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The Deployment of structural Manufacturing Strategy Decisions to Achieve Successful Operational Performance of Food Processing Companies in Cameroon

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ABSTRACT:

This paper focused on the deployment of structural manufacturing strategy decisions, to achieve success in the operational Performance of food processing companies in Fako division and Littoral Region, Cameroon. The first objective of the study was to examine the effects of structural decisions on operational performance of food processing firms in fako and Littoral region of Cameroon. The research questions and hypothesis were formulated to work with the research objective. A causal and survey research design was adopted for the study and a sample size of 339 respondents was drawn from the population of 724 food processing firms. The major instrument for data collection was a semi structured questionnaire administered to the respondents using a five Lickert scale for proportionate representation from the population. The data collected was analysed using partial least square structural equation modeling and partial least square path modeling, multiple regression analysis and ordered logit regression. Results showed that integration decisions have significant effects on operational performance at 0.05 level of significance and 95% confidence level, while facility, process and capacity decisions were insignificant. Based on the findings of the analysis, the study concludes that, the dimensions of structural decisions should be implemented to help firms navigate complex and ever-changing business environment successfully and to improve overall operational performance of these companies.

KEYWORD*: structural* *manufacturing strategydecisions and operational performance*.

Background of the Study

One of the main purposes of a research on manufacturing strategy is proof of identity of the drivers of high operating performance, and more recently the sustainability of competitive advantage (Ketokivi and Schroeder, 2004). According to Denekamp (2017), The link between practice and operating performance (activities and results) has been the focus for much of the manufacturing strategy research where the typical dependent variable has been some kind of measure of competitive performance, whether it is financial (e.g., ROCE, ROA, market share) or operational (quality, delivery, service etc.) performance regarding competition.

According to (Jacobs, Swink & Linderman, 2015), the Food processing companies in Africa have demonstrated slow growth, both in size and market growth. According to Lăzăroiu, 2015, In 2011 the industry was valued at about $1.39 billion followed by a 10% growth in 2012 and 17% growth in the following year, the sector is currently assessed at over $2.9 billion, slightly larger than the Indian food processing market and almost 15 times smaller than the United States market ($9.7 billion). The West African region and in particular Nigeria as well as East African region, Central Africa and South Africa in particular are seen as the key drivers of this growth. West Africa and East Africa enjoyed tremendous growth rates, with 26% to $123 million and 18% to $89 million respectively since 2011. Both regions also benefited from immense natural resources wealth, a growing middle class, foreign investment and an improved manufacturing base. In contrast, South Africa, which is a predominant heavyweight in the African food processing market experienced, slowed growth in GDP. According to Tanui, 2015, This was mainly attributed to instability resulting from waves of strikes in the mining sector, election period interruptions, reduced domestic and foreign investment leading to a mere 4.5% growth in food processing.

In Cameroon, there has been a minimal growth in the number of food processing companies especially in the city of Douala where many organisations and business companies have their head offices, and Buea which is the headquarter of south west region. This is largely attributed to the modern trend of information research being relied upon in many establishments of different institutions as well as expansionary policies adopted by the Government (Cheruiyot, 2011). This sector is estimated to contribute approximately 51% of the country's GDP. Like the rest of the world, Cameroon food processing industry is dominated by foreign food processing companies (Mungai, 2012). According to Aaker 2012, Most of the resident food processing firms continually face financial uncertainty, poor turnover levels, poor reputation, poor leads from customers, inadequate skills and resources and often have little experience compared to their foreign counterpart, making a lot of Cameroonians to depend more on unprocessed foods directly from the farms. For this reason, many new food processing companies begin operations every year and hardly close down their operations since food is a basic necessity.

Statement of the Problem

Despite the successes of the government and donor agencies in the improvement of production systems through research, a research carried out by festus (1993) revealed that there is persistence increase in post-harvest losses of food crop in Cameroon. This is attributed to inappropriate harvesting techniques, poor and limited transportation systems, rudimentary storage technologies, inefficient processing and packaging technologies.

Processing technologies that exist in Cameroon for the transformation of cereal, grain, legumes, roots, tubers and leafy vegetables into a broad variety of locally manufactured products include drying, milling and fermentation. These technologies are rudimentary in Cameroon leading to inconsistency in production and unhygienic products. Access to improved technologies is limited by inadequate capital and information. However, some private institutions utilise improved technologies in oil processing, rice and corn milling and fruit processing.

Packaging is still depended on traditional technologies with materials such as leaves sticks and wood, with a wide variety of food marketed in the open leading to environmental health and regulatory problems. Improved packaging in tins and cans has been limited to private concerns and public corporation that have access to capital and information. Most food crop production in Cameroon takes place in rural areas, which are far away from the consumption and manufacturing centres the urban areas. The absence of adequate all-season transport infrastructure hampers the movement of food to marketing centres. The transportation of goods by head load, animals, canoes, and unsuitable vehicles aggravates food spoilage and increases losses. Improvements to this situation are hindered by the lack of credit, low farmer incomes, and inadequate information and no or poor manufacturing decisions.

Numerous lacks are found in the transportation sphere of the processed foods marketing system of Cameroon. A few good roads link up the urban areas but farm to market roads are both unpaved and poorly maintained. In the rainy season particularly, regular market connections are hard to establish between most parts of the country due to poor road infrastructure. Also, means of transportation such as vehicles are inadequate and unreliable. Consequently, in most cases transportation is a major marketing cost component. It accounts for about 50% of the total marketing costs and in some cases up to 70% especially as production and consumption areas are separated by long distances. Transport constraints also exaggerate post-harvest losses with a great deal of consequences on the supply and demand balances due to the resulting limitations on the flows of food commodities and little or no manufacturing opportunities in the rural areas, most of the processing is done in urban areas.

According to Sama, Festus and Ayisi (1993), Cameroon food crop producers are confronted with a number of problems and constraints identified to include land, tenure, cropping systems, technical knowhow, pest diseases, climatic and demographic problems. The socio cultural nature of most ethnic groups in Cameroon is characterised by communal ownership of land distributed by traditional rulers. So there is little investment on the farms since the land is not private property. Farmers mostly practice mixed cropping. The population of Cameroon (about 15 million is increasing at an alarming rate of 4% per annum and urban population growth is estimated at 9% due to rural urban migration.

Unlike export crops the production and marketing of food crops have been left entirely to the private sector. Note that the contemporary commercial atmosphere is described by aggressive competition. Business organizations are forced to employ strategies that will give them a competitive advantage over their competitors (Barney, 2014). Thus, the firms have become aggressive and more dynamic in identifying and implementing strategies that guarantee survival through superior operational performance. Therefore, manufacturing strategic management decisions have become a key ingredient for all food crop manufacturing companies that want to survive in this kind of business environment (Melby, 2015). As a concern, the essence of operational performance is the creation of value. Thus, putting in place good structural and infrastructural decisions in food manufacturing generates equal to or greater value than the expected, to achieve healthy, hygienic products and to meet the objectives of the firm.

Cameroon is made up of a variety of ethnic groups with different cultures they have different languages, believes, taste. Preferences and attitude towards production and consumption of food, Factors like this slow down food production leading to poor development in food crop manufacturing. Cameroon has an average production deficit of 70000 tons of milk a year. the availability of mambo, chocolate has greatly reduced recently, not withstanding, there is great competitions in the biscuit industry and the ability to retain customers is a great challenge as compared to their foreign counterparts. Over and above these challenges, Fincham, Mohe and Seidle (2013) and Srinivasan (2014) observed that the nature of service delivery, flexibility offered by food processing companies are difficult to study, quantify and measure hence many stakeholders pay little attention in monitoring the operational performance of this segment. Notwithstanding it may be possible to measure the cost, quality, quantity, capacity of the production machines.

None the less, the diverse nature of products and services provided by these companies, the manufacturing strategic management literature has not addressed the issue of operating performance dimensions of the food processing companies in Cameroon with respect to decision making. More so, the dimensions proposed by manufacturers and manufacturing companies in the field have not been proven and tested analytically (Hill, 2018). Thus, very little information exists on the operational performance of food processing companies in Cameroon with respect to decision making. Meanwhile, the

identified difficulties experienced by the food processing companies can be addressed by a suitable content of manufacturing strategy that comprises of structural and infrastructural decisions to embrace the potential for restructuring these organizations towards enhancing their operating performance through understanding of customers' needs, increasing production capacity, good facility locations and operation of resources (Slack, 2015). Since operating performance is a concept that practically originates from manufacturing strategy of an organisation especially with regards to competitive priorities, structural and infrastructural decisions such as production control, packaging management, supply and distribution management.

Dynamic Capability Theory (Teece and Pisano, 1994)

Dynamic capabilities are defined as the firm's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments (Teece et al.,1997).Thus, some types of dynamic capabilities integrate firm's resources (e.g., processes/routines involving product development and strategic decision making). Other types involve the reconfiguration of resources within the firm (e.g., Knowledge transfer and collaboration).

The Knowledge Based View of the Firm (Grant, 1996)

The main proponent of the Knowledge-based view (KBV) of the firm is Robert Grant in 1996 in his article "Towards a Knowledge-Based Theory of the Firm". KBV is a management concept of organisational learning that provides firms with strategies for achieving competitive advantage. This is achieved through increased employee involvement in the formulation and administration of the operational goals and long-term transformational objectives of the firm. Also, the continuous acquisition and transfer of knowledge within business organisation is necessitated by such factor as ever-changing competitive condition in market initiated by globalisation, frequent deregulation and technical advancement.

4.1.1 Structural Decision Categories

Structural decision category was the first independent variable of the study. The variable was adopted in the study because of its relevance in influencing the operational performance of food processing firms as proposed by RBV theory which posits that possession of key resources together with their effective development and deployment enables organisations to achieve and sustain competitive advantage. Structural decision category comprised of product design decisions, facility decisions, process and capacity decisions and integration decisions. Structural decision category is one of the key components of manufacturing strategy decisions that addresses questions on product design, facilities used, processes and capacity, integration and how key organisational decisions are made and configured in order to deliver desired value to the organisation (Slack, 2015). The variable was operationalised using product design, facilities, process and capacity and integration.

Product Design Decision

This was operationalised by determining product design requirements, identifying the relevant product designs, attracting the identified designs, producing the identified designs through; identifying how the design process typically begins, the shape, colour, texture, flexibility and usability of the product, the consistency in producing the design adopted, continuous improvement and innovation of the product design adopted from the works of Wandiga, Kilika, and James (2017) and Slack, (2015) who identified product design as a structural decision category, The questionnaire wanted to measure the extent to which each food processing firm acquires and organises product designs. Table 4.5 Presents the mean score of the responses of each attribute of product design and their respective standard deviation.

Facility Decision

Facility decision was the second element of structural decision category as an independent variable in the study. The sub variable was adopted because of the relative importance of facilities such as adequate machines, factory space, factory location, furniture and other equipment that facilitate smooth operations of the food processing firms in achieving their objectives. Food processing firms set up factories where they carry out production tasks, planning for customers' work and in most cases food production for the customers is carried out in the food processing factories. Facility decision was measured through location and layout based on the works of Shi, Ye, Lu & Hu (2014). In this section, the respondents were required to express their opinion on the extent to which the food processing firm establishes a plan that identifies the type, quantity and location of spaces required as a decision to enhance food production and to fully support the organisations business initiatives. Table 4.5 provides the mean scores and their respective standard deviation for each attribute of facility decisions.

Process and Capacity Decision

Process and capacity decision was the third element of structural decision category as an independent variable in the study. The sub variable was adopted because of the relative importance of capacities of production machines and production processes put in place such as adequate machines capacities, process type that facilitate smooth operations of the food processing firms in achieving their objectives. The machine capacities and processes put in place should be able to meet up with current and future demand. In this section, the respondents were required to express their opinion on the extent to

which processes and capacity as a structural decision enhance the operations of the food processing firm; Table 4.5 provides the mean scores and their respective standard deviation for each attribute of process and capacity decision.

Integration Decisions

Integration decision was the fourth element of structural decision category as an independent variable in the study. The sub variable was adopted because of the relative importance of sources of raw materials and market outlet, mergers, acquisition and takeover decisions that facilitate the smooth operations of the food processing firms in achieving their objectives. The integration decision put in place should be able to meet up with current and future demand. In this section, the respondents were required to express their opinion on the extent to which integration as a structural decision enhance the operations of the food processing firm; Table 4.5 provides the mean scores and their respective standard deviation for each attribute of integration decision.

Table 4.3: Descriptive Statistics for Structural Decisions

Variable	Obs	Mean	Std. Dev.	Min	Max
Integration decisions	309	4.201	.394	2.364	5
Product Design Decisions	309	4.125	.479	2.25	5
Facility Decisions	309	4.165	.477	2	5
Process and Capacity	309	4.182	.536	2.25	5
Structural Decisions Categ	309	41.868	22.327	3.563	80.563
Female	308	.451	.498	0	1
Age bellow 40	309	.155	.363	0	1
Age 40-55	261	.521	.501	0	1
Age above 55	309	.233	.423	0	1
educ1	309	.249	.433	0	1
educ2	309	.68	.467	0	1
educ3	309	.071	.258	0	1
experience1	309	.379	.486	0	1
experience2	309	.621	.486	0	1
Small	309	.175	.38	0	1
Medium	309	.233	.423	0	1
Large	309	.592	.492	0	1

The overall mean score for the variable was noted to be 4.20 and a standard deviation of 0.394 for integration decisions with focus on vertical integration, horizontal integration and diversification. Based on the aggregate mean it is noted that facility decisions had a mean of 4.12 and a standard deviation of 0.477. Also, products design decisions had an aggregate mean of 4.13 and a standard deviation of 0.479, process and capacity decisions had a mean of 4.18 and a standard deviation of 0.536. These findings were consistent with the findings of Mills and Smith, (2011) who observed that structural manufacturing strategy decisions are related to the operational performance of the firm.

Table 4.5: Descriptive Statistics for Structural Decision Categories

Statement	**Mean**	**Std. Deviation**
design process typically begins from brainstorming a and idea generation	4.10	0.391
The shape, colour, space, texture, of the product is gotten the design	4.13	0.477

Innovation and continuous programs are incorporated into the product design	4.18	0.511
Aggregate for product design decisions	**4.13**	**0.394**
The availability of land, labour, capital, material sources, markets, production facilities, influence your choice of facility location	4.15	0.455
The production process, technology, safety measures influence machine arrangement and facility layout	4.13	0.491
Combining various set of resources to achieve synergy hence	4.10	0.481
Improving overall performance.		
Structures, customers' involvement, resource flexibility are incorporated into the product line.	4.18	0.423
The food processing company has incorporated facility decisions into its production process	4.30	0.413
Aggregate for facility decisions	**4.17**	**0.477**
The food production process involve ingredient , mixing, blending, preparation, cooling, packaging and storage	4.19	.474
Has standardization(Same products) and Customisation (unique products),continuous and interval production been adopted	4.07	0.513
There is measurement of workflows to determine insufficient, optimal or excess capacity.	4.14	0.522
The machines available can produce in large quantity to meet demand.	4.11	0.542
Aggregate for Process and Capacity Decisions	**4.18**	**0.536**
The company has its own sources of raw material and market outlet	4.98	0.395
The business acquires other businesses in the same business line as an expansionary strategy	4.90	0.357
The company has diversified by introducing new but unrelated products into its production line.	4.09	0.414
The methods of integration adopted align with the operational performance of the company	4.08	.377
Aggregate for integration decisions	**4.20**	**0.394**

The results in Table 4.5 show that most food processing firms have a design process that begins from brainstorming and idea generation to achieve the desired results a mean score of 4.10 and a standard deviation of 0.391 were computed, The shape, color, space, texture, form, value, movability of the product is conceived from the product design with a mean score of 4.13 and a standard deviation of 0.477. In addition, food processing firms in Fako and Littoral region of the County constantly produce products consistently, appealing and usable to the customers with a mean score of 4.18 and a standard deviation of 0.511 Furthermore, they also incorporate innovation and continuous improvement methods into the product design as identified in their structural decision categories with a mean score of 4.13 and a standard deviation of 3.94.

Further, the results show that food processing firms in Fako and Litoral endeavor to identify the set of relevant facilities required and the availability of land, labour, capital, material sources, production facilities, available markets influence the choice of facility location, with a mean score of 4.15 and a standard deviation of 0.455 and the production process, technology and safety measure influence machine arrangement and facility layout to avoid mishaps as shown by a mean score of 4.13 and a standard deviation of 0.491 Based on the results it is observed that most food processing firms in the Litoral and Fako division of the County consider structures, customer's involvement and resource flexibility when choosing the product line. Also, the facility layout ensure smooth flow of production and packaging processes in the food processing factory

It is also noted that there is a lot of discrepancy among the food processing firms in Douala, Limbe, Buea, Mutengene, Muyuka Regarding management of their production facilities with the standard deviation ranging from .413 to 491.On aggregate, facility decisions had a mean score of 4.17 and a standard deviation of 0.477. This indicated that taking facility decisions was accentuated and practiced at a moderate level by food processing firms in Fako division and the city of Douala therefore had a moderate effect on their performance. These findings were consistent with the observations of Barney (1991) who emphasised on choosing the right facilities to gain sustainable competitive advantage and superior performance. Similar results were posted by Ngina (2018), who noted that a well-designed and executed facility decision is vital as it gives the firm a competitive advantage. At the same time the results agreed with Kithusi (2015) who found that organizational facilities and entrepreneurial strategy impacts on the overall operational performance of the firm. The results were also consistent with the findings of Ombaka, Machuki and Mahasi (2015) who revealed that firm's facilities have an impact on the performance and These findings were consistent with the findings of Myeda and Pitt (2014) who found that firms with well formulated FM strategies and Objectives will successfully attain optimum efficiency in the survival strategy and increasing prosperity of its future.

The results in table 4.5 further show that most of the respondents were of the opinion that the food production process involve ingredient, preparation, mixing, blending, cooking, cooling, packaging and storage to a great extent as shown by a mean score of 4.19 and a standard deviation of 0.474. In addition, Food processing firms have incorporated standardization (same products) and customization (unique products) in form of continuous and job

production as production process to a great extent with a mean score of 4.07 and a standard deviation of 0.513 Furthermore the study noted that the food processing firms ensure that there is measurement, analysis of workflows to determine insufficient, optimal or excess volume of production machines to a low extent as shown by a mean score of 4.14 and a standard deviation of 0.522 The information obtained is well evaluated by the food processing firm to ascertain its relevance and usefulness to the firm to a low extent with a mean score of 4.11 and a standard deviation of 0.542. Food processing firms regularly identify the work force and machines available to ensure production in large quantities to meet demand so as to provide better products to customers to a low extent with a mean score of 4.18 and a standard deviation of 0.536.

Finally, with regard to integration decisions, the study noted that the food processing firms have their own sources of raw material and market outlet; this was supported by a mean score of 4.98 and a standard deviation of 0.395. The business acquires other businesses in the same business line as an expansionary strategy shown by a mean score of 4.90 and a standard deviation of 0.357. The company has diversified by introducing new but unrelated products into its production line this was shown by a mean score of 4.09 and a standard deviation of 0.414. The food processing firms regularly identify the methods of integration adopted align with the operational performance of the company with a mean score of 4.28 and a standard deviation of 0.377.

4.1 Inferential Results

These are statistics used to judge probability values that an observed difference between groups is dependent on one or more things that may happen by chance. It makes inferences and predictions on population based sample.

4.2.1 Test of Hypothesis

Hypothesis testing was done through multiple linear regression analysis, ordered logistic regression, and partial least square with the use of structural equation models (SMART-PLS). The results of the tests were interpreted through the adjusted R2 values and P values at $P < 0.05$ significance level. The variables under study were regressed on operational performance indicators and a composite measure for all the variables computed to reflect overall variables. The hypothesis for direct relationship was first presented followed by mediated relationship hypothesis. Recall the following hypothesis was stated. They were tested in the respective order.

4.2.2 Test of Direct Relationship Hypotheses

Multiple regression analysis, ordered logistic regression and partial least square regression was conducted at 95 percent confidence level ($\alpha = 0.05$) with firm operational performance as the dependent variable and manufacturing strategy decisions as the independent variable. The purpose of the study was to investigate the interrelationship between manufacturing strategy decisions, core competence and operational performance of food processing companies in Fako and the Littoral region of Cameroon. The empirical model was of the form: $OP = \alpha_0 + \alpha_1 PD_i + \alpha_2 FD_i + \alpha_3 PCD_i + \alpha_4 IND_i + \alpha_5$age of the firm + $\alpha_6$size of the firm+$\alpha_7$sector of activity+ $\alpha_8$experience +$\alpha_9$level of education + ε_i

4.2.2.1 At Individual level of Structural decision categories

//If data is normally distributed// we use linear regression or Pearson correlation which are Parametric regression///

*****Linear Regression at individual value of Structural Decisions//**

Table 4.15 Summery of Linear regression

Operational Perf	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Product Design	-.02	.045	-0.45	.654	-.11	.069	
Facility Decision	-.026	.048	-0.54	.592	-.12	.069	
Process and Capa	-.045	.042	-1.06	.288	-.128	.038	
Integration Decis	.491	.072	6.86	0.001	.35	.631	***
Female	-.027	.045	-0.59	.558	-.116	.063	
Age2	.071	.058	1.22	.224	-.044	.186	
Age3	.094	.065	1.45	.148	-.034	.222	
educ1(O and A le)	-.182	.094	-1.94	.003	-.367	.003	*
educ2(HND and BSC)	-.12	.086	-1.40	.163	-.29	.049	
experience1	-.013	.047	-0.28	.778	-.106	.079	
Small	-.05	.06	-0.83	.406	-.169	.069	

Medium	-.03	.054	-0.55	.583	-.136	.077	
Constant	2.614	.403	6.49	0.00	1.82	3.407	***
Mean dependent var		4.205	SD dependent var		0.382		
R-squared		0.204	Number of obs		260		
F-test		5.285	Prob > F		0.000		
Akaike crit. (AIC)		202.932	Bayesian crit. (BIC)		249.221		

*** *p<.01, ** p<.05, * p<.1*

Operating Performance = 2.614 - 0.02Pd - 0.026Fd - 0.045pcd+ 0.491Id + ε

The model above shows the values generated at individual level from the linear regression for structural decision categories

The results in Table 4.15 show the model fit, which establishes how the model equation fits the data. The regression coefficient (R) is observed and integration decisions had a coefficient of 0.491 with a p value of 0.00, which was significant at 1% level of significance at 99% confidence level, indicating that a unit increase in integration decisions will improve operational performance by 49.1% meaning that firms should be able to secure their own sources of raw materials and market outlet, know when to acquire, merge or take over other firms. educational level 1 which denoted the number of ordinary and advance level holders in the company was also significant at 10% level of significance and 90% confidence level with a negative value of 0.182 and a p value of -0.053 meaning that a unit increase in the number of ordinary and advance level holders in the company compared to degree holders will decreases operational performance by 18.2%.

in addition, product design decisions had a coefficient of -0.02 with a p value of 0.654, which means that product design decisions is not significant and has no effect on operational performance of the firm. Facility decisions had a negative coefficient of -0.26, process and capacity decisions had a coefficient of -0.45 indicating that it was not significant at 95% confidence level this could be attributed to the fact that the use of sophisticated machines is practiced by few large firms, meaning that facility decision, process and capacity decisions will be more applicable in the developed countries with a wide variety of production machines. The adjusted R^2 was used to establish the predictive power of the study model and it was found to be 0.204 implying that 20.4% of the variation in operational performance is explained by structural decision categories (product design, facility, process and capacity and integration decisions).The remaining 79.6 % of variation in operational performance is explained by other variables other than the ones in the model.

***** At Aggregate value of Structural Decision//**

Table 4.16 Linear regression Summery

Operational perf	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Structural Decision	-.001	.001	-0.90	.368	-.003	.001	
Female	-.046	.049	-0.93	.355	-.142	.051	
Age2	.065	.063	1.04	.299	-.058	.188	
Age3	.133	.07	1.92	.056	-.004	.271	*
educ1	-.236	.101	-2.34	.02	-.434	-.037	**
educ2	-.143	.094	-1.52	.129	-.327	.042	
experience1	.035	.05	0.71	.479	-.063	.133	
Small	-.087	.065	-1.35	.18	-.215	.041	
Medium	-.034	.059	-0.58	.563	-.15	.082	
Constant	4.361	.11	39.54	0	4.144	4.578	***

Mean dependent var	4.205	SD dependent var	0.382
R-squared	0.052	Number of obs	260
F-test	1.512	Prob > F	0.144
Akaike crit. (AIC)	242.576	Bayesian crit. (BIC)	278.183

*** *p<.01, ** p<.05, * p<.1*

/If data is not normally distributed// we use Non-Parametric regression which are Ordinal regression or Spearman Rank correlation//

Operating Performance =4 .361 - 0.001sd + ε

The results in Table 4.16 show the model for structural decision categories on an aggregate level, which establishes how the model equation fits the data. The adjusted R^2 was used to establish the predictive power of the study model and it was found to be 0.052 implying that 5.2% of the variation in operational performance is explained by structural decisions. At the same time the F statistic for F (1.512) = 0.144 is less than the F critical (table value = 2.43), which shows that the overall model for structural decision categories was not significant and adequate to predict operational performance.

Furthermore, Age 3 which represents 40 to 55 was significant at 10% level of significance and 90% confidence interval, meaning a unit increase of workers between 40 to 55years of age will increase operational performance by 13.3%. Also, level of education 1 which represents the number of ordinary and advance level holders was negatively significant at 5% level of significance and 95% confidence level, meaning that a unit increase of the number of ordinary and advance level holders in the company as opposed to degree holders will reduce operational performance by 23.6%.

*****Ordered Logistic Regression at individual value of Structural manufacturing decisions//** Table 4.17: Ordered logistic regression Summery

Operational performance	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Product design	-.059	.238	-0.25	.805	-.525	.407	
Facility decisions	-.189	.242	-0.78	.433	-.663	.284	
Process and capaci	-.266	.217	-1.23	.22	-.69	.159	
Integration dec	2.79	.396	7.04	0.00	2.013	3.567	***
Female	-.148	.225	-0.66	.51	-.589	.293	
O	0	.	.	.	.	.	
Age2	.104	.224	0.47	.64	-.334	.543	
educ1	-1.069	.496	-2.15	.001	-2.042	-.097	**
educ2	-.785	.465	-1.69	.004	-1.698	.127	*
experience1	-.098	.232	-0.42	.673	-.554	.358	
Small	-.454	.295	-1.54	.124	-1.033	.125	
Medium	-.199	.265	-0.75	.453	-.719	.321	
cut1	2.599	2.299	.b	.b	-1.907	7.104	
cut2	3.314	2.193	.b	.b	-.985	7.612	
cut3	3.737	2.157	.b	.b	-.49	7.964	
cut4	4.277	2.127	.b	.b	.108	8.446	
cut5	4.469	2.12	.b	.b	.315	8.624	

Mean dependent var	4.205	SD dependent var	0.382
Pseudo r-squared	0.043	Number of obs	260
Chi-square	62.862	Prob > chi2	0.000
Akaike crit. (AIC)	1460.407	Bayesian crit. (BIC)	1577.909

**** p<.01, ** p<.05, * p<.1*

From the results in Table 4.17 the regression model is summarized as follows;

OpPerf= 2.599 - 0.189Pd - 0.026Fd - 0.266pcd+ 2.79Id -1.069ed1-0.785ed2+ ε

The results in Table 4.17 show the model fit, which establishes how the model equation fits the data. The regression coefficient (R) is observed and integration decisions had a coefficient of 2.79 with a p value of 0.00, which was significant at 1% level of significance with a 99% confidence level, indicating that a unit increase in integration decisions will improve operational performance by 2.79 units meaning that firms should be able to secure their own sources of raw materials and market outlet, know when to acquire, merge or take over other firms. educational level 1 which denoted the number

of ordinary and advance level holders in the company was also significant at 10% with a negative value of 1.069 with a p value of -0.031 meaning that a unit increase in the number of ordinary and advance level holders in the company compared to degree holders will decreases operational performance by 1.07 units.

in addition, product design decisions had a coefficient of -0.059 with a p value of 0.805, which means that product design decisions is not significant and has no effect on operational performance of the firm. Facility decisions had a negative coefficient of -0.26, process and capacity decisions had a coefficient of -0.45 indicating that it was not significant at 95% confidence level this could be attributed to the fact that the use of sophisticated machines is practiced by few large firms, meaning that facility decision, process and capacity decisions will be more applicable in the developed countries with a wide variety of production machines. The adjusted R^2 was used to establish the predictive power of the study model and it was found to be0.204 implying that 20.4% of the variation in operational performance is explained by structural decision categories (product design, facility, process and capacity and integration decisions). The remaining 79.6 % of variation in operational performance is explained by other variables other than the ones in the model.

Furthermore, educational level 2 was significant at 10% level of significance and 90 % confidence level indicating that a unit decrease of Bsc degree holders in the firm will lead to a 0.7 units decrease in operational performance. The chi-square test was used to test the overall significance of the model show that a unit increase in structural decisions will increase operational performance by 62.9%.

4.3.1 Discursion of Hypothesis One

The first objective of the study was to determine the effect of structural decision category on operational performance of food processing firms in the Fako and Littoral region of Cameroon. The corresponding null hypothesis ($H_{01)}$ was that a structural decision category has no significant effect on operational performance of food processing firms in the Fako and Littoral regions of Cameroon. The results in Table 4.21 show a standardized beta coefficient of β= -0.90 and P-value of -0.003. The null hypothesis was rejected since the p-value was greater than 0.05. This means that a structural decision category at aggregate level has no significant positive effect on operational performance of food processing firms in Fako and Littoral region of Cameroon. The study therefore concluded that structural decision category with regards to integration decision was significant in determining operational performance of food processing firms in Fako and Littoral regions of Cameroon, structural decisions such as product design, facility, process and capacity decision was not significant in predicting operational performance of food processing firms in the Fako and Littoral regions of Cameroon.

The conclusion on this hypothesis was explained on the basis of several points; namely the demographic characteristics and control variables of the respondents, the descriptive statistics of the independent variable, previous researches and supporting theories. In terms of demographic characteristics and control variables, the study reported that approximately 99% of the respondents were in the category of partners, general managers, directors, supervisors, departmental managers and chief executive officers whose role in the food processing firms is directly connected with the focus of the variable which is to come up with the product design, acquire facilities, determine the process and capacities and make vertical integration decisions which are aspects of structural decision category. The variable want to establish the extent to which the firm's policy for identifying structural decisions to be made and organising them to their maximum utility was emphasized and practiced.

The study was conducted on seven areas of food processing: baked foods, dairy foods, pastry foods, dried processed food, cooked food, fried food, steamed food. The study reported that baked food had the highest proportion at 40.7% followed by cooked food at 27.8%, dried processed food 23.1% while steam and fried food 8.3% of food processing firms in Fako and a Littoral region of Cameroon. To be able to deliver value to customers, these firms must be able to make good structural decisions such as coming up with good product designs, having the necessary facilities with adequate machine capacities, good process layout to utilize resources in terms of finances, personnel and technology that will enable them gain competitive advantage in the market. According to Uwera (2022); Adams and Wynn (2017),Muchungu (2012), for marketing and functional strategies to be effective, immense resources are required in developing customer confidence and improving customer engagement. At the same time human resource management require adequate resource for attracting, selecting and recruiting the right personnel as observed by Rose, Abdullah & Ismad (2010) and Ombaka, Machuki and Mahasi (2015). Food processing firms require resources for putting in place good product designs, facilities with adequate capacities and well organized processes the required structural decisions in the form of software, manpower and physical resources do deliver quality product to their customers. Finally, structural decisions in food processing firms need to carefully consider the required resources and exploit them in the most efficient way in order to develop the most optimal manufacturing strategy decisions for their customers.

The results were also explained by the fact that majority of the respondents (61.1%) had worked in the food processing firms for between one and five years, 17.6% for six to ten years and 13.0% for over ten years. This indicates that through experience the respondents were aware of the importance of structural manufacturing decisions as a strategy adopted by the food processing firms. Firms generate value from resources through appropriate combination and deployment which is a process that takes time in order to achieve desired objectives. Therefore by having experienced managers the study enables a deeper understanding of the role played by managers in creating value from the resources, developing rarity and resource specificity which results in competitive advantage and improved operational performance in line with the VRION Framework espoused by the RBV theory.

The study relied on Resource-Based View (RBV) of the firm as one of the theories to explain the phenomenon. Wernerfelt (1984) and Barney (1986) stated that possession of key resources together with their effective development and deployment enables

organizations to achieve and sustain competitive advantage. The theory further states that resources must be heterogeneous, immobile and must be valuable in a way that delivers value to the firm and rare so as to deliver a unique value compared to other firms in the industry. Therefore, food processing firms always seek to possess these facilities with adequate capacities so as to gain competitive advantage and improve their operational performance. The

outstanding aspects of this theory are the emphasis on the "VRION" Framework whose focus is creating value, ensuring rarity, inimitability, organizational specificity and non- substitutability of resources. Even though the study did not focus on all dimensions of the VRION framework, the dimensions of value and organization specificity were addressed through creating value and combining resources with the use of facilities with adequate capacities through the right processes. Thus the use of facilities seem not to be well applied in the sector as adequate facilities for manufacturing are possessed by few large firms in Fako and Littoral region of Cameroon, and integration decisions have a positive effect on operational performance.

The descriptive statistics on the independent variable had an aggregate mean score of

4.02 Which was at moderate level of emphasis and practice? In considering the structural manufacturing decisions of the variable which focused on developing a plan in advance for organization product design, the required facilities, capacities and processes and sources of raw material and market outlet of the manufactured products to customers. Identification and acquisition of required resources, customization of resources to create value and combining the resources to achieve synergy, it is possible for a moderate level of emphasis and practice of the variable to have a positive effect on operational performance of few food processing firms if they possess the required facilities with adequate production capacity and processes that will also permit good and sophisticated product designs from firms. These findings indicates that for food processing firms to realise maximum benefits from the structural decision category, they must not only identify, attract and obtain the resources needed but they must also be in a position to combine and configure them appropriately so as to create and deliver value to customers.

The study conducted by Myeda and Pitt (2014) on Malaysian facility management practitices focusing on the role of facility management decisions in facilitating organisational performance found firms with well formulated facility management strategies and objectives will successfully attain optimum efficiency in the survival strategy and increasing prosperity of its future. Chotipanich and Lertariyanun (2011) conducted a study on facility management strategy among commercial banks in Thailand and identified four types of facility management strategies; cost focused, facility performance focused, business value focused, and workplace focused which enhance organization performance. Backus and Brull (2022), Amaratunga and Baldry (2000) conducted a study on assessment of facilities management performance in higher education properties and reported that the balance score card is a useful tool is evaluating facility performance in higher education establishments. These previous studies concur with the current study on the importance of facility management decisions on operational performance of firms despite this study indicating that the effect is not significant.

The previous studies by Amaratunga and Baldry (2000); Chotipanich and Lertariyanun (2011); Fraser (2014); Myeda and Pitt (2014) indicate that there has been gaps in the way the variable has been operationalized as some looked at assessment of facilities management, capacities and processes on performance and identifying facility management decisions, capacity and process decisions, there has been gaps in failure to link facility strategy, capacity and processes with performance, gaps in the sector in which the studies were conducted as some were conducted in education institutions and commercial banks which clearly need elaborate decisions and strategy on facilities as compared to food processing firms and others were based on theoretical review thus lacking empirical support. The findings of this study adds knowledge to strategic management field through linking facility decisions, process and capacity decisions and product design with performance of food processing firms and also facilitates generalization of findings that facility strategy impacts performance of organizations even though the extent of impact depends on the sector in which the study is conducted.

In view of these, the findings on hypothesis one make an important contribution to knowledge in strategic management in several ways. First, previous studies by Rose, Abdullah and Ismad (2010); Kithusi (2015); Ombaka, Machuki and Mahasi (2015), Meneske, Seckin and Umut (2022) had indicated that there is a gap in the use of the construct of structural decisions with regards to integration in general, the studies were in other sectors and that performance of food processing firms had been directly linked to integration decisions. Through this finding the study provides an understanding on the link between structural decisions and operational performance. Secondly, the previous studies were done on other sectors and since the findings are in agreement with those of the current study, the current study provides evidence that the findings obtained earlier can be generalized in food processing firms in spite of their unique characteristics.

Recommendation

Firms should implement structural decision categories such as integration to ensure that firms are able to secure their sources of raw material and market outlet.

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