Influence of Business Processes Redesigning on Performance of Milk Processors in Meru County, Kenya

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Authors’ contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

Milk processing firms in Meru County are undertaking a couple of strategic measures directed to improving performance in milk value chain as they collect, process and market milk. However, milk firms still experience challenges in performance due to COVID-19 impact, market challenges, inefficiencies and lack of innovations. The study sought to investigate effects of business process redesigning on performance of milk processing firms. To establish relationship between independent and dependent variables descriptive research design was adopted. The study targeted all three milk processing firms in Meru County. Respondents comprised of all 27 top management staff of milk processing firms. Questionnaires were used to collect data from the respondents. The researcher utilized regression analysis model to determine how study variables are related. Graphs, frequency tables and pie-charts presented data. Researchers only recruited volunteers who willingly provided their permission after receiving enough information about the study’s purpose and risks. The study data was used in an honest manner by the researcher.
Keywords: Process redesigning; performance; Covid-19; capability theory.

1. INTRODUCTION

1.1 Background of the Study

According to Omondi and Wambua [1], various dimensions of strategic planning initiatives including strategic thinking is important to good performance of firms in a competitive environment. Dairy sector firms need to embrace strategic thinking to ensure their finished products are competitive. The dairy value chain in Kenya is key to rural economy and estimated over KSh184 billion (US$2.1 billion), contributing 6-8% of Gross Domestic Product (GDP) from United States Agency for International Development (USAID, 2014). Further according to USAID due to urbanization, nationally the annual per capita milk consumption will increase annually at 3 percent rate for the next ten years, reaching 139 liters by 2022.

Kenya’s dairy sector contributes greatly to nation’s economy, household revenues and food security, however the industry experiences economic, technical and institution challenges in milk produce, processing and marketing. Challenges affect this sector in participating and competing regional and domestic markets [2]. Kenya dairy master plan indicates over 1.8 million people are engaged in milk-based businesses, however the sector generates less profits, low production and slow growth [3]. This is due to low levels of commercialization resulting from poor extension support services, poor business management skills. Therefore, there is need for strategic planning and thinking milk processing firms in the dairy industry to remain competitive in the current set up. Despite the recurring problems faced by most milk processors in Kenya, many have implemented strategic initiatives, begging the question is it the strategic thinking that lacks.

The success of milk companies is related to a number of different variables. Attention evaluating the elements that determine the success of Kenya’s dairy industry, Kinyenje [4] zeroed in on operational issues, finding that value addition and quality management are the most prevalent.

Strategic environmental scanning is key to organizations with increased operational environment complexity. Njoroge, Ongeti, Kinuu and Kasomi [5] indicates that environmental scanning results to exemplary performance with stakeholders being mapped. It does ensure that organization has control measure of working environment thus minimizing uncertainty from an unpredicted environment resulting to increased level of responsiveness. If appropriately carried out, environmental scanning helps in opportunity taking and threat neutralization affecting performance and growth of an organization [6-8].

Strategic thinking resulting from strategic leadership is required to change badly managed organizations to make profits and adaptable to changing environment by realigning processes and operations. Odede [9] noted, process redesigning assists to increase competitiveness, improve customer service, lower costs, and facilitate adoption of new technology. Wanjiku [10] noted, redesigning of operational processes results to improving quality of products, shortening product life-cycle, adding service delivery flexibility, simplifying processes, leading to improvement and good co-ordination in customer onboarding process. Achieng [11] said that process change reduces wastage and costs.

For process redesign to have an impact on operational organization and resource allocation—two factors Mwihaki [12] identified as crucial to achieving exceptional performance—is crucial. Changes to a process should include education and new ideas (Morogo, 2015). However, no research has been conducted specifically on the impact of strategic thinking on the performance of the milk processing industry in Kenya. The impact of senior managers’ strategic thinking abilities on the growth of small and medium-sized businesses was investigated by Poorsadegh and Yazdani [13]. It revealed that the strategic thinking skills of senior executives have a major impact on the fortunes of small and medium-sized businesses.

Pisapia [14] states that strategic thinking is ability to check factors influencing in and out of the firm, to establish strategic direction in guiding organization’s decision making and allocation of resources 3-5 years. According to Bal, Bryde, Fearn, and Ochieng [15], a regular exercise designed to achieve organizational challenges and support the development strategy must be carried out to prevent reputational risk. According to Wanjiru [16], including key stakeholders in change management initiatives is beneficial and promotes creativity, an idea put up by Kamau.
Mangala [18] advocates for engaging employees to ensure harmonization and alignment of individual and organizational goals. Strategic thinking entails ability to check new possibilities with huge information and ability to visualize. Scholars have argued strategic thinking as wide and also based on all firm goals. The ability to think strategically allows managers to assess whether or not their plans will successfully achieve their objectives [14]. Organizations in competitive sectors that distinguish their goods and consistently guarantee employee competence understand the critical nature of refining their competitive strategies [19]. Ouma [20] argues that businesses may attract and keep more consumers by better meeting their wants and expectations. According to Nderitu [21], effective competitive strategies necessitate the use of strategic thinking in order to improve performance in areas such as increasing the firm's capacity and capability, providing distinctive value creation, keeping costs in check, narrowing in on target markets, streamlining operations, and maintaining high standards of quality. According to Sifuna [22], integrating competitive strategies into strategic planning should improve opportunity exploitation, scale economies, capacity utilization, operational efficiency, and mass dissemination.

1.2 Statement of the Problem

Kenyan milk processors have difficulties with production volume, market share, and competitiveness. This is because only around 15% of the milk sold flows via the conventional channels of cooperatives and processors [23]. In addition, the low quality of the milk produced makes the sector uncompetitive on a global scale. Lack of adaptability is Kenya's milk processors' biggest issue (Mwangi, 2013). This results from new competitors' entrance since it was liberalized leading to increased competition for milk and milk products.

Kenya, belonging to Common Market for Eastern and Southern Africa (COMESA) and East African Community (EAC) has allowed increased competition from processors already established leading to intense competition among local processors. It is important for processors to embark on development and implementation of competitive initiative in order to survive and grow. Some aspects of long-term planning that processors should keep in mind while developing and enacting their own strategies, bearing in mind that almost all processors now have plans in place for the next three to five years (Murungi, 2011). Njeri cites the example of Brookside Dairy, whose strategic planning led in significant expansion and improved results [24].

Although many businesses have implemented adjustments as a result of other strategic goals, others have not, and this has caused the market performance of processors to vary widely. This research evaluates the efficacy of strategic planning as a remedy. The topic of strategic thinking and its impact on company performance has not been explored in the existing literature or empirical research on strategic planning. This study seeks to address this gap by establishing the extent having strategic thinking institutionalized by milk processing firms in Kenya and its impact on their performance.

1.3 Research Objective

The general objective of the study was to investigate the influence of business processes redesigning on performance of milk processors in Meru County, Kenya.

1.4 Scope of the Study

This study will be carried out in Meru County and target milk processing firms which are registered by the government. Since there are various theories connected to strategic thinking this study will only discuss resource based view, dynamic capability theory and goal setting theory. Only those participants who give consent will participate in this study. The researcher will take seven months to carry out this study in order to come up with reliable and comprehensive conclusions.

2. LITERATURE REVIEW

2.1 Theoretical Literature Review

2.1.1 Dynamic capability theory

Dynamic capability theory as proposed by Teece (2009) is interested in usage of dynamic capacity by firms to organize, form and readjust capabilities to quickly address emerging scenarios. It distinguishes authoritative capabilities that empower business environment to improve purposes of separation. Pisano (1992) notes dynamic capacities as vital schedule by managers in adjusting their assets,
acquiring and selling assets, incorporating and consolidating them to producing new esteem making methodologies.

This theory does establish the dynamic capabilities adopted by milk processor firms like readjusting firm different assets and capacities to assist in productivity. This theory does support the study to determine how strategic thinking initiatives; business process redesigning and readjustment of competitive strategies constitutes dynamic capabilities.

2.2 Empirical Literature

2.2.1 Influence of business redesigning on firm performance

Business Process Re-Engineering (BPR) has an impact on the development of companies in every sector. According to Mwihaki [12], BPR did have an impact on the efficiency of city and county operations in Nairobi. According to Arora (2014), BPR did lead to the creation of more efficient, less time-consuming, higher-quality ways of doing business. Due to enterprises’ poor managerial skills, little capital, and diminished economies of scale, Bolo, Lorika, and Obonyo (2011) suggested that value chain activities within Kenya’s producer-owned dairy groups are warranted. Inputs, breeding, safe milk management, and external help were all highlighted as areas that businesses should put extra effort into.


Bansal (2013) did find that BPR entails activity change and inputs where output is valuable to customer such as job description management systems and organization frameworks. Kariuki, Iravo and Kihoro (2015) did investigate re-engineering activities for dairy firms in Kenya and did find that value addition was the most profitable practice. Further, Oganda (2017) did find that firms should embrace changes raised by stakeholders particularly farmers. They did discover that companies should prioritize their consumers after achieving value for money, reducing costs, and effectively addressing any issues that arise. While the dairy industry is excluded from the bulk of empirical data, BPR does effect the development of other types of businesses.

Achieng [26] did find that BPR is a major driver of change through efficiency, wastage reduction and reduction of cost. BPR was found to effective in attaining cost leadership and with regard to changing technological and business changes in banking field. Murugu (2015) did find benefits of BPR are usually gotten if clear linkage of production guidelines through amendment of processes and new tools development and initiatives to tackle environment.

2.3 Conceptual Framework

Conceptual framework outlines interlinkage of independent and dependent variables. The relationship was ascertained after carrying out the study.

![Fig. 1. Conceptual framework](image-url)
3. METHODS

Research design guides data collection, analysis and interpreting result findings. Research utilized descriptive research design. Mugenda and Mugenda [27] notes descriptive research design helps in stating, establishing and presenting existing affairs report without manipulating study variables. The purpose to choose descriptive research design was to ensure description of current state was described with regard to strategic thinking for milk processing firms in Meru County.

3.1 Target Population

Sekaran [28], notes that population is total of objects where a sample is derived. The target population will consist of 27 staff in the three milk processing firms in Meru County.

3.2 Sampling Procedures and Techniques

A sample is a section of objects one chooses from population for representation of a large group [27]. Generalization of entire population might be done from characteristics of the sample. Researcher utilized complete census study to attain the study's aim.

3.3 Research Instruments

Questionnaire was utilized to collect data which had open ended and closed ended questions. Questionnaire responses assisted in obtaining information on strategic thinking towards performance of milk processing. Formulation of questionnaires was based on research objectives with two sections; first section aimed at getting personal biodata of respondents and second part study variables details.

4. RESULTS AND DISCUSSION

4.1 Response Rate

The researcher administered 27 questionnaire and 25 were returned dully filled for analysis. The response rate for this study was as follows: there was a response rate of 92.6%. This was an excellent response. According to Cooper and Schindler (2015), a response rate below 40% is unreliable, a response rate of 40%-50% is poor, a response rate of 50%-60% is acceptable for analysis and reporting, a response rate of 60%-70% is good and a response rate of 70%-80% is very good while response of over 80% is excellent.

4.2 Reliability Test

Reliability in research is a measure of the degree to which a research instrument yields consistent results or data after repeated trials (Kothari, 2009). According to Mugenda and Mugenda [27], the reliability index acceptable is between 0.7 and above. On reliability the finding were as follows in Table 1.

The results in Table 1 demonstrate high reliability score for all the variables. From the findings, Cronbach’s for Environmental scanning was 0.742, Business process redesigning was 0.736, Stakeholders’ engagement was 0.708, Competitive strategies was 0.741 and Performance was 0.744. This therefore indicates that the Cronbach’s values for this study was greater than 0.7 threshold. It was therefore concluded that the research instrument was reliable.

4.3 Respondent Demographic Information

The study sought to establish the demographic information of respondents. The demographic information included gender of respondents, age bracket and length of service.

4.4 Gender of Respondents

Gender was viewed as a factor that may influence the respondents’ attitude in relation to the strategies used by mobile providers. On gender the response was as follows in Table 2.

Table 1. Reliability of results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cronbach’s Alpha</th>
<th>Number of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental scanning</td>
<td>0.742</td>
<td>5</td>
</tr>
<tr>
<td>Business process redesigning</td>
<td>0.736</td>
<td>6</td>
</tr>
<tr>
<td>Stakeholders’ engagement</td>
<td>0.708</td>
<td>5</td>
</tr>
<tr>
<td>Competitive strategies</td>
<td>0.741</td>
<td>5</td>
</tr>
<tr>
<td>Performance</td>
<td>0.744</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: Research Data (2018)
The study sought to establish the gender of the respondents. From the study findings as illustrated on Table 2, majority of the respondents 60% were male while 41% were female. This indicates that male respondents were the dominant gender in this study. However, the study was not gender biased for the female representation was fair.

### 4.5 Age Bracket of the Respondents

Variety in age was regarded as a factor that may influence respondents’ opinion on strategies used. The respondents were required to indicate their age bracket and the response was as follows in Table 3.

<table>
<thead>
<tr>
<th>Age</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-25</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>26-35 Years</td>
<td>10</td>
<td>40</td>
</tr>
<tr>
<td>36 – 45 Years</td>
<td>6</td>
<td>24</td>
</tr>
<tr>
<td>46 and above</td>
<td>6</td>
<td>24</td>
</tr>
<tr>
<td>Total</td>
<td>25</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The study findings were as follows; 12% of respondents were 18-25 years, 40% of respondents were 26-35 years, 24% of respondents were 36-45 years while 24% of respondents were 46 years and above. This indicates that majority of the respondents were 26-35 years.

### 4.6 Length of Service

In this category, the respondents were asked how long they had served in the company.

<table>
<thead>
<tr>
<th>Service</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 5 Years</td>
<td>4</td>
<td>16</td>
</tr>
<tr>
<td>6-10 Years</td>
<td>9</td>
<td>36</td>
</tr>
<tr>
<td>11 – 15Years</td>
<td>7</td>
<td>28</td>
</tr>
<tr>
<td>16 Years and</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>above</td>
<td>total</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The study findings indicated that 16% of respondents had worked below 5 years, 36% of respondents had worked between 6-10 years, and 28% of respondents had worked for 11-15 years while 20% of respondents had worked for 16 years and above. This indicates that most of the respondents had worked for 6-10 years. This indicates that most of the respondents had been in the organization for over 5 years and were in a position to offer reliable information related to strategic practices.

### 4.7 Descriptive Analysis of Study Variables

Mugenda and Mugenda [27] define descriptive statistics as the analysis of data that helps describe, show or summarize data in a meaningful way and highlighted that descriptive statistics is useful to summarize group of data using a combination of tabulated description.

### 4.8 Business Processes Redesigning Strategies

The study sought to evaluate influence of business processes redesigning on performance of milk processors in Meru County, Kenya. The respondents used a Likert scale of 1 – 5 such that; 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree and 5 = Strongly Agree.

<table>
<thead>
<tr>
<th>Statements</th>
<th>7</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluating production procedures leads to improved performance of our milk processing firm</td>
<td>3.68</td>
<td>0.943</td>
</tr>
<tr>
<td>Minimizing of wastes and where possible encouraging recycling leads to improved performance of the milk processing firm</td>
<td>3.69</td>
<td>0.897</td>
</tr>
<tr>
<td>Identifying and spotting opportunities leads to improved performance</td>
<td>3.65</td>
<td>0.881</td>
</tr>
<tr>
<td>Overall Mean</td>
<td>3.673</td>
<td>0.907</td>
</tr>
</tbody>
</table>
Findings from Table 5, respondents agreed with the statement that evaluating production procedures leads to improved performance of milk processing firm with a mean of 3.68 and a standard deviation of 0.943, on whether minimizing of wastes and where possible encouraging recycling leads to improved performance of the milk processing firm the respondents were in agreement with the statement as indicated by a mean of 3.69 and a standard deviation of 0.897 indicating that responses were not very much varied. The respondents also agreed that identifying and spotting opportunities leads to improved performance as supported by a mean of 3.65 and a standard deviation of 0.881. on overall performance the respondents agreed with all the aspects of business process redesigning as depicted by a Mean of 3.673 and a standard deviation of 0.907.

4.9 Inferential Statistics

4.9.1 Multiple regression analysis

Multivariate regression analysis was used to determine the significance of the relationship between the dependent variable and all the independent variables pooled together. This analysis indicates how the independent variables influence the dependent variable collectively and to what extent each independent variable affects the dependent variable. The results are indicated in the model summary in Table 6.

In Table 6, R is the correlation coefficient which indicates the relationship between the study variables, from the findings it is notable that there exists a strong positive relationship between the study variables as shown by 0.767. The coefficient of determination that is the percentage variation determination in the dependent variable that supported by the variation in independent variables is indicated by the R square which is 0.688. This implies that 68.8 % of the variance in performance can be explained by; environmental scanning, business process redesigning, stakeholders’ engagement and Refinement of competitive strategies. This indicates that 31.2% of the changes can be explained by other factors.

From the ANOVA statics, the study established the regression model had a significance level of 0.001% which is an indication that the data was ideal for making a conclusion on the population parameters as the value of significance was less than 0.05. F (30.001) statistic is the regression mean divided by the residue mean. The significant value shown by 0.001 is smaller than estimated value of 0.05 which implies that the data was significant for making conclusion that is the predictors variable; Environmental Scanning, Business Process Redesigning, stakeholders’ engagement, Refinement of competitive strategies.

The model is statistically significance in predicting the considered factor Business Process Redesigning affect the performance of milk processors in Meru County, Kenya.

4.10 Regression Coefficients

From the model if all the factors are constant the performance of milk processors in Meru County will be at an index of 1.13. a unit increase in business process redesigning will cause an increase index of 0.273 on performance.

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.767</td>
<td>0.688</td>
<td>0.679</td>
<td>2.705</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), environmental scanning, business process redesigning, stakeholders’ engagement, Refinement of competitive strategies

Source: Researcher (2023)

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>12.841</td>
<td>1</td>
<td>3.210</td>
<td>30.001</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>8.991</td>
<td>24</td>
<td>.107</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>21.832</td>
<td>25</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: performance
b. Predictors: (Constant), Environmental Scanning, Business Process Redesigning, stakeholders’ engagement, Refinement of competitive strategies
Table 8. Regressions of coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>1.136</td>
<td>.226</td>
<td>5.026</td>
</tr>
<tr>
<td></td>
<td>.317</td>
<td>.127</td>
<td>.051</td>
<td>2.496</td>
</tr>
<tr>
<td></td>
<td>.273</td>
<td>.102</td>
<td>.002</td>
<td>2.676</td>
</tr>
<tr>
<td></td>
<td>.199</td>
<td>.085</td>
<td>.087</td>
<td>2.341</td>
</tr>
<tr>
<td></td>
<td>.107</td>
<td>.104</td>
<td>.025</td>
<td>1.029</td>
</tr>
</tbody>
</table>

a. Dependent Variable: performance of milk processors in Meru County

From the analyzed data in Table the established regression equation was:

\[ Y = 1.136 + 0.273X2 \]

Where;

\( X1 = \text{Business Process Redesigning}, \)

5. SUMMARY OF THE RESULTS

In evaluating influence of business processes redesigning on performance of milk processors in Meru County, Kenya. Respondents agreed with the statement that evaluating production procedures leads to improved performance of milk processing firm, on whether minimizing of wastes and where possible encouraging recycling leads to improved performance of the milk processing firm the respondents were in agreement with the statement and also agreed that identifying and spotting opportunities leads to improved performance.

6. CONCLUSION

From the findings of the study, it can be concluded that business processes redesigning strategies have an influence on performance of milk processing firms in Meru County. The study indicated that there exists a strong positive relationship between the study variables as shown by 0.767. The coefficient of determination that is the percentage variation determination in the dependent variable that supported by the variation in independent variables is indicated by the R square which is 0.688. This implies that 68.8% of the variance in performance can be explained by; business process redesigning strategies. The study also concluded that model if all the factors are constant the performance of milk processors in Meru County will be at an index of 1.13. a unit increase in environmental scanning holding other factors constant will cause the performance to increase by an index of 0.317, while a unit increase in business process redesigning will cause an increase index of 0.273 on performance. Similarly, a unit increase in stakeholder’s engagement and refinement of competitive strategies will cause an index increase of 0.199 and 0.107 on performance respectively.

7. RECOMMENDATIONS

The study also business process redesigning strategies had a positive effect on performance. It is therefore recommended that milk processing firms to identify and spot opportunities that leads to improved performance.

8. STUDY LIMITATIONS

There might be challenge in information getting and records from management fearing that the details of milk processing firm might be exposed. Mitigation of this fear will to assure management the aim for acquiring information and records will be for research only and information acquired will be treated confidentially.

Lack of cooperation by some respondents owing to busy schedule in their firms. Mitigation will be by organizing convenient time during meeting in the morning or lunch hour to give them questionnaires

CONSENT

As per international standard or university standard, Participants’ written consent has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES


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