

Enhancing Organisational Agility in the Hospitality Industry through Supply Chain Integration: Empirical Evidence from the Niger DeltaAmah, Cletus Okey^[1] and Jumbo, Victor Kalada^[2]^[1]*PhD, PhD, FNIM, FCPA, FCNA, FCFIA, FMSSRN*

University of Port Harcourt Business School, Port Harcourt, Nigeria

^[2]*B.Tech., MBA*

University of Port Harcourt Business School, Nigeria

Abstract. This study is anchored in the resource-based view theory as well as the relational view theory, and sought to investigate the relationship between Supply chain Integration and Organisational Agility in the hospitality industry. With specific focus on four-star hotels in the iconic Niger Delta city of Port Harcourt, the study adopted a survey approach, using primary data obtained from staff of these hotels (being the population of the study). Four hypotheses were tested using Spearman's Rank Correlation to evaluate the relationship between the operational dimensions of Supply Chain Integration (the dependent variable) and Organisational Agility (the independent variable). Results from these analyses reveal a strong correlation between the operational dimensions of Supply Chain Integration – Internal Integration and Supplier Integration – with those of Organisational Agility – Operational Flexibility and Adaptability. Going by these findings, the study concludes that Supply Chain Integration (as measured by Internal Integration and Supplier Integration) is a strong predictor of Organisational Agility, the criterion variable. The research has thus demonstrated the potential to enhance operational flexibility and adaptability by these firms in the industry while concurrently meeting customer service criteria. It is recommended herein that hospitality firms in the Niger Delta, especially four-star hotels, strive to enhance their organizational agility leveraging on supply chain integration as an essential strategic management tool for improving intra-firm communication and coordination across the critical functional domains. This could be mostly achieved through improved integration of data and information system exchange.

Keywords: Supply Chain Integration, Organisational Agility, Operational Flexibility

Introduction

Many countries' economies rely on the hotel industry. The sector's significance lies in its potential to boost national income by greatly increasing a country's Gross Domestic Product (GDP), which in turn generates a large number of jobs for the general populace. Additionally, it has a pivotal role in enhancing the balance of payments by earning foreign currency through the products and services offered to international visitors (Ekpenyong et al., 2020). At every level, the hotel industry is a key driver of tourism. According to the UNWTO, between 70% and 75% of the annual budget of international tourists goes toward paying for various forms of hospitality (Aryee, Naim, & Lalwani, 2015). This underscores the industry's critical role in attracting tourists and, by extension, a nation's economic and social well-being. Using this model, the hotel industry's contribution to Nigeria's GDP was N680.1 million in 1980, N492.4 million in 1984 (after adjusting for both years' 1984 constant basic prices), N477.9 million in 1990, and N591.9 million in 2000 (CBN, 2003). In 2004, it was raised to N1950.0 million, and in 2006, it was raised to N2,390.0 million (using constant basic price from 1990) (CBN, 2006).

The incorporation of technology into the supply chain has been a game-changer for hotels, giving them a leg up in the competition and ensuring their continued success. Academics and business moguls have responded to these developments by stating that hotels should work together to enhance the supply chain's knowledge exchange through more

collaborative service delivery (Clemens, 2001). Therefore, restoring economic stability depends on the robustness of supply networks in this industry. As a whole, the quality of service delivery is enhanced, operating expenses are decreased, and customer connections and service are strengthened as a consequence of an efficient supply chain system (Mohamed, Abdellatif & Fakhier, 2012). Organizations in the hotel sector must collaborate by integrating their supply chains in order to keep up with the fast-paced innovation that is characterized by new skills and technology (Cousins & Menguc, 2006). According to Alfalla-Luque, Medina-Lopez, and Dey (2013), competition should be considered inside supply chains as much as it is between various businesses. In addition, hotels can discover that deliberately expanding outsourcing and fragmenting their supply chain improves service delivery quality, which in turn improves the management of essential competencies.

In the 1980s, the idea of supply chain integration emerged with the primary goal of helping businesses streamline their processes. Academics and practitioners have been interested in it for over 40 years. The term "supply chain" refers to the intricate web of entities involved in the production and distribution of a good or service, from initial suppliers to final customers (Frohlich & Westbrook, 2001). There has been a lot of scholarly focus on the many aspects of supply chain integration since it became an important part of supply chain management (Das et al., 2006). According to Frohlich and Westbrook (2001), supply chain integration is the process of enhancing the long-term performance of companies in the supply chain through the coordinated movement of materials, goods, information, and resources from suppliers to organizational users and, finally, customers. Integration of the supply chain is described by the Council of Supply Chain Management Professionals (CSCMP, 2020) as the management and strategic planning of all activities related to logistics, sourcing, and conversion.

Although other models have been proposed by scholars in the area of supply chain integration, drawing from various theoretical frameworks, this study adopted the model proposed by Flynn et al. (2010) and Koufteros et al. (2005). According to their research, there are three distinct aspects of supply chain integration: internal, supplier, and customer. Internal integration is defined by the authors as the processes by which an organization's knowledge and resources are consolidated and optimized. According to Falla-Luque et al. (2013), this approach aims to improve performance and goal alignment by fostering cross-departmental expertise and knowledge. According to Zhao et al. (2011), this metric measures how well a company's structural goals and procedures are integrated into its operations in order to fulfill customer requests and work well with suppliers. Reducing inventory levels and supplier lead times are two of the many mutually beneficial outcomes that may be achieved via improved cooperation and coordination with critical suppliers, according to the authors.

A large body of research has investigated the idea of supply chain integration in connection to various business outcomes. Few studies have looked at how internal, customer, and supplier integration affects performance results, even if several have looked at the factors together (Sezen, 2008; Ru-Jen, 2009). According to Alfalla-Luque et al. (2013), very few studies have used the same variables and dimensions for certain regions, countries, or industries. In favor of focusing on supplier and customer integration, a large body of empirical research has ignored the relevance of internal integration. Furthermore, there is a clear departure from the present research in that IT proficiency is included as a moderating factor. This research was undertaken to examine the association between supply chain integration and organizational agility of hotels in Rivers State.

Problem Statement

The main goal of several hospitality companies is to enhance organizational resilience, enabling them to manage unexpected challenges in the business environment. This endeavor is

significant, especially in the competitive hotel industry in Nigeria. Hotels have several problems that impede their ability to deliver exceptional service through well-coordinated, customer-centric operations that demonstrate significant flexibility in meeting or exceeding guest expectations.

The reduction in operational flexibility has adversely affected service quality and the overall visitor experience. The Small and Medium Enterprises & Development Agency in Nigeria (SMEDAN, 2020) indicates a significant reduction in the growth rate of hotels in Nigeria, now estimated at around 7.4% annually, due to heightened competition stemming from health concerns. Moreover, they face numerous challenges, such as declining efficiency rates, insufficient quality control and customer service, lack of standardization in operations, inconsistent service policies, slow intelligence sharing, high operational costs, and an overall decline in service delivery quality.

Research underscores the vital significance of cultivating strong relationships with suppliers and other key stakeholders in the supply chain to create competitive advantages that yield reciprocal benefits for the participating partners (Sezen, 2008; Ru-Jen, 2009; Flynn et al., 2010; Koufteros et al., 2005; Wong et al., 2011). In this context, supply chain integration is considered a crucial management tool for improving service delivery performance and attaining positive business results in supply chain management. This study seeks to evaluate the validity of propositions and findings from relevant research on supply chain integration in the hospitality industry of Rivers State, in light of the aforementioned problems and existing academic literature. This research investigates whether supply chain integration can effectively address these difficulties. Can the integration of supply chains enhance operational flexibility and adaptability? With this technique implemented, it is plausible that these difficulties may soon become obsolete. The replies to these inquiries form the theoretical and empirical investigation of this paper.

Literature Review

Theoretical Framework

Resource-Based View (RBV)

Rantakari (2010) delineates the Resource-based view (RBV) theory as a paradigm in which the outsourcing choice depends on the client company's ability to develop internal capabilities, thereby preserving a competitive advantage. Dunford, Snell, and Wright (2001) described the RBV as a firm's resources are essential to its success and are pivotal in creating a sustainable competitive advantage. In the original phase of the Resource-Based View, the major emphasis was on identifying the characteristics of resources that rivals cannot readily replicate. Barney (1991) argues that even if a firm's resources are easily replicated by competitors, and if these resources are the basis of the firm's competitive advantage, such an advantage is improbable to persist over time. Successful participation in productive activities requires the collaboration and coordination of teams with diverse resources. Grant (2010) clarifies that firm competence denotes the capacity of a resource assemblage to do particular tasks or activities. He asserts that a firm's resources form the basis of its capabilities, which are the principal source of its competitive advantage. The efficient operation of any organization requires the collaboration and coordination of teams and resources.

The resources of a business form the basis of its capabilities, with firm capability defined as the capacity of a team of human resources to perform specified tasks or activities. The Grant research asserts that a firm's skills are the principal source of its competitive advantage over other organizations, regardless of whether they work in the same domain or occupy a comparable market niche. The strategic Resource-Based View (RBV) hypothesis, as defined

by Rantakari (2010), perceives a corporation as a collection of physical and intangible resources that enable it to compete with other enterprises.

Conceptual Framework

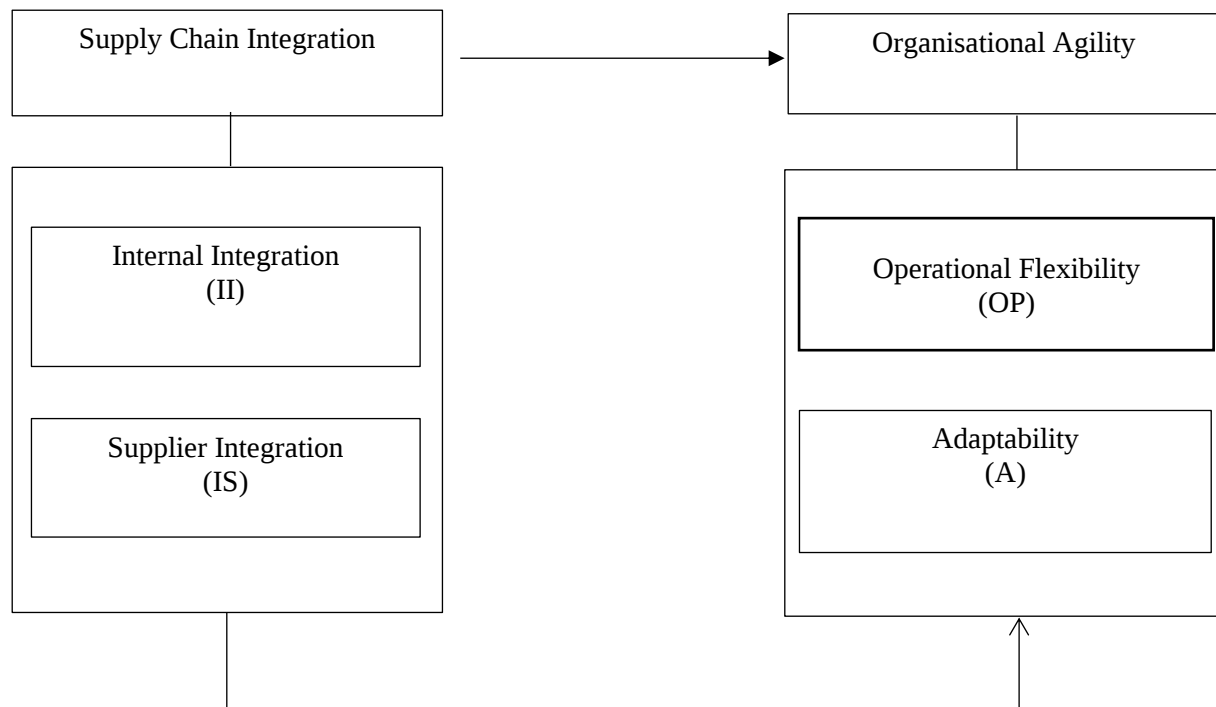


Figure 1: Conceptual Framework on the Relationship between Supply Chain Integration and Organisational Agility

Source: Flynn et al., 2010; Koufteros et al., 2005; Wong et al., 2011.

Concept of Supply Chain Integration

Originating in the 1980s, the primary goal of supply chain integration was to help businesses streamline their processes and become more efficient overall. Many experts and scholars have been interested in it for over 40 years. The term "supply chain" refers to the network of entities involved in the production and distribution of a good or service, from initial suppliers to final buyers (Frohlich & Westbrook, 2001). An integral part of SCM, supply chain integration has had its many aspects studied in depth (Das et al., 2006).

In order to stay ahead of the competition and meet the demands of their customers, businesses today must improve their delivery capabilities, reliability, and product flexibility. According to Bowersox, Closs, and Stank (1999), supply chain integration has been used by several firms to achieve this objective. When two or more organizations work together strategically along the supply chain and manage both internal and external operations, this is called supply chain integration. In order to maximize value for customers, this integration aims to facilitate effective and efficient exchanges of goods, services, information, money, and choices (Zhao, Huo, Flynn, & Yeung, 2008). Throughout the strategic, tactical, and operational levels of a supply chain, information is shared, and resources, components, and finished goods are planned, coordinated, and managed (Stevens, 1989). Production costs can be reduced by outsourcing; but, by integrating the supply chain, transaction costs and those associated with locating, contracting, negotiating, and monitoring can be reduced since fewer partners are involved. Consequently, businesses may take advantage of the "make" and "buy" benefits by integrating their supply chains (Zhao et al., 2008).

Internal Integration

Several researchers have looked on internal integration extensively (Alfalla-Luque et al., 2013). When a company works on improving and consolidating its own information and resources, this is known as internal integration. According to Falla-Luque et al. (2013), this method aims to increase performance by facilitating the sharing of information across departments. This, in turn, will lead to more external integration efforts, which will align goals. According to Zhao et al. (2011), there is a significant correlation between how well a company's structural plans and procedures are integrated into coherent operations and its ability to satisfy consumer expectations and operate efficiently with suppliers. A company's internal integration occurs when it performs a number of tasks that lead up to the sale of goods to customers. All of these tasks must be coordinated in a way that goes beyond individual departments for the organization to function well. According to Basnet (2013) and Morash and Clinton (1998), it is essential to combine materials management with manufacturing, sales, and distribution in order to meet customer requirements while minimizing costs.

Supplier Integration

When businesses and their suppliers work together, it allows for the free flow of data and resources, which is crucial for both parties to benefit (Childerhouse & Towill, 2011). Reducing inventory and shortening supplier lead times are two of the many mutually beneficial outcomes that may be achieved by supplier integration, according to Vereecke and Muylle (2006). According to Flynn et al. (2010), this idea improves the procedures of collaboratively identifying problems and providing quick product solutions by clarifying the ongoing cooperation with suppliers. Most supply chain integrations include suppliers, according to the research (Fawcett & Magnan, 2002). Therefore, although internal integration is vital to an organization's success, post-industrial businesses can't depend just on in-house expertise to drive growth because of how interconnected the world of business is. In order to make better use of supplier networks and boost customer satisfaction, businesses need more accurate real-time information, according to Petersen et al. (2005).

Organisational Agility

A new way to handle complex and ever-changing situations, agility emerged in the early 1990s. According to Gunasekaran (1999), the ability to quickly and efficiently adapt to changing markets influenced by customer-defined goods and services is crucial for agile manufacturing. A manufacturing system that can quickly adapt to the changing needs of the market is described by the word "agility" by the Iacocca Institute at Lehigh University (USA). This system incorporates characteristics such as responsiveness, speed, flexibility, consumers, rivals, suppliers, and infrastructure. Yusuf and colleagues (1999) define agility as "the effective utilization of competitive factors such as speed, flexibility, innovation, and quality through the amalgamation of adaptable resources and optimal practices in a knowledge-intensive setting to deliver customer-oriented products and services in a dynamic and unpredictable environment" (emphasis emphasis). Fast response and flexible strategy approaches are the hallmarks of an agile company (Gunasekaran, 1999). One of the most important aspects of agility is the capacity to quickly adapt to new circumstances (Sherehiy, 2008).

In addition, a corporation is considered agile if it can quickly and efficiently adjust to changing circumstances (Bessant et al., 2001). A person with this skill is able to seize opportunities that arise as a result of rapid change (Sharifi & Zhang, 2001). To be agile is to be able to survive in a dynamic and unpredictable setting (Dove, 2001). An organization's "organizational flexibility" is its capacity to respond to external variables by implementing changes to its internal structures and processes. Adaptation stresses the harmony between an organization's operations and its environment, whereas flexibility pertains to the accessibility and efficacy of the resources inside the organization. Being agile means being nimble and able

to change directions quickly. In the context of manufacturing, the term "agile" first used in reference to adaptable production methods. One development in modern management theory is the concept of agility.

Operational Flexibility

Flexibility in responding to changing client demands is considered a crucial strategic asset (Lin, 2003). As defined by Viswanadham and Raghavan (1997), process flexibility in supply chain integration is the capacity of a business process to handle or adapt to changes with minimal impact on performance, cost, quality, or timeliness. According to Lee (2004), there are three aspects to supply chain flexibility, each of which stands for a different aspect of a company's capabilities. Alignment and flexibility are two of the components.

To be adaptable, a supply chain must be able to change its layout in response to changes in demand, as well as update its strategies, products, and technology. Alignment also improves overall performance by incentivizing supply chain members. When a supply chain is aligned, it can effectively respond to external shocks and short-term changes in demand or supply. To reduce the impact on system efficacy, a system should be able to adapt to changes more quickly and efficiently, according to Vickery, Calantone, and Droge (1999). Given the significance of flexibility and the costs associated with achieving increased levels of it, an evaluation is necessary to determine the ideal degree of flexibility for a supply chain. According to Nemeth (2008), there are two aspects to flexibility: time-related and purpose-driven.

Adaptability

To be adaptable is to be able to change one's behaviour in reaction to unexpected changes. There are a number of different interpretations of the term "adaptability," which has just emerged as a fresh topic in management literature. When trying to define and quantify adaptability, many studies have relied on a wide variety of terms, values, components, and dimensions. From a strategic perspective, academics define adaptability as the capacity to change in reaction to outside forces in order to guarantee the survival of an organization. Experimentation, collective judgment, and the preservation of dispute are the three characteristics of adaptation that Orton and Weick (1990) outlined. Organizational change cannot be imagined or implemented without these three components of flexibility. Companies that are able to adapt to their environments are able to achieve higher levels of performance (Gordon & DiTomaso, 1992). In several contexts, adaptability may be understood. An adaptive cycle, according to Miles, Snow, Meyer, and Coleman (1978), fixes the entrepreneurial, engineering, and administrative problems that every business has. The administrative system may enhance the organization's flexibility by validating and supporting innovative initiatives, therefore resolving the administrative issue is vital. The capacity to adjust to different cultures is related to having common values. Essential characteristics of culture-based adaptation are social support, a shared sense of confidence, enthusiasm, initiative, and openness. Assimilating new information or making use of past experiences are the two main components of learning.

Empirical Review on Supply Chain Integration and Organisational Agility

According to several studies (Das et al., 2006; Devaraj et al., 2007; Flynn et al., 2010; Liu et al., 2012), supply chain integration has a favourable impact on organizational performance. When it comes to maximizing operational effectiveness in both theory and reality, several experts have voiced reservations about the ideal degree of supply chain integration. While some research has found a positive correlation between supply chain integration and operational performance, other studies have found either no correlation at all (Stank et al., 2001) or even the opposite (Koufteros et al., 2005). The difficulties in determining the extent of supply chain integration and the possible hefty expenses linked with its actual execution may be the primary causes of the noted discrepancies in results. Direct association alone does not provide a complete picture of the connection between supply chain integration

and the quality of service delivery. Swink et al. (2007) found that these factors' intricate relationships help us comprehend how they affect the overall effectiveness of the organization.

In order to improve supply chain performance, Kim (2009a) argues that supply chain integration is an infrastructure mechanism that strengthens the connection between competitive capabilities and supply chain management techniques. When market-related diversification and supply chain management methods are combined, according to Kim (2009b), the outcome is better than when the two strategies are pursued separately. His argument is that the level of supply chain integration is an important intermediary variable that may help small enterprises successfully diversify, even while diversification doesn't have much of an effect on their performance directly. Supply chain integration, on the other hand, could play a crucial infrastructure role for the direct impacts of diversity on performance in big enterprises. This helps identify the function of supply chain management in bolstering and supporting corporate competitive strategy, which in turn improves organizational performance, and it also provides a framework that links a company's strategy for supply chain integration to its strategy for diversifying its markets and products. Integrating the supply chain is a key component in improving performance, according to Taco and Dirk (2008). This article examines survey-based studies that investigate the link between supply chain integration and performance, focusing on issues with measuring tools, constructs, and objects used in the studies. According to the research, there is a wide range of approaches used to evaluate supply chain integration.

In view of the above postulates, this research proposed the following hypotheses:

- H₀₁:** Internal integration has no significant relationship with operational flexibility of hotels in Rivers State.
- H₀₂:** Internal integration has no significant relationship with adaptability of hotels in Rivers State.
- H₀₃:** Supplier integration has no significant relationship with operational flexibility of four-star hotels in Rivers State.
- H₀₄:** Supplier integration has no significant relationship with adaptability of hotels in Rivers State.

Methodology

This study utilized a descriptive design. Descriptive research design is recommended for studies focused on understanding the attributes of certain groups or people. Descriptive survey study design is the methodical gathering of standardized data from a certain population or representative (Okeafor, 2012). A successful research design clarifies the link between variables in a study. The descriptive study approach effectively enabled the examination of the correlation between supply chain integration and service delivery quality, as well as their associated sub-variables. Consequently, the study employed a questionnaire for data acquisition.

The population of this study comprises staff from four-star hotels in Rivers State. The Hotel Association of Nigeria (HAN, 2024) reports that Rivers State has a total of five four-star hotels. The hotels include Presidential Hotel, Echelen Heights Hotel, Golden Tulip Hotel, Novotel Hotel, and Le Meridien Hotels. This research focused on specific roles within the hotels, including general and assistant managers, human resource managers, procurement managers, marketing and sales managers, operations managers, food and beverage managers, accountants and auditors, and store officers. The eight top positions across the five hotels represent the target population for this research. The study involved a total of forty (40) senior staff members, as indicated by the preceding analysis.

Given the manageable target population size of 40, sampling was unnecessary. Consequently, the research engaged individuals in the relevant positions by providing them with copies of the questionnaire.

This research utilises two primary sources of data: secondary and primary. Secondary data were obtained through a review of pertinent literature, including articles, journals, reports, and other credible sources. The primary data, in contrast, were collected through structured questionnaires. The questionnaire method of data collection was appropriate for this study due to its consistency, stability, and ability to provide first-hand data, thereby offering the researcher an objective perspective on the issues under investigation (Kombo & Tromp, 2012).

The variables in this study were measured using a 5-point Likert Scale format (5 = strongly agree, 4 = agree, 3 = not sure, 2 = disagree, 1 = strongly disagree), which was modified to align with the study's objectives. The Likert-type scale was selected for measuring variables due to its ease of construction, reduced time requirements, and perceived reliability. Respondents address each statement in the questionnaire, enabling the inclusion of statements that may not directly relate to the attitude under investigation.

The validation of the research instrument primarily focused on face and content validity, with the data collection tool being reviewed by experts in management and human resources. The instrument demonstrated face validity through statement items that effectively elucidate the variables in each instance and are readily understandable by respondents. The Cronbach Alpha test was employed to assess the reliability of the instruments. Existing literature indicates that a Cronbach's alpha of 0.7 (70%) or higher is deemed reliable (Kumar, 2005). Nunnally (1978) endorsed a widely accepted benchmark of 0.70 (70%) for evaluating measuring instruments through Cronbach Alpha.

This study employed Spearman's Rank Correlation Coefficient to assess the relationship between supply chain integration and organisational agility. Descriptive statistical tools, including charts, tables, averages, and percentages, were employed to analyse the demographic profile of respondents. All analyses will utilise Statistical Package for the Social Sciences (SPSS) version 23.0.

Results and Discussion

Table 1: Questionnaire Distribution

Details	Questionnaire	Percentage (%)
Distributed	40	100
Returned	36	90
Not Returned	4	10

Source: Researcher's Data Survey, 2023

A total of forty (40) questionnaires were distributed, with thirty-six (36) copies retrieved, representing 90%. Consequently, four (4) copies, or 10%, were not returned. Additionally, of the returned copies, thirty-four (34), accounting for 85%, were fully completed and deemed useful for the study. Two copies were discarded.

Reliability Test

The table below summarises the reliability statistics for the first model, which includes four independent variables: internal integration, supplier integration, customer integration, and three dependent variables: operational flexibility, innovative service delivery, and customer retention. IT capability served as the moderating variable.

Table 2: Summary of Reliability Analysis

Constructs	Cronbach Alpha
Internal Integration	0.885
Supplier integration	0.813
Operational flexibility	0.846
Adaptability	0.804

Source: Cronbach Alpha output, 2023

The Cronbach's Alpha values presented in Table 4.2 indicate that internal integration has a value of 0.885, supplier integration is at 0.813, operational flexibility is 0.846, and adaptability is 0.804. All Cronbach's Alpha values for each construct exceed 0.70. In conclusion, all items for each construct fall within the 'good' to 'very good' range, indicating high stability, consistent results, and satisfactory levels.

Testing of Hypotheses

Test of Hypothesis One (H₀₁): Internal integration has no significant relationship with operational flexibility of hotels in Rivers State.

Table 3: Correlation Analysis on Internal Integration and Operational Flexibility

Correlations			Internal Integration	Operational Flexibility
Spearman's rho	Internal Integration	Correlation Coefficient	1.000	.894**
		Sig. (2-tailed)	.	.000
		N	36	36
	Operational Flexibility	Correlation Coefficient	.894**	1.000
		Sig. (2-tailed)	.000	.
		N	36	36

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

Source: Field Survey Data, 2023, SPSS Output

Decision: The P value (0.000) is less than the alpha value (0.01%), indicating that the null hypothesis is rejected and the alternative hypothesis is accepted.

Coefficient of Determination

$$r^2 = (0.894)^2$$

$$r^2 = 0.799236 \times 100$$

$$r^2 = 79.9\%$$

The coefficient of determination (r^2) is 79.9%, indicating a strong positive significant relationship between internal integration and operational flexibility in hotels located in Port Harcourt.

Test of Hypothesis Two (H₀₂): Internal integration has no significant relationship with adaptability of hotels in Port Harcourt.

Table 4: Correlation Analysis between Internal Integration and Adaptability

Correlations				
			Internal Integration	Adaptability
Spearman's rho	Internal Integration	Correlation Coefficient	1.000	.904**
		Sig. (2-tailed)	.	.000
		N	36	36
	Adaptability	Correlation Coefficient	.904**	1.000
		Sig. (2-tailed)	.000	.
		N	36	36

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

Source: Field Survey Data, 2023, SPSS Output

Decision: The P value (0.000) is smaller than the alpha value (0.01%), the threshold for significance; thus, the null hypothesis is rejected and the alternative hypothesis is accepted.

Coefficient of Determination

$$r^2 = (0.904)^2$$

$$r^2 = 0.817216 \times 100$$

$$r^2 = 81.7\%$$

The coefficient of determination (r^2) is 81.7%, indicating a strong positive and significant relationship between internal integration and the adaptability of hotels in Port Harcourt.

Test of Hypothesis Three (H_{03}): Supplier integration has no significant relationship with operational flexibility of hotels in Port Harcourt.

Table 5: Correlation Analysis on Supplier Integration and Operational Flexibility

Correlations				
			Supplier Integration	Operational Flexibility
Spearman's rho	Supplier Integration	Correlation Coefficient	1.000	.899**
		Sig. (2-tailed)	.	.000
		N	36	36
	Operational Flexibility	Correlation Coefficient	.899**	1.000
		Sig. (2-tailed)	.000	.
		N	36	36

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

Source: Field Survey Data, 2023, SPSS Output

Decision: The P value (0.000) is smaller than the alpha value (0.01%), the threshold for significance; thus, the null hypothesis is rejected and the alternative hypothesis is accepted.

Coefficient of Determination

$$r^2 = (0.899)^2$$

$$r^2 = 0.8082 \times 100$$

$$r^2 = 80.8\%$$

The coefficient of determination (r^2) is 80.8%, indicating a strong and substantial positive association between supplier integration and operational flexibility in four-star hotels in Port Harcourt.

Test of Hypothesis Four (H_{04}): Supplier integration has no significant relationship with adaptability of hotels in Rivers State.

Table 6: Correlation Analysis on Supplier Integration and Adaptability

Correlations				
			Supplier Integration	Adaptability
Spearman's rho	Internal Integration	Correlation Coefficient	1.000	.823**
		Sig. (2-tailed)	.	.000
		N	36	36
	Adaptability	Correlation Coefficient	.823**	1.000
		Sig. (2-tailed)	.000	.
		N	36	36

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

Source: Field Survey Data, 2023, SPSS Output

Decision: Given that the P value (0.000) is inferior to the alpha value (0.01%), the null hypothesis is rejected, and the alternative hypothesis is accepted.

Coefficient of Determination

$$r^2 = (0.823)^2$$

$$r^2 = 0.677329 \times 100$$

$$r^2 = 67.7\%$$

The coefficient of determination (r^2) is 67.7%, indicating a strong and substantial positive association between supplier integration and the flexibility of hotels in Port Harcourt.

Discussion of Findings

There was a strong positive correlation between internal integration and operational flexibility in hotels located in Port Harcourt, according to the results of hypothesis one ($r^2 = 79.9\%$). A significant and positive association between internal integration and adaptation in Port Harcourt was shown by a correlation coefficient ($r^2 = 81.7\%$), which was the outcome of assessing the second hypothesis. A favourable and statistically significant association between supplier integration and the operational flexibility of hotels in Port Harcourt was shown by the investigation of hypothesis three, which yielded a correlation coefficient of $r^2 = 80.8\%$. A strong and positive correlation between supplier integration and the flexibility of Port Harcourt hotels was shown by the results of hypothesis four ($r^2 = 67.7\%$).

These findings are in line with those of Kim (2009), who found that internal integration has a significant influence on service delivery performance due to its good effect on operational performance. Research by Koufteros et al. (2005) and Gimenez and Ventura (2005) did not find a definitive link between internal integration and operational performance; however, studies by Allred et al. (2011) and Chen et al. (2007) did find direct positive correlations, with improvements in areas such as customer satisfaction, productivity, financial performance, and development time.

Product innovation and gray-box supplier integration are directly related, as Koufteros et al. (2007) showed. Better supplier integration boosts sourcing firm performance, according to a separate empirical research by Handheld et al. (2009). When it comes to operational performance, namely in terms of delivery and flexibility, Wong et al. (2011b) found a strong correlation between supplier integration and both. According to recent research (Droge et al., 2012), better supplier integration boosts delivery performance. A favourable correlation between strategic long-term supplier integration and performance in terms of cost, flexibility, and delivery was found by Prajogo et al. (2012). Research also shows that better supplier integration boosts buyer performance in terms of efficiency and adaptability (Danese, 2013), compliance with schedules (Zhao et al., 2013), and the efficacy of new goods (He et al., 2014).

Conclusion and Recommendation

Conclusions

This investigation yielded the following conclusions:

- i. Organisations that promote enhanced intra-firm collaboration and coordination among various departments are better equipped to deliver outstanding customer service and strategically respond to market variations. This is mostly accomplished through enhanced integration of data and information system exchange. Consequently, internal integration serves as a powerful strategic instrument that enhances innovativeness and operational flexibility.
- ii. Maintaining greater cooperation, long-term partnerships, and coordination with important suppliers has demonstrated an improvement in supply chain efficiency and operational flexibility.
- iii. The collaborative engagement of customers with an organisation, including the exchange of data, information, and insights into their needs and performance metrics, is essential for fostering creative service delivery and enhancing customer retention.
- iv. Customer integration is a crucial attribute for comprehending the requirements of major clients, facilitating deeper market penetration and effective responsiveness to consumer demands and desires.

Recommendations

Based on the findings and conclusions of this research, the subsequent recommendations were proposed:

- i. Management of 4-star hotels seeking to enhance service delivery quality should foster increased intra-firm collaboration and coordination among various functional areas, as this research demonstrates the potential for delivering superior service to customers and strategically responding to market fluctuations. This is mostly accomplished through enhanced integration of data and information system exchange.
- ii. Strategists in hotels are urged to forge long-term partnerships and collaboration with major suppliers, particularly in the post-Covid-19 era, to ensure a smooth supply base and improve supply chain efficiency and operational flexibility.
- iii. Ultimately, there must be reciprocal engagement between consumers and hotels, involving the exchange of data, knowledge, and expertise regarding demand requirements, enabling management to adjust to the evolving business landscape.

References

- Alfalla-Luque, R., C. Medina-Lopez, T. and Dey P. K. (2013). Supply chain integration framework using literature review. *Production Planning & Control*, 24, 800-817.
- Aryee, G., M. Naim, M. & Lalwani, C. (2015). Supply chain integration using a maturity scale. *Journal of Manufacturing Technology Management*, 19, 559-575.
- Bessant, J., Knowles, D., Francis, D., & Meredith, S. (2001). *Developing the Agile Enterprise, Agile Manufacturing: The 21 st century competitive strategy*.
- Boon-itt, S., & Wong, C. Y. (2011). The moderating effects of technological and demand uncertainties on the relationship between supply chain integration and customer delivery performance: *International Journal of Physical Distribution & Logistics Management*, 5(41), 253-276.
- Bowersox, D. J., Closs, D. J., & Stank, T. P. (1999). *21st century logistics: Making supply chain integration a reality*. Oak Brook, IL: Council of Logistics Management.
- CBN (2006). Annual Report and Accounts for the year ended 31st December 2006, Abuja.
- Childerhouse, P., & Towill, R. (2011). Arcs of supply chain integration. *International Journal of Production Research*, 5(49), 7441-7468.
- Clemens, D.H (2001). Service Quality and Satisfaction Perceptions: Curvi-Linear and Interaction Effect. *International Journal of Bank Marketing*, 22(6), 407-420.
- Cousins, P. D., & Menguc B. (2006). The implications of socialization and integration in supply chain management. *Journal of Operations Management*, 5(24), 604-620.
- Das, A., Narasimhan, R., & Talluri, S. (2006). Supplier integration - Finding an optimal configuration. *Journal of Operations Management*, 5(24), 563-582.
- Dove, R. (2001). *Responsibility: The language, structure, and culture of the agile enterprise*. New York: Wiley.
- Ekpenyong E. U., Bimbo O. A., Gbemi, O. O. & Etete, E. U. (2020). Supply disruption in the wake of COVID-19 crisis and organizational performance: mediated by organizational productivity and customer satisfaction. *International Journal of Managerial Studies and Research*, 7(6), 22-42.
- Erande, A., & Verma, A. (2008). Measuring Agility of Organizations – A Comprehensive Agility Measurement Tool (CAMT). Old Dominion University, *Proceedings of the 2008 IAJC-IJME International Conference*.
- Flynn, B. B., Huo, B. & Zhao, X. (2010). The impact of supply chain integration on performance: A contingency and configuration approach. *Journal of Operations Management* 28(1), 58-71.
- Frohlich, M. & Westbrook, R. (2001) Arcs of integration: an international study of supply chain strategies. *Journal of Operations Management*, 5(19), 185-200.
- Gordon, G.G. & DiTomaso, N. (1992). Predicting Corporate Performance from Organizational Culture. *Journal of Management Studies*, 29(6), 783-798.
- Gulati, R., & Gargiulo, M. (1999). Where do interorganizational networks come from?. *American journal of sociology*, 104(5), 1439-1493.
- Gunasekaran, A. (1999). Agile Manufacturing: A Framework for Research and Development. *International Journal of Production Economics*, 62, 87-105.
- Hannan, M.T. & Freeman, J. (1977). The Population Ecology of Organizations. *American Journal of Sociology*, 82 (5), 929-964.
- Kim, S. W. (2009). An investigation on the direct and indirect effect of supply chain integration on firm performance. *International Journal of Production Economics*, 5(119), 328-346.
- Koufteros, X., Vonderembse, M., & Jayaram, J. (2005). Internal and external integration for product development: the contingency effects of uncertainty, equivocality, and platform strategy. *Decision Sciences*, 36(1), 97-133.

- Lee, C. W., Kwon, I. G. & Severance, D. (2007) Relationship between supply chain performance and degree of linkage among supplier, internal integration, and customer. *Supply Chain Management International Journal*, 12, 444–452.
- Levitt, B. & March, J.G. (1988). Organizational learning. *Annual Review of Sociology*, 14, 319–340.
- Lin, W. B. (2003). Technology Transfer as Technological Learning: A Source of Competitive Advantage for Firms with limited R & D Resources. *R & D Management*, 33(3), 327–341.
- Marcos, A. & Mendes, P. (2010). Supply chain integration mechanisms for alleviating supply problems in manufacturing firms. *Operation Management Research*, 3, 43–59.
- Martínez, V. H. V., Gómez-Mejía, L. R., & Revilla, E. (2008). *The role of the supply chain executive in supply chain integration: a behavioral approach*. IE Business School Working Paper.
- Mehrabi, S., Siyadat, S., & Allameh, S. (2013). Examining the Degree of Organizational Agility from Employees' Perspective (Agriculture-Jahad Organization of Shahrekord City). *International Journal of Academic Research in Business and Social Sciences*, 3(5), 315–323.
- Mohamed, M. D., Abdellatif, B., & Fakher, J. (2012). Supply chain flexibility and balanced scorecard: conceptual model and empirical study in Tunisian companies launched upgrading program. *Polish Journal of Management Studies*, 5, 34–59.
- Narasimhan, R., & Kim, S. W. (2002). Effect of supply chain integration on the relationship between diversification and performance: Evidence from Japanese and Korean firms. *Journal of Operations Management*, 20(3), 303–323.
- Nemeth, P. (2008). Flexibility in supply chain management. *Acta technical Jaurinesis Series Logistica*, 1.
- Petersen, K. J., Handfield, R. B. & Ragatz, G. L. (2005). Supplier integration into new product development: coordinating product, process and supply chain design. *Journal of Operations Management*, 5(23), 371–388.
- Ragatz, G. L., R. B. Handfield, & K. J. Petersen, 2002, Benefits associated with supplier integration into new product development under conditions of technology uncertainty. *Journal of Business Research*, 5(55), 389–400.
- Ru-Jen, L. (2009). Supplier integration and time-based capabilities: An empirical study. *Journal of the Chinese Institute of Industrial Engineers*, 26(3), 215–227.
- Sezen, B. (2008). Relative effects of design, integration and information sharing on supply chain performance. *Supply Chain Management: An International Journal*, 13(3), 233–240.
- Shah, R. & Ward, P.T. (2003). Lean manufacturing: context, practice bundles, and performance. *Journal of Operations Management*, 21(2), 129–149.
- Sharifi, H., & Zhang, Z. (2001). Agile Manufacturing in Practice. Application of a Methodology. *International Journal of Operations & Production Management*, 21(5), 772–794.
- Sherehiy, B. (2008). *Relationships between Agility Strategy, Work Organization and Workforce Agility*. Doctor Dissertation, University of Louisville.
- SMEDAN. (2020). Small and medium enterprises performance in Nigeria: A report presented at African entrepreneurship seminar organized in collaboration with the Scientific Committee on Entrepreneurship of the University of Essex. United Kingdom on the 5th of June.
- Stevens, G. C. (1989). Integrating the supply chain. *International Journal of Physical Distribution and Logistics Management*, 19(8), 3–8.

- Swink, M., Narasimhan, R. & Wang, C. (2007). Managing beyond the factory walls: Effects of four types of strategic integration on manufacturing plant performance. *Journal of Operations Management*, 25, 148-164.
- Taco, V. & Dirk, D. (2008). A critical review of survey-based research in supply chain integration. *Int. J. Production Economics*, 111, 42-55.
- Vereecke, A., & Muylle, S. (2006). Performance improvement through supply chain collaboration in Europe. *International Journal of Operations & Production Management*, 26, 1176-1198.
- Vickery, S. N., Calantone, R., & Dröge, C. (1999). Supply chain flexibility: an empirical study. *Journal of Supply Chain Management*, 35(2), 16-24.
- Viswanadham, N., & Srinivasa, R. N. R. (1997). Flexibility in manufacturing enterprises. *Sādhanā*, 22(2), 135-163.
- Williams, B. D., Roh, J., Tokar, T., & Swink, M. (2013). Leveraging supply chain visibility for responsiveness: The moderating role of internal integration. *Journal of Operations Management*, 31(7-8), 543-554.
- Yusuf, Y., Sarhadi, M., & Gunasekaran, A. (1999). Agile Manufacturing: The Drivers, Concepts and Attributes. *International Journal of Production Economics*, 62(1-2), 33-43.
- Zhao, X., Huo, B., Selen, W. & Yeung, H. Y. (2011). The impact of internal integration and relationship commitment on external integration. *Journal of Operations Management*, 5(29), 17-32.