

ORDER ACCURACY AND OPERATIONAL PERFORMANCE OF FOOD AND BEVERAGES FIRMS IN RIVERS STATE

MAC-ADIKI Doris NADUBE Paul M.

Department of Marketing, Faculty of Administration and Management
Rivers State University Nkpolu-Oroworukwo, Port Harcourt

Abstract

This study examined the correlation between order accuracy and operational performance of food and beverages firms in Rivers State. Operational performance was measured using operation efficiency and operational effectiveness. In carrying out the study, a cross-sectional survey research design was adopted. The population of study comprised 27 food and beverages firms in Rivers State. The entire population was surveyed. 4 respondents were drawn from each of 27 food and beverages firms, totalling 108 respondents to whom questionnaire was administered. Test of hypotheses was done using Pearson Product Moment Correlation with the aid of statistical packages for social sciences (SPSS) version 25.0. The study found that order accuracy has a very strong positive correlation with operational efficiency and a strong positive correlation with operational effectiveness of food and beverages firms in Rivers State. Based on the findings, the study concludes that order accuracy significantly relate to operational performance of food and beverages firms in Rivers State; and recommends that food and beverages firms should invest in training programs focused on order accuracy, so as to enhance operational efficiency and operational effectiveness.

Keywords: Order accuracy, operational effectiveness, operational efficiency, operational performance

Introduction

Today's business environment is highly competitive, such that the survival of firm increasingly depend on focusing on areas of operation that were hitherto, not accorded sufficient attention. One such area is supply chain management (SCM), which has been discovered to have the potential to enhance a firm's responsiveness to supply chain vagaries and confer competitive advantage (Abdul-Hamid et al., 2020; Doan, 2020).

Competition has always been the reason for continuous improvement. Firms' quest for competitive advantage has been the driver of sundry SCM practices and approaches (Tsai, 2007). McGinnis and Vallopra (2006, as cited in Song et al., 2017) suggests that companies engage in a number of logistics and supply chain management activities aimed at serving customers and achieving predetermined goals. Order fulfilment is one of these activities; and success in order fulfilment depends on order accuracy.

Order accuracy is thus a critical component in supply chain management, and one that is frequently associated with operational performance. This is because inaccurate orders often lead to increased costs, lower customer satisfaction and significant impact on a company reputation and financial performance. With the rise of e-commerce and consumer demands for rapid delivery and high service quality, companies are becoming increasingly aware that order accuracy is not merely a logistical concern but a strategic priority. Studies have shown that businesses with higher order accuracy rates enjoy reduced return rates, higher customer retention and decreased operational costs (Huo et al., 2019; Roldan et al., 2020).

Conversely, organizations struggling with order inaccuracies face risk of operational inefficiency and loss of competitive advantage (Sweeney et al., 2021). Advances in technology have made it easier for organizations to achieve higher order accuracy. However, the integration of these technologies into existing operations present challenges that must be carefully managed to avoid disruptions that could negate the benefits of improved accuracy (Jain et al., 2023).

Despite the benefits associated with order accuracy, firms still struggle to achieve and maintain consistency in order accuracy. Research indicates that order inaccuracies remain prevalent across industries, with average error rates of 1% to 5% being reported (Zhang et al., 2022). These inaccuracies stem from systemic issues, including human error, outdated technology and poor intra-network communication.

Nonetheless, order accuracy remains a significant issue in logistics and supply chain management, especially, with respect to its relevance to operational performance. Therefore, this study examined the relationship between order accuracy and operational performance of food and beverage firms in Rivers State. The study is conceptualized in fig. 1.

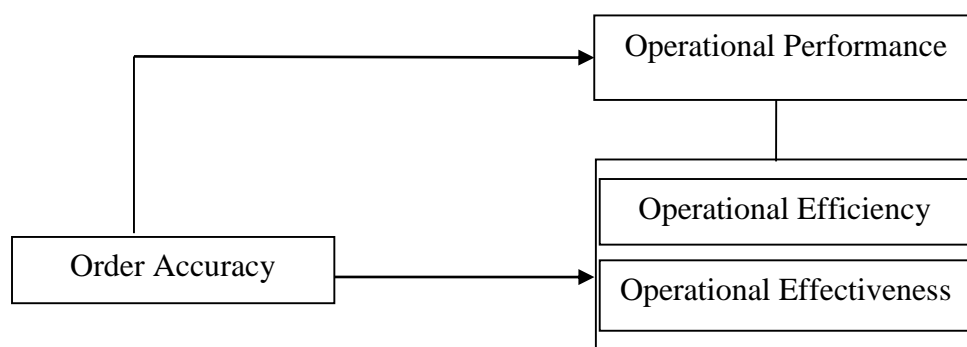


Fig. 1: Conceptual framework of relationship between order accuracy and operational performance of food and beverages firms in Rivers State.

Theoretical Foundation

The theoretical foundation for this study is resource based view (RBV) of the firm which espoused that the growth and development of firms depend on their internal resources. According to RBV, for a firm to achieve a competitive advantage, it must have adequate resources in order to build the capacity to engage in market activities (Zehir et al., 2016). Bae and Park (2017) indicated that resources are the major determinant of corporate performance. However, company resources must be unique such that firms are able to utilize them efficiently to achieve growth and development (Costa, Cool & Dierickx 2013).

RBV has been deployed in many studies to explain conditions associated with industries (Hatak et al., 2016). RBV ascertained that companies that have an upper-hand in the business environment are those that have adequate resources (Peteraf & Barney, 2003). Thus, RBV was employed in this study to explain the conditions associated with business operation.

RBV indicates a firm's superiority in a market is determined by the available resources. The theory attests that company resources are heterogeneous and that the strength of a company is its resource competitiveness. Before a firm can dominate a market area, managers ought to ensure that resources within the industry are adequate so that the firm can adequately utilize resources to achieve intended goals and objectives (Miller et al., 2015). RBV shows firms can achieve and sustain operational and performance superiority if they can utilize internal resources in ways that cannot be easily copied by rivals (Chrisman & Holt, 2016).

Concept of Order Accuracy

Order accuracy refers to the degree to which customers receive the correct items in the correct quantities and in a timely manner. Accurate order fulfilment is crucial for customer satisfaction, operational efficiency and overall business success. High rate of order accuracy directly impact

customer satisfaction. Customers expect to receive exactly what they ordered, and inaccuracies can lead to dissatisfaction, returns and loss of trust in the brand.

According to Kumar and Singh (2023), 73% of consumers reported that they would be unlikely to shop with a retailer again after receiving an incorrect order. Order accuracy impacts operational costs. Errors in order fulfilment often lead to returns, additional shipping costs and labour costs associated with processing returns. Bowers and Morgan (2022) found that businesses with a strong focus on improving order accuracy experienced a 30% reduction in return-related costs.

Order accuracy also plays a vital role in the supply chain. Inaccurate orders can disrupt inventory management and forecasting, leading to stock outs or overstock situations. Lim and Rajendran (2022) highlighted states that companies that achieve higher order accuracy report significant improvements in their supply chain metrics, including inventory turnover rates.

Thompson et al. (2023) argue that retailers can improve order fulfilment accuracy by integrating advanced scanning technologies in their warehouses. Adequate staff training and appropriate staffing levels are critical. An under-trained workforce or insufficient staffing can lead to fulfilment errors. A recent survey indicated that companies which prioritized employee training saw a 20% increase in order accuracy (Smith & Lee, 2023).

Order accuracy is a critical metric in supply chain and logistics that directly influences operational performance. By ensuring that orders are processed, fulfilled and delivered accurately, companies can realize significant gains in operational efficiency, effectiveness and cost minimization. Order accuracy improves operational efficiency by streamlining processes and reducing the need for rework. When orders are accurate, organizations can minimize time spent on correcting mistakes.

Concept of Operational Performance

The aim of every organization is to outperform rivals (Gunasekaran & Kobu, 2007). Operational performance describes how well a firm uses its assets from its core operations and generate revenues over a given period of time. This measure is thus compared to some given industrial average standard of similar firms in the same industry (Mwichigi & Waiganjo, 2014).

According to Malonza (2014), operational performance encompasses production reliability and defect rates, production cycle time, on time delivery, cost of quality and scrap minimization, productivity, and inventory. Operational performance is the foundation of quality practices and the general performance of organisations (Sharma & Modgil, 2020; Chavez et al., 2015); and is often gauged in terms of market share, financial performance, stakeholder satisfaction, innovation and environmental sustainability, responsiveness, innovation, etc. (Sylva, 2020; McCardle et al., 2019).

Thus, operational performance addresses measurable organizational outcomes (Santos, et al., 2019; Azim et al., 2015). According to Chahal et al. (2020) and Salem (2013), operational performance is not just critical; it is the backbone of organisational performance. This means that without operations going as planned, organizational performance would be a mirage. In this sense, a company's operational performance also highlights its competitive position in the supply chain (Santoso et al. 2022; Usman et al., 2020).

The foregoing rendition shows that operational performance has several indicators. In this study, we adopted operational efficiency and operational effectiveness.

Operational efficiency

Efficiency pertains to cost of input for output produced. It Efficiency is a measure of whether the right amount of resources has been used to deliver a process, service or activity (Ayadi, 2013). Efficiency is not only reducing cost, increasing profit, diversifying business and fulfilling other business objective, but also includes maintaining quality, providing services and retaining customers. Thus, operational efficiency refers to the capacity of a firm to deliver products to customers in the most cost-effective manner while ensuring quality, service and support (Nasra, 2014).

In marketing logistics according to Ateke et al. (2025), operational efficiency measures how well a firm deliver goods and associated information to consumers at the least possible costs, ensuring timely deliveries, reduced lead time and minimizing stock-related risks. Operational efficiency long has been a key business concern because it contributes to customer satisfaction. Scholars contend that operational costs determine retail price of products (Ateke & Nwokah, 2022, as cited in Ateke et al., 2025). This means that efficient operations can lead to lower prices (Ateke et al., 2025).

Operational efficiency plays an important role in improving current and future performance of an enterprise. In order to attain operational efficiency however, a company must minimize redundancy and waste while leveraging resources that contribute most to its success and utilizing the best of its workforce, technology and business processes (Muhittin & Reha, 1990). In the view of Ndolo (2015), operational efficiency is a key determinant of long-term business stability.

Operational Effectiveness

Operational effectiveness refers to performing similar activities better than rivals. This includes activities like production, marketing and customer service that can be enhanced to prove overall efficiency and reduce waste (Porter, 1996). Operational effectiveness deliver higher quality products at a lower cost and confer a competitive edge. According to Porter (1996) operational effectiveness encompasses may be demonstrated by streamlined processes, adoption of new technology, and a culture of continuous improvement.

A number of factors prompt organizations to seek operational effectiveness, including need to deliver value-adding products at competitive prices ((Brynjolfsson & McAfee, 2014). This however requires setting processes, based on core capabilities, better use of resources to eliminate waste, and adoption of appropriate technology (Kaberger & Richu, (2015). Thus, Mihaicz (2012) view operational effectiveness as continuous survival, expansion and achievement of competitive edge by a firm.

In resent times, there has been insinuations that change in technology and innovation determine operational effectiveness of organizations (Ricardo et al., 2014). This is because operational effectiveness entail continuous improvement which is easily addressed by advances in technology and innovation (Eze, 2012).

Order Accuracy and Operational performance

Vakulenko, et al (2024) analysed online consumer reviews and ratings to assess e-retail order fulfilment performance. The study aims to (1) identify consumer journey touchpoints in the order fulfilment process and (2) determine their relative importance for the consumer experience. The study reveals 12 touchpoints within the order fulfilment process, which are split into three groups: delivery, packaging and returns. These touchpoints significantly influence star ratings: positive experiences elevate them, while negative ones reduce them. The findings provide a quantifiable

measure of these effects, articulated in terms of star ratings, which directly reflect the influence of experiences on consumer evaluations.

Benson (2022) examined the influence of employee training on order accuracy in Nigerian telecommunication firms, and found out enhanced training programs resulted in improved order accuracy and overall operational performance. Similarly, Nwankwo (2022) examined order accuracy and its influence on service delivery in Nigerian banks. In the same vain, Ikem (2022) evaluated the effect of order processing systems on bank efficiency in Nigeria; and found that banks using automated processing systems had higher performance ratings than those relying on manual systems and concluded automation directly correlates with improved order accuracy and performance and recommended that transition from manual to automated systems in order processes.

Eze (2021) examined the relationship between order processing and operational performance in Nigerian banks using quantitative analysis; and found a significant positive relationship between order processing accuracy and bank's operational performance. Relatedly, Samson (2021) examined the challenges of maintaining order accuracy in Nigerian deposit money banks. The study found that major barriers include lack of training and inadequate technological resources and concluded that addressing challenges in the banking sector enhances order accuracy.

Again, Onyema (2021) studied order accuracy and operational risk management in Nigerian banks using quantitative analysis. The study found that high order accuracy practices significantly reduce operational risks and concludes that improving order accuracy can mitigate several risks faced by banks and concludes that regular training on operational risk management should include order accuracy.

More so, Uche (2020) assessed the impact of order fulfilment on customer satisfaction in Nigerian banks. The study found that order fulfilment accuracy directly affects customer satisfaction and trust in banks and concludes order accuracy should be prioritized to enhance customer experiences. In other studies, Adesina, (2020) found that order accuracy correlates with reduced operational costs and enhanced customer satisfaction; Ogunleye (2019) found that adoption of technology led to marked reduction in order fulfilment errors; while Chijioke (2019) found a statistically significant relationship between order accuracy and financial performance indicators.

Based on the foregoing, we hypothesize as follows:

Ho₁: There is no significant correlation between order accuracy and operational efficiency of food and beverages firms in Rivers State.

Ho₂: There is no significant correlation between order accuracy and operational effectiveness of food and beverages firms in Rivers State.

Methodology

This study adopted a cross-sectional survey research design. The population of the study comprised 27 food and beverages firms in Rivers State as listed in Nigeria Directory and Search Engine 2025. The study adopted the entire population as the sample size. A structured questionnaire designed in the 6-point Likert scale, whose reliability was determined using Cronbach's Alpha test was used to collect primary data. Table provides a summary of test of reliability. Copies of the questionnaire were given to 4 respondents from each of the 27 food and beverages firms. Hence a total of 108 respondents took part in the study.

Table 1: Reliability analysis of items of all variables

S/N	Variables	Number of items	Cronbach's Alpha Coefficient
1	Order Accuracy	3	0.703
2	Operational Efficiency	3	0.754
3	Operational Effectiveness	3	0.749

Source: SPSS Output from Survey Questionnaire

Data Analyses and Results

Table 2: Distribution for Order Accuracy

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Our orders are delivered with the correct items as requested	95	1.00	5.00	4.5158	.71255
Our suppliers effectively handle any order corrections when needed	95	1.00	5.00	4.3895	.82893
Our delivery expectations are met in terms of order content.	95	1.00	5.00	4.3579	.78437
Valid N (listwise)	95				

Source: Research Desk, 2025, (SPSS output version 25.0)

From the statistics on Table 2, it is indicated that item 1 has the highest mean score of 4.5158. This means that, most of the respondents gave affirmative answers to this item. Thus, item 1 has the strongest relationship with the variable. However, item 2 has the highest standard deviation of 0.82893, indicating that there is most data variation in item 2.

Table 3: Distribution for operational efficiency

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
We achieve maximum throughout in our logistics operations.	95	1.00	5.00	4.2211	.70226
The time taken to process orders is consistently monitored for improvement by our firms.	95	1.00	5.00	4.3158	.86619
We regularly asses and refine our logistics operations for efficiency.	95	1.00	5.00	4.1789	.72902
Valid N (listwise)	95				

Source: Research Desk, 2025, (SPSS output version 25.0)

From the statistics on Table 3, it is indicated that item 2 has the highest mean score of 4.3158. This means that, most of the respondents gave affirmative answers to this question. Thus, item 2 has the strongest relationship with the variable. However, question 2 has the highest standard deviation of 0.86619, indicating that there is most data variation in item 2.

Table 4: Distribution for operational effectiveness

	Descriptive Statistics				
	N	Minimum	Maximum	Mean	Std. Deviation
Our logistics operations consistently meet the expected service levels.	95	1.00	5.00	4.1263	.84100
Customer satisfaction with our logistics performance is high	95	1.00	5.00	3.8000	1.02729
There are metrics in place to evaluate the effectiveness of our logistics	95	1.00	5.00	4.3053	.77286
Valid N (listwise)	95				

Source: Research Desk, 2025, (SPSS output version 25.0)

From the statistics on Table 4, it is indicated that item 3 has the highest mean score of 4.3053. This means that, most of the respondents gave affirmative answers to this item. Thus, item 3 has the strongest relationship with the variable. However, question 2 has the highest standard deviation of 1.02729, indicating that there is most data variation in item 2.

Table 5: Correlation between order accuracy and operational efficiency

		Correlations	
		Order Accuracy	Operational Efficiency
Order Accuracy	Pearson Correlation	1	.830**
	Sig. (2-tailed)		.000
	N	95	95
Operational Efficiency	Pearson Correlation	.830**	1
	Sig. (2-tailed)	.000	
	N	95	95

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Research Desk, 2025, (SPSS output version 25.0)

The correlation coefficient (r) is 0.830 and the probability value is ($p < 0.05$). This means that order accuracy significantly relates to operational efficiency. Hence the null hypothesis is rejected.

Table 6: Correlation between order accuracy and operational effectiveness

		Correlations	
		Order Accuracy	Operational Effectiveness
Order Accuracy	Pearson Correlation	1	.619**
	Sig. (2-tailed)		.000
	N	95	95
Operational Effectiveness	Pearson Correlation	.619**	1
	Sig. (2-tailed)	.000	
	N	95	95

**. Correlation is significant at the 0.01 level (2-tailed).

The correlation coefficient (r) is 0.619 and the probability value is significant ($p < 0.05$). This means that order accuracy significantly relates to operational effectiveness. Hence the null hypothesis is rejected.

Discussion of Findings

The summary of result of tests of correlation between order accuracy and operational performance shows that order accuracy has a very strong significant correlation with operational efficiency and a strong significant correlation with operational effectiveness. These results support the view that order accuracy is crucial to managing logistics service quality, and that a link exists between

order accuracy and operational performance. The findings also corroborate the report that businesses with a strong focus on improving order accuracy experienced a 30% reduction in return-related costs (Bowers & Morgan, 2022).

The current findings validate the report that order accuracy is linked to operational performance (Ikem, 2022). The study of Onyema (2021) which showed that order accuracy enhances operational risk management in Nigerian banks is supported by the results of this study. This suggests improvement in order accuracy can mitigate inventory risks.

Conclusion and Recommendations

Based on the findings, the study concludes that order accuracy significantly relate to operational performance of food and beverages firms in Rivers State. Therefore, order accuracy is critical for operational performance, those firms with high order accuracy reported higher levels of operational performance. The study recommend that food and beverages firms should invest in training programs focused on accuracy in order processing in order to enhance overall performance and as a result increase operational efficiency, effectiveness and minimize cost.

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