. The complete enumeration for this study was done based on zones of KADP. According to Saliu et al. (2016), Kogi State is divided into four agricultural zones for KADP (A, B, C and D). They also stated that KADP’s zones are delineated into 6 blocks and 48 cells per zone. Each cell contained between 25 to 35 registered processors (Saliu et al., 2016). Table 1 shows the breakdown of the study’s population. As shown in Figure 2 Zone ‘A’ is made up of Yagba West, Yagba East, Mopamuro, Ijumu, Kabba/Bunu; Zone ‘B’ is made up of Ogorimango, Okene, Okene, Lokoja, Adavi, Ajaokuta, Kogi; Zone ‘C’ is made up of Dekina, Omala, Ankpa; and Zone ‘D’ is made up of Ofu, Idah, Igalamela/Odolu, Ibaji and Olamaboro.
Table 1. Population frame of KADP.

<table>
<thead>
<tr>
<th>KADP zones headquarters</th>
<th>No. of blocks</th>
<th>No. of cells</th>
<th>No. of processors</th>
<th>Total no. of processors</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-(Aiyetoro-Gbede)</td>
<td>6</td>
<td>48</td>
<td>25</td>
<td>1200</td>
</tr>
<tr>
<td>B-(Anyigba)</td>
<td>6</td>
<td>48</td>
<td>25</td>
<td>1200</td>
</tr>
<tr>
<td>C-(Kotonkarfe)</td>
<td>6</td>
<td>48</td>
<td>25</td>
<td>1200</td>
</tr>
<tr>
<td>D-(Aloma)</td>
<td>6</td>
<td>48</td>
<td>25</td>
<td>1200</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>24</strong></td>
<td><strong>192</strong></td>
<td><strong>25</strong></td>
<td><strong>4800</strong></td>
</tr>
</tbody>
</table>

Source: Field survey (2019).

This study focused on Zone ‘B’ and ‘D’. Logically, this is 50 percent of the assumed total population of the registered rice processors.

A multistage sampling technique was used to select a total of 291 processors (respondents) from the two zones. This technique was considered appropriate based on the complex structure of KADP. This study determined the sample size by using Salant and Dillman (1994) sampling method as demonstrated below:

\[
N_s = \frac{N_p (p)(1 - p)}{(N_p - 1) \left( \frac{8}{C} \right)^2 + (p)(1 - p)}
\]

Where:
- \(N_s\) = completed sample size required.
- \(N_p\) = Sample population.
- \(p\) = proportion expected to answer in a certain way (50% or 0.5 is most conservative).
- \(B\) = acceptable level of sampling error (0.05 = ±5%; 0.03 = ±3%).
- \(C\) = Z statistic associated with the confidence interval (1.645=90% confidence level; 1.960=95% confidence level; 2.576=99% confidence level).

To establish the instrument’s reliability, the Cronbach Coefficient alpha (\(\alpha\)) was used. The coefficient alpha is the most commonly applied estimate of a multiple-item scale’s reliability with a coefficient of 0.70 and above as considered to have good reliability by Zikmund, Babin, Carr, and Griffin (2010). Cronbach’s alpha (\(\alpha\)) results are in Table 2 and Table 3:
Table 2. Reliability of individual rice business strategy.

<table>
<thead>
<tr>
<th>S/N</th>
<th>Constructs</th>
<th>Cronbach's alpha</th>
<th>No. of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Low cost rice business strategy adoption</td>
<td>.945</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>Growth rice business strategy adoption</td>
<td>.811</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Value chain rice business strategy adoption</td>
<td>.701</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Differentiation rice business strategy adoption</td>
<td>.720</td>
<td>2</td>
</tr>
</tbody>
</table>

Source: Field survey (2019).

Table 3. Reliability of performance measure.

<table>
<thead>
<tr>
<th>S/N</th>
<th>Constructs</th>
<th>Cronbach's alpha</th>
<th>No. of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Competitive advantage</td>
<td>.704</td>
<td>2</td>
</tr>
</tbody>
</table>

Source: Field survey (2019).

Based on the critical point of 0.70 by Zikmund et al. (2010) the results of the constructs in Table 2 and Table 3 show strong reliability. The results are statistically significant considering the number of items used for each construct. The data generated for the study was analyzed using both descriptive and ‘Multiple Regression Model’.

4. RESULTS AND FINDINGS

Table 4. Questionnaire administration.

<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administered</td>
<td>291</td>
<td>100</td>
</tr>
<tr>
<td>Returned</td>
<td>275</td>
<td>94.50</td>
</tr>
<tr>
<td>Unreturned</td>
<td>16</td>
<td>5.50</td>
</tr>
</tbody>
</table>

Source: Field survey (2019).

Table 4 indicates that 291 questionnaires (100%) were administered; 275 questionnaires (94.50%) were returned while 16 questionnaires (5.50%) were not returned. Based on the result, the study based analysis on data from the returned questionnaires.

Table 5a. Descriptive statistics of strategy adoption.

<table>
<thead>
<tr>
<th>Strategies Adoption</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low cost rice business strategy adoption</td>
<td>275</td>
<td>3.6073</td>
<td>1.24042</td>
</tr>
<tr>
<td>Growth rice business strategy adoption</td>
<td>275</td>
<td>3.6873</td>
<td>1.12876</td>
</tr>
<tr>
<td>Value chain rice business strategy adoption</td>
<td>275</td>
<td>2.7455</td>
<td>1.09107</td>
</tr>
<tr>
<td>Differentiation rice business strategy adoption</td>
<td>275</td>
<td>3.8473</td>
<td>1.15825</td>
</tr>
</tbody>
</table>

Source: Field survey (2019).

Table 5a shows four main adopted strategies by respondents. It is observed that low cost rice business strategy (\(\bar{x} = 3.6073; \sigma = 1.24042\)), growth rice business strategy (\(\bar{x} = 3.6873; \sigma = 1.12876\)), value chain rice business strategy (\(\bar{x} = 2.7455; \sigma = 1.09107\)) and differentiation rice business strategy (\(\bar{x} = 3.8473; \sigma = 1.15825\)) have considerable mean score of adoption. The adoption of differentiation strategy appears to be the most embraced based on its highest mean score. Growth rice business strategy and low cost rice business strategy follow in adoption trend. The standard deviation for these rice business strategies shows more divergence from the mean since none of the value is closer to zero.

The Table 5b shows that low cost rice business strategy, growth rice business strategy and differentiation rice business strategy were moderately adopted. The three strategies are accepted based on the fact that they are above the critical point (cut-off point of 3.05). Value chain rice business strategy was considered less adopted based on the fact that the mean value (2.745) is below the critical point (3.05).
Table 5b. Degree of rice business strategy adoption.

<table>
<thead>
<tr>
<th>Adopted strategies</th>
<th>Vle</th>
<th>Le</th>
<th>Me</th>
<th>Ge</th>
<th>Vge</th>
<th>Total</th>
<th>Tyle</th>
<th>Tle</th>
<th>Tme</th>
<th>Tge</th>
<th>Tvege</th>
<th>Total</th>
<th>Mean Score</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low cost</td>
<td>25</td>
<td>30</td>
<td>46</td>
<td>101</td>
<td>73</td>
<td>275</td>
<td>25</td>
<td>60</td>
<td>138</td>
<td>404</td>
<td>365</td>
<td>992</td>
<td>3.607</td>
<td>MA</td>
</tr>
<tr>
<td>Growth</td>
<td>18</td>
<td>25</td>
<td>48</td>
<td>118</td>
<td>66</td>
<td>275</td>
<td>18</td>
<td>50</td>
<td>144</td>
<td>472</td>
<td>330</td>
<td>1014</td>
<td>3.687</td>
<td>MA</td>
</tr>
<tr>
<td>Value chain</td>
<td>23</td>
<td>115</td>
<td>69</td>
<td>45</td>
<td>23</td>
<td>275</td>
<td>23</td>
<td>230</td>
<td>180</td>
<td>115</td>
<td>755</td>
<td>2.745</td>
<td>LA</td>
<td></td>
</tr>
<tr>
<td>Differentiation</td>
<td>19</td>
<td>17</td>
<td>43</td>
<td>104</td>
<td>92</td>
<td>275</td>
<td>19</td>
<td>34</td>
<td>129</td>
<td>416</td>
<td>460</td>
<td>1058</td>
<td>3.847</td>
<td>MA</td>
</tr>
</tbody>
</table>

Source: Field survey (2019).

Note: Cut-off point= Mean point + tolerable error (3.00 + 0.05= 3.05).

MA- Moderate Adoption; LA- Less Adoption.
VLE- Very Low Extent; LE- Low Extent; ME- Moderate Extent; GE- Great Extent; VGE- Very Great Extent

Table 6. Summary of multiple regression analysis of strategies with competitive advantage.

<table>
<thead>
<tr>
<th>Covariates</th>
<th>Coefficients (β)</th>
<th>Error standard(β)</th>
<th>Value of t-Statistic</th>
<th>R² value</th>
<th>Value of F-statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low cost strategy</td>
<td>.406</td>
<td>.138</td>
<td>8.703*</td>
<td>.782</td>
<td>119.337*</td>
</tr>
<tr>
<td>Growth strategy</td>
<td>.161</td>
<td>.132</td>
<td>1.484</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value chain strategy</td>
<td>-.044</td>
<td>.086</td>
<td>.260</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Differentiation</td>
<td>.560</td>
<td>.074</td>
<td>57.573*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: * significant at the 0.01 level; N= 275; Dependent Variable- Competitive Advantage.
The Table 6 shows that 78.2% of the variation in competitive advantage is explained by rice business strategies (such as low cost, growth, value-chain and differentiation). The absence of 21.8% unexplained variation suggests that there are other rice business strategies that can affect the competitive advantage of small scale rice processors in Kogi State. The value of F-statistics (119.337; p = 0.01) shows that the model does not occur by chance, given the level of significance. The model shows a good fit. The co-efficient for low cost strategy (β= 0.406, p = 0.01); growth strategy (β= 0.161, p> 0.01); value chain strategy (β= -0.044, p > 0.05) and differentiation strategy (β= 0.560, p = 0.01) show positive and negative relationship with competitive advantage of small scale rice processors in Kogi State. The results in Table 6 show that low cost strategy and differentiation strategy have significantly positive relationship with the competitive advantage of small scale rice processors in Kogi State. The result shows that 40.6% increase in the adoption of low cost strategy will lead to proportional increase in the competitive advantage of small scale rice processors in Kogi State. Also, 56% change in the adoption of differentiation strategy will lead to proportional change in the competitive advantage of small scale rice processors in Kogi State. Growth strategy and value chain strategy do not have significant relationship with the competitive advantage of small scale rice processors in Kogi State.

4.1. Discussion of Findings

Finally, it was found that rice business strategies have significant effect on competitive advantage of small scale rice processors in Kogi State. This aligns with the position of Agha, Alrubaiiee, and Jamhour (2012) that strategies create competitive advantage. This finding provides clarity and advancement on previous studies (Della Corte & Aria, 2016; Dereli, 2015; Handoko, Aryanto, & So, 2015; Izuchukwu, Long, Shehu, & Olufemi, 2014) that have shown that competitive strategies (low costs and differentiation) influence performance (without stating the specific aspect of performance being referred to). Furthermore, the adoption of low cost and differentiation rice business strategies relates significantly and positively with the competitive advantage of small scale rice processors in Kogi State. This is an indication that the rice processor with low price of rice has the likelihood of competing effectively and outwitting other competitors in Kogi State. Also, the rice processor with a differentiated rice product has the likelihood of competing effectively and outwitting other competitors in Kogi State.

5. CONCLUSION AND RECOMMENDATION

It is no doubt that rice processors need to adopt strategies in the increasingly tough rice business environment of Kogi State. The choice of strategy to adopt must not be based on intuition, but rather on technical ground and analysis. On the general note, rice business strategies inform the rice processors the possibility of achieving competitive advantage. The adoption of low cost and differentiation rice business strategies will yield increased competitive advantage of small scale rice processors in Kogi State. If more resources are channeled towards the development and adoption of low cost and differentiation rice business strategies, the competitive advantage of small scale rice processors will increase in Kogi State. Logically, the rice market of Kogi State will benefit from low price and quality of rice. However, the adoption of two or more rice business strategies is supported by this study. For instance, the finding of this study reveals that low cost and differentiation rice business strategies can be combined to achieve competitive advantage. Thus, the adoption of the combination of rice business strategies will depend on the adequate level of resources, strategic orientation, knowledge and skills of the small scale rice processors in Kogi State. Low costs and differentiation rice business strategies should be combined to achieve increased competitive advantage of small scale rice processors in Kogi State. If more effort is asserted on low costs and differentiation rice business strategies adoption, the competitive advantage of small scale rice processors in Kogi State will reduce. Also, the adoption of the strategies individually can facilitate increased competitive advantage for small scale rice processors in Kogi State. Thus, low costs and differentiation rice business strategies should be adopted individually also to achieve increased competitive advantage of small scale rice processors in Kogi State.
REFERENCES


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