

Impact of Vendor Evaluation in the Business Performances of Food Industry Firms: An Empirical Study

Mr. Dnyaneshwar Hirachand Ghuge

Research Scholar

Savitribai Phule Pune University

dnyaneshwarghuge10@gmail.com

Dr Yogesh W Bhowte

Professor and Research Guide

Sinhgad Institute of

Management and Computer Applications Narhe Pune.

Savitribai Phule Pune University.

Email ybhowte@gmail.com

Abstract

Evaluating suppliers is a crucial task for most companies, often entailing a complex analysis of various parameters and variables. This complexity is heightened for companies sourcing diverse products globally from suppliers of different cultural backgrounds. Meeting demands across sustainability, food safety, origin, and quality adds to the challenge. Robust supplier evaluation holds significant business importance for several reasons. Firstly, it aids in identifying risk factors and underlying inefficiencies, enabling proactive problem-solving. Secondly, it enhances performance visibility, empowering companies to pinpoint areas for improvement. This, in turn, can drive better performance from suppliers by providing clearer insights into necessary enhancements or procedural adjustments. Sample of 216 vendors associated with food industry were surveyed with the help of a questionnaire to know the impact of Vendor Evaluation in the Business Performances of Food Industry Firms and concludes that there is significant Impact of Vendor Evaluation in the Business Performances of Food Industry Firms.

Keywords: Vendor, Evaluation, Business, Performances, Suppliers

Introduction

Vendor evaluation is an integral aspect of cGMP (current Good Manufacturing Practice) aimed at ensuring that procured products meet stringent quality standards. Its primary goal is to prevent the acquisition of substandard products from vendors, thereby safeguarding quality standards, regulatory compliance, and patient safety. Vendor evaluation, through both quantitative and qualitative assessments, serves to qualify vendors/suppliers, ensuring they align with organizational standards and obligations. This process is pivotal for maintaining a

secure and reputable portfolio. By monitoring vendor/supplier performance in terms of quality and compliance, vendor evaluation facilitates continuous improvement efforts, thus enhancing overall product quality and regulatory adherence. (Vamsi et al., 2020). Efficient management of the entire process within the food industry is crucial for achieving the organization's key strategic goals. However, several factors have hampered the performance and productivity of food industry supply chain systems, thereby impeding the organization's ability to meet customer demand targets. Consequently, there's a pressing need to evaluate the performance of the food industry's supply chain system to pinpoint the factors restricting its efficiency. This evaluation aims to facilitate ongoing improvements across the entire process, ensuring a continuous enhancement of end-to-end operations.

Multiple Criteria Decision Making (MCDM) methods find numerous applications in manufacturing companies, including the food industry, particularly in supplier evaluation for selection and segmentation purposes (Govindan et al., 2015). However, there is a noticeable absence of proposals tailored to the food distribution sector, particularly for supermarket chains. Managing the food supply chain sustainably presents unique challenges, primarily because of the constant fluctuation in product quality until they reach the end consumer. In addition to sustainability concerns, consumers prioritize attributes such as quality and safety when it comes to food products (Bloemhof and Soysal, 2017; Grimm et al., 2014). Utilizing vendor rating is crucial to ensure suppliers adhere to agreed-upon terms and conditions. Monitoring the sustainability efforts of suppliers is particularly vital, as some may sign contracts despite knowing they won't meet sustainability standards, simply to seize a business opportunity.

Ideally, supplier evaluations should lead to improved business performance (Mutethia, 2018). However, recent trends in the public sector reveal a prevalent reliance on the "lowest price" criterion when selecting suppliers, often overlooking factors like time, quality, and other significant considerations. Addressing the supplier evaluation process is crucial for consistently engaging competent suppliers in corporate operations (Kavinya, 2018). This research is motivated by the scarcity of empirical focus on supplier appraisal and relationship establishment in emerging markets, particularly in sub-Saharan countries like Ghana. Furthermore, it expands the application of resource-based theory to examine supplier appraisal and its impact on firm performance. Companies employ both subjective and objective methods for supplier assessment. Objective methods gauge supplier performance, while subjective methods rely on personal judgments, often leveraging various departmental insights.

Vendor rating encompasses quantitative data such as delivery, price, and quality, primarily for existing suppliers. In the food industry, maintaining stringent quality standards is imperative to ensure consumer safety and satisfaction. Vendor evaluation plays a crucial role in assessing the quality of raw materials and ingredients supplied. By partnering with vendors known for consistently delivering high-quality products, firms can uphold their quality standards and mitigate the risk of product recalls or customer dissatisfaction stemming from inferior ingredients.

Literature Review

The results of **Makinde et al. (2020)** concludes that workstations one, three, four and five in food manufacturing organization XYZ fall below the expected overall “key performance compliance threshold” of at least 75%. Future research should prioritize addressing the “low-Key Performance Indicators (KPIs)” that require improvement in these affected workstations. This prioritization aims to enhance the overall performance of the food organization's supply chain system. The Hierarchical Structural Interaction Matrix (HSIM) can be employed for this purpose.

Assessing the effectiveness of linkages across an organization's end-to-end processes is essential for driving continuous process improvement, a critical factor in enhancing organizational productivity significantly. On one hand, evaluating an organization's supply chain system determines its advancement levels. On the other hand, it identifies various factors that hinder optimal supply chain operation, guiding the implementation of suitable actions to enhance product quality, process efficiencies, and overall supply chain performance (**Maestrini et al., 2017**).

Namdar et al. (2018) Companies within the supply chain rely heavily on their supply base, which consists of the suppliers they utilize. Hence, one crucial factor influencing supply chain success is the selection of suppliers. Supplier selection decisions and vendor rating are pivotal in establishing a strategically competitive position within the supply chain (**Dai & Blackhurst, 2012**). In practice, two common approaches to supplier selection are single-sourcing and multi-sourcing. Single-sourcing is suitable when a single supplier can meet requirements effectively. Effective vendor evaluation aids in identifying suppliers offering competitive pricing while maintaining quality standards. By negotiating advantageous terms with vendors and choosing those providing optimal value for money, food industry firms can manage costs and enhance profit margins. Regular evaluation also facilitates the identification of opportunities to streamline procurement processes and reduce unnecessary expenses.

Traditional criteria for supplier selection and evaluation typically encompass product quality, product cost, delivery reliability, technological capabilities, production capacity, service quality, geographic location, management proficiency, and financial stability (**Liu et al., 2019**). Traditional criteria for supplier selection require reevaluation as sustainability increasingly influences supplier selection decisions. Integrating environmental criteria into the supplier selection process is becoming standard practice. Vendors play pivotal roles in the supply chain, and their performance significantly influences operational efficiency. By assessing vendors based on factors like reliability, responsiveness, and delivery times, food industry firms can maintain seamless material flow and reduce disruptions. This is essential for adhering to production schedules, minimizing inventory holding costs, and meeting customer demand promptly.

Kaur and Singh (2019) suggest that implementing sustainable practices as criteria for evaluating suppliers can foster competition among them, incentivizing efforts to, for instance, reduce carbon emissions. One approach to supplier selection utilizes the triple bottom line, assessing suppliers across economic, social, and environmental dimensions. However, evaluating suppliers can become complex when considering environmental and social criteria

due to potentially insufficient information about supplier performance in these areas. Therefore, selecting supplier selection and evaluation criteria should be informed by available supplier information. It's essential to recognize that environmental protection is indispensable for companies to achieve sustainable economic development in the future.

In their case study on various companies **Luzzini et al. (2014)** devised a vendor evaluation system and highlighted that vendor rating is typically reserved for qualified suppliers who have received orders. They noted that vendor rating commonly involves the assessment of Key Performance Indicators (KPIs). During the development of these KPIs, different departments within the companies—such as quality, purchasing, finance, and accounting—contributed their expertise. The authors underscored the significance of involving diverse departments in the vendor rating process. They stressed the importance of departmental involvement in designing the steps of the vendor rating process, determining which department should oversee each step, and selecting Key Performance Indicators. Additionally, they mentioned that sometimes, Key Performance Indicators were standardized using a set of weights to derive a score for each supplier.

Suppliers stand as the key player in this chain, holding immense significance. Decisions regarding supplier selection are pivotal in mitigating overall purchasing costs, upholding quality standards, and enhancing performance. It's imperative for firms to make prudent choices when selecting suppliers, forging enduring strategic partnerships to secure long-term competitive advantages and bolster performance. In the catering industry, supplier selection assumes a critical role (**Fu, 2019; Amorim et al., 2016**). The rise of urbanization has spurred economic, social, and cultural shifts, leading to a proliferation of businesses operating in the catering sector. Establishing strategic partnerships between suppliers and service providers can yield competitive advantages in supply chain management. The effectiveness of a supply chain hinges directly on selecting the most suitable suppliers.

Vendor evaluation is not just about assessing performance metrics but also about fostering strong relationships with suppliers. Collaborative relationships built on trust and mutual respect can lead to better communication, problem-solving, and long-term partnerships. Strong vendor relationships often result in preferential treatment, access to exclusive resources, and shared knowledge, which can further enhance business performances. Overall, effective vendor evaluation in the food industry is essential for ensuring quality, controlling costs, maintaining supply chain efficiency, fostering innovation, managing risks, and building strong partnerships, all of which contribute to improved business performances.

Objective

1. To know the Impact of Vendor Evaluation in the Business Performances of Food Industry Firms.

Methodology

Sample of 216 vendors associated with food industry were surveyed with the help of a questionnaire to know the impact of Vendor Evaluation in the Business Performances of Food Industry Firms. “Random sampling method” was used to collect the data and “multiple linear regression” was applied to get the results.

Findings

In 216 respondents, males are 64.3% and females are 35.7%. 34.3% are below 37 years of age, 41.2% are between 37-47 years of age and rest 24.5% are above 47 years of age. 32.9% are having the work experience in food industry of >5 years, 43.5% from 5-10 years and rest 23.6% are in food industry from <10 years.

Table 1 General Details

Variable	Respondents	Percentage
Gender		
Male	139	64.3
Female	77	35.7
Total	216	100
Age		
Below 37 yrs	74	34.3
37-47 yrs	89	41.2
Above 47 yrs	53	24.5
Total	216	100
Work experience		
>5 years	71	32.9
5-10 years	94	43.5
< 10 years	51	23.6
Total	216	100

Table 2 Impact of Vendor Evaluation in the Business Performances

S. No.	Impact of Vendor Evaluation in the Business Performances
1.	Quality assurance help firms to uphold their own quality standards
2.	Quality assurance reduce the risk of product recalls or customer dissatisfaction due to subpar ingredients
3.	Cost control helps in identifying suppliers offering competitive pricing without compromising quality
4.	Supply chain efficiency evaluation in food industry firms ensure a smooth flow of materials and minimize disruptions
5.	Innovation evaluation helps to collaborate with vendors that demonstrate a commitment to research and development
6.	Differentiation allows food industry firms to differentiate their products in the market
7.	Compliance and Risk Management mitigate the risk of regulatory violations, lawsuits, and damage to reputation associated with non-compliance
8.	Relationship building result in preferential treatment, access to exclusive resources, and shared knowledge
DV	Overall Impact of Vendor Evaluation in the Business Performances

“Multiple Linear Regression”**Table 3 “Model Summary”**

“Model”	“R”	“R Square”	“Adjusted R Square”	“Std. Error of the Estimate”
1	.778 ^a	.606	.591	.58929
a. Predictors: (Constant), help firms to uphold their own quality standards, reduce the risk of product recalls or customer dissatisfaction, helps in identifying suppliers offering competitive pricing, ensure a smooth flow of materials and minimize disruptions, helps to collaborate with vendors, help firms to differentiate their products in the market, mitigate the risk of regulatory violations and damage to reputation associated with non-compliance, result in preferential treatment, access to exclusive resources, and shared knowledge				

The Value of adjusted R square is 0.591 and the model explains around 60% of the variation.

“Table 4 ANOVA”

“Model”		“Sum of Squares”	“df”	“Mean Square”	“F”	“Sig.”
1	Regression	110.543	8	13.818	39.791	.000 ^b
	Residual	71.883	207	.347		
	Total	182.426	215			
a. Dependent Variable: Overall Impact of Vendor Evaluation in the Business Performances						

The table above elucidates the influence of independent variables on the dependent variable. A significance value of 0.000 indicates that one or more variables have a significant impact on the dependent variable.

“Table 5 Coefficients”

“Model”	“Un standardized Coefficients”		“Standardized Coefficients”	“t”	“Sig.”
	“B”	“Std. Error”	“Beta”		
(Contant)	-.978	.276		-3.541	.000
Help firms to uphold their own quality standards	.110	.039	.135	2.842	.005
Reduce the risk of product recalls or customer dissatisfaction	.104	.049	.105	2.142	.033
Helps in identifying suppliers offering competitive pricing	.110	.048	.114	2.279	.024
Ensure a smooth flow of materials and minimize disruptions	.159	.045	.175	3.565	.000
Helps to collaborate with vendors	.155	.069	.149	2.265	.025

Help firms to differentiate their products in the market	.178	.077	.159	2.315	.022
Mitigate the risk of regulatory violations and damage to reputation associated with non-compliance	.263	.071	.235	3.715	.000
Results in preferential treatment, access to exclusive resources, and shared knowledge	.167	.047	.164	3.526	.001
a. DV: Overall Impact of Vendor Evaluation in the Business Performances					

Table above shows that all the 8 variables help firms to uphold their own quality standards, cut the risk of product recalls or customer dissatisfaction, helps in identifying suppliers offering competitive pricing, ensure a smooth flow of materials and minimize disruptions, helps to collaborate with vendors, help firms to differentiate their products in the market, mitigate the risk of regulatory violations and damage to reputation associated with non-compliance, result in preferential treatment, access to exclusive resources, and shared knowledge are showing significant Impact of Vendor Evaluation in the Business Performances. Highest impact is shown by Mitigate the risk of regulatory violations and damage to reputation associated with non-compliance with beta value .235 followed by Ensure a smooth flow of materials and minimize disruptions (.175), Results in preferential treatment, access to exclusive resources, and shared knowledge (.164), Help firms to differentiate their products in the market (.159), Helps to collaborate with vendors (.149), Help firms to uphold their own quality standards (.135), Helps in identifying suppliers offering competitive pricing (.114) and Reduce the risk of product recalls or customer dissatisfaction with beta value .105.

Conclusion

Meeting high-quality expectations enables the sale of local products, necessitating suppliers' collaboration with other members of the short supply chain to respond proactively to evolving consumer demands. Utilizing supplier evaluation forms, as mentioned earlier, can serve as a fundamental communication tool. In short supply chains of local products, written supplier evaluations are not common; however, verbal feedback between customers and suppliers is prevalent. As suppliers significantly contribute to an organization's success, the need for vendor rating has emerged. Thus, companies should gather information about their suppliers' strengths and weaknesses. Systematically collecting supplier performance data enables companies to negotiate future contracts effectively. Supplier assessment can occur at four levels: product, process, quality assurance system, and company levels. Typically, companies focus on product and process levels. At the product level, emphasis lies on establishing and enhancing product quality, involving arrival and quality control to assess received product quality, which is often linked to the production process.

The study was conducted to Impact of Vendor Evaluation in the Business Performances of Food Industry Firms and concludes that there is significant Impact of Vendor Evaluation in the Business Performances of Food Industry Firms.

References

1. Mutethia, W. G. (2018). Effect of supplier appraisal on performance of manufacturing firms in Nairobi County, Kenya, *J. Int. Bus. Innov. Strat. Manag.* 1 (4), 126-145.
2. Kavinya, L. P. (2018). Influence of supplier appraisal criteria on procurement performance of petroleum companies in Kenya: a case of dal bit petroleum limited, *J. Int. Bus. Innov. Strat. Manag.* 1(2), 1-20.
3. Vamsi, B., Kumar, H., Patel, P. R., Gowrav, M. P. (2020). Vendor Qualification and Evaluation in Pharmaceutical Industry; *International journal of research in pharmaceutical sciences*, 11(2):1987-1994.
4. Govindan, K., Rajendran, S., Sarkis, J. and Murugesan, P. (2015) Multi criteria decision making approaches for green supplier evaluation and selection: A literature review. *J. Clean Prod.*, 98, 66-83.
5. Bloemhof, J. M., Soysal, M. (2017). Sustainable food supply chain design. In *Sustainable Supply Chains. A Research-Based Textbook on Operations and Strategy*; Bouchery, Y., Corbett, C.J., Jan, C., Fransoo, J.C., Tan, T., Eds.; Springer: Basel, Switzerland, 4, 395-412.
6. Grimm, J. H., Hofstetter, J. S., Sarkis, J. (2014). Critical factors for sub-supplier management: A sustainable food supply chains perspective. *Int. J. Prod. Econ.*, 152, 159–173.
7. Makinde, O., Mowandi, T., Munyai, T., Ayomoh, M. (2020). Performance evaluation of the supply chain system of a food product manufacturing system using a questionnaire-based approach. *Procedia Manufacturing*, 43, 751–757.
8. Maestrini, V., Luzzini, D., Maccarrone, P. and Caniato, F. (2017). Supply chain performance measurement systems: a systematic review and research agenda. *International Journal of Production Economics*, 183, 299-315.
9. Namdar, J., Li, X., Sawhney, R., & Pradhan, N. (2018). Supply chain resilience for single and multiple sourcing in the presence of disruption risks. *International Journal of Production Research*, 56(6), 2339-2360.
10. Dai, J., & Blackhurst, J. (2012). A four-phase AHP±QFD approach for supplier assessment: a sustainability perspective. *International Journal of Production Research*, 50(19), 5474-5490.
11. Liu, Y., Eckert, C., Yannou-Le Bris, G., & Petit, G. (2019). A fuzzy decision tool to evaluate the sustainable performance of suppliers in an agri-food value chain. *Computers & Industrial Engineering*, 127, 196-212.
12. Kaur, H., & Singh, S. P. (2019). Sustainable procurement and logistics for disaster resilient supply chain. *Annals of Operations Research*, 283(1), 309-354.
13. Luzzini, D., Caniato, F., & Spina, G. (2014). Designing vendor evaluation systems: An empirical analysis. *Journal of Purchasing and Supply Management*, 20(2), 113-129.
14. Fu, Y. K. (2019). An integrated approach to catering supplier selection using AHP-ARASMC GP methodology. *Journal of Air Transport Management*, 75, 164-169.

15. Amorim, P., Curcio, E., Almada-Lobo, B., Barbosa-Povoa, A. P. F. D., & Grossmann, I. E. (2016). Supplier selection in the processed food industry under uncertainty. *European Journal of Operational Research*, 252(3), 801-814.