

The Study of Supply Chain Management Strategy and Practices on Supply Chain Performance of Agricultural Products in India

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Abstract

A total sample of 150 managers, and the response rate was 66% were used in study. A 54% usable questionnaire rate is reasonable. It's mentioned that convenience sampling was used. While this is common in certain research contexts, it's essential to acknowledge its limitations and discuss how this might impact the generalizability of your findings. Consider discussing the development and validation process of your questionnaire to establish its reliability and validity. Variables and classification classified respondents based on job titles and functions, providing a detailed breakdown. This is important for understanding the perspectives of different roles within the industry. Data Analysis used mean, standard deviation, ANOVA. It's good to see a mix of statistical techniques to gain a comprehensive understanding of the relationships between variables. As finding is concerned supply chain management practices show a significant relationship with supply chain performance. However, the supply chain management strategy is identified as a weak predictor. Consider discussing possible reasons for this and exploring potential avenues for further research. Offer recommendations for improving supply chain management practices based on the results. Consider discussing limitations of the study and suggesting directions for future research. In literature review and theoretical framework, the researcher ensure that the study is well-grounded in existing literature. Discuss how the research contributes to or challenges current theories and understanding in the field. The conclusion is that researcher summarizes the key findings and their implications for practitioners and researchers.

Key words: Supply chain management strategy, Supply chain management practices, Supply chain management performance, Manufacturing firms

Supply chain management is crucial for gaining competitive advantage in today's business environment. It involves maximizing the overall value of a firm by efficiently utilizing and deploying resources across the entire supply chain [1]. The supply chain encompasses all the entities involved in fulfilling customer requests, including manufacturers, suppliers, transporters, warehouses, retailers, and even customers themselves. Within each organization, various functions are involved in serving customer requests, such as new product development, marketing, operations, distribution, finance, and customer service [2-3]. Managing and integrating key elements of information into the supply chain significantly influences its performance. Information technology plays a vital role in achieving effective supply chain integration, allowing firms to manage various dimensions such as quality, cost, flexibility, delivery, and profit. Different types of supply chain strategies are discussed, including lean supply chain, agile supply chain, and hybrid supply chain [4-6]. These strategies are tailored to match different product types and market demands, with lean supply chains focusing on efficiency, agile supply chains prioritizing flexibility, and hybrid supply chains combining elements of both. Key practices such as strategic supplier partnerships, customer relationship management, and information sharing are essential for improving supply chain

performance [7]. These practices aim to enhance collaboration, add value, and improve overall business performance. Supply chain performance is measured in terms of integration, flexibility, and customer responsiveness. These metrics are crucial for evaluating the effectiveness of supply chain management strategies and practices in achieving competitive advantage and meeting customer demands [8-10]. The study formulates hypotheses to test the relationships between supply chain management strategy, practices, and performance. It hypothesizes that both strategy and practices have a positive impact on supply chain performance, including integration, flexibility, and customer responsiveness [11-13]. It highlights the importance of supply chain management as a source of competitive advantage. It defines a supply chain as a set of value-adding activities connecting suppliers and customers. It emphasizes the need for effective supply chain management to build and sustain competitive advantage [14-15].

Supply chain has become an important focus of competitive advantage for organization business. The management of supply chain study emphasizes how to maximize the overall value of the firm by better using and deployment of resources across the whole of the firm [16]. A supply chain is the set of values adding activities connecting the enterprise's suppliers and its customers. The principle of supply

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chain activity is receiving input from firm's suppliers – add value – deliver to customers [17]. A supply chain encompasses all the parties that involved, directly or indirectly, in fulfilling a customer request. The supply chain includes manufacturer, suppliers, transporters, warehouses, retailers and even customers themselves. Within each organization, such as a manufacturer, the supply chain includes all function involved in receiving and filling a customer request. These functions include new product development, marketing, operation, distribution, finance, customer service and other function that related to serving customer request [18-20].

Strategic supplier partnerships need better coordination between the organization and its suppliers; companies tend to have a long-term relationship with suppliers that create value. In this study, a strategic supplier partnership is defined as the long-term relationship between the organization and its suppliers which influences the strategic and operational capabilities of individual participating companies to help them achieve significant ongoing benefits [21-22]. Effective supply chain management is important to build and sustain competitive advantage in product and services of the firms. The need for flexibility originates from customers; since customers ask for variety, quality, competitive prices, and faster delivery. This has forced companies to make design changes quickly and respond faster to customer needs in order to sustain the company's competitive advantage [23-25]. As a result, companies need to be flexible enough to react to changes in customers demands. This study examines the supply chain management strategy that consists of lean supply chain, agile supply chain, and hybrid supply chain and its relationship to supply chain performance. The research paper discussing the role of supply chain management strategy and practices in influencing supply chain performance.

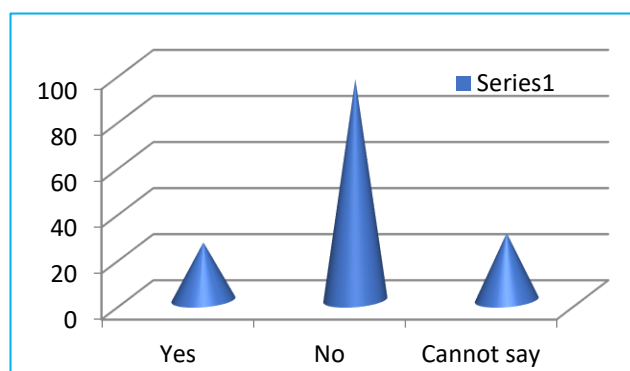
MATERIALS AND METHODS

Describes the sampling and data collection process, using a questionnaire administered to 150 managers in Indian manufacturing industry.

Data interpretation

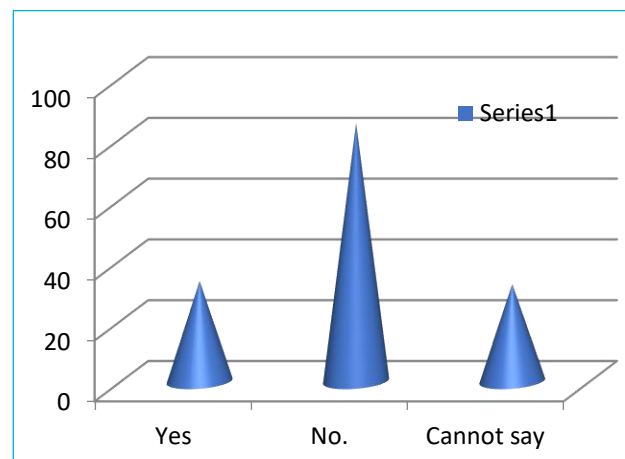
Lean manufacturing supply chain is related to supply chain integration

S. No.	Yes	No	Cannot say
1	25	96	29



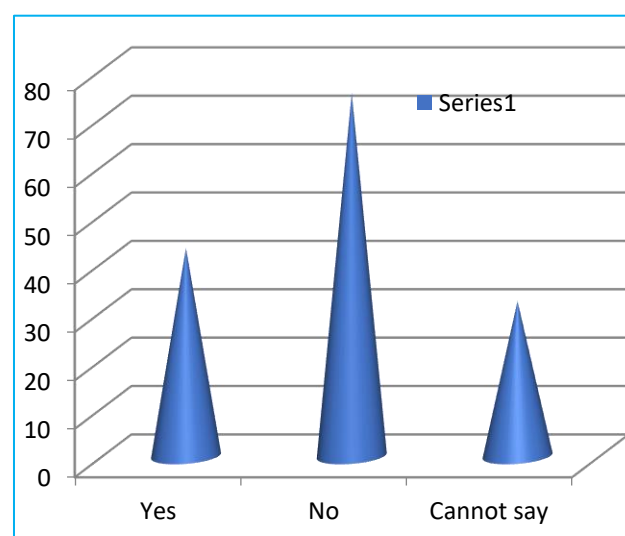
Lean manufacturing is related to supply chain performance

S. No.	Yes	No	Cannot say
2	33	85	32



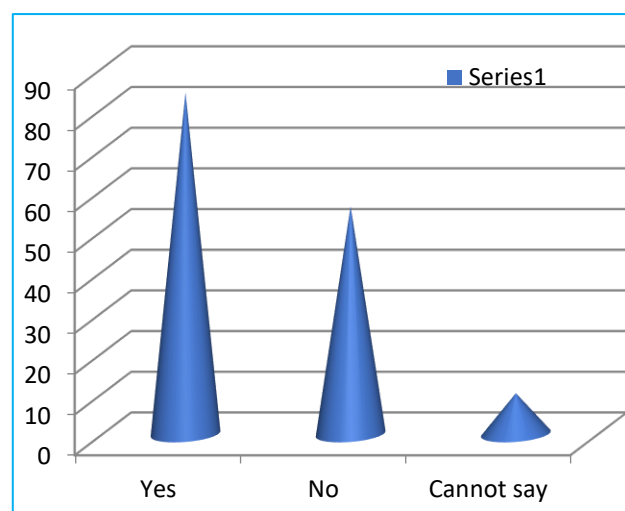
Lean manufacturing is related to customer responsiveness

S. No.	Yes	No	Cannot say
3	43	75	32



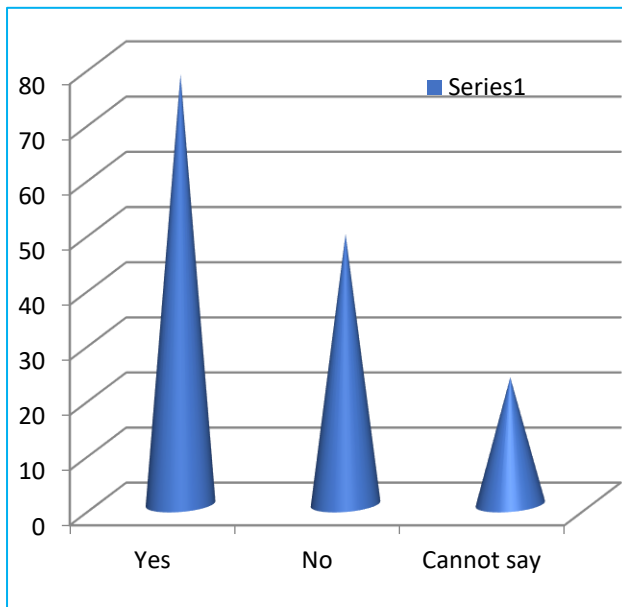
Agile chain is related to supply chain integration

S. No.	Yes	No	Cannot say
4	84	56	10



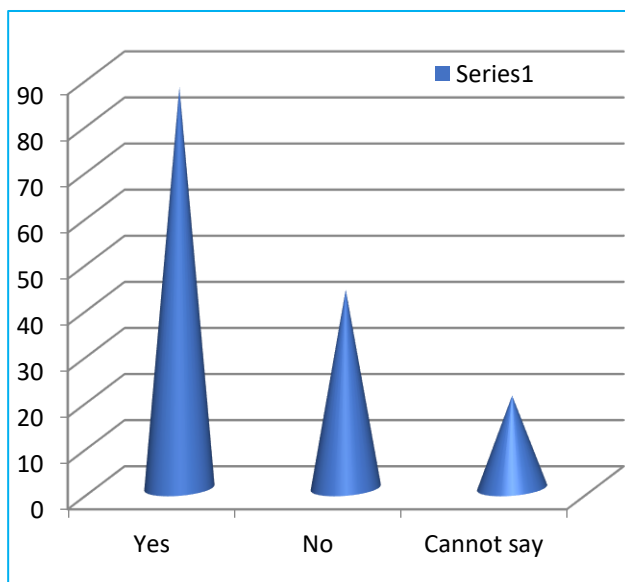
Agile chain is related to supply chain flexibility

S. No.	Yes	No	Cannot say
5	78	49	23



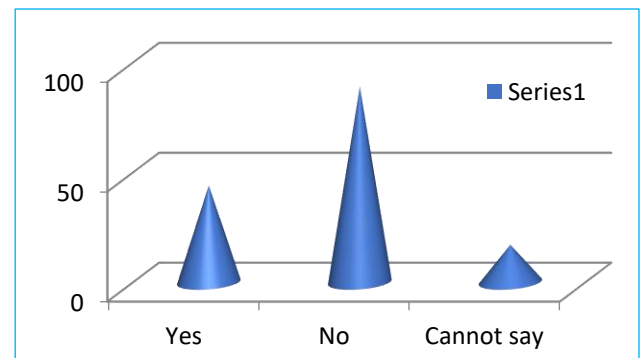
Agile chain is related to customer responsiveness

S. No.	Yes	No	Cannot say
6	87	43	20



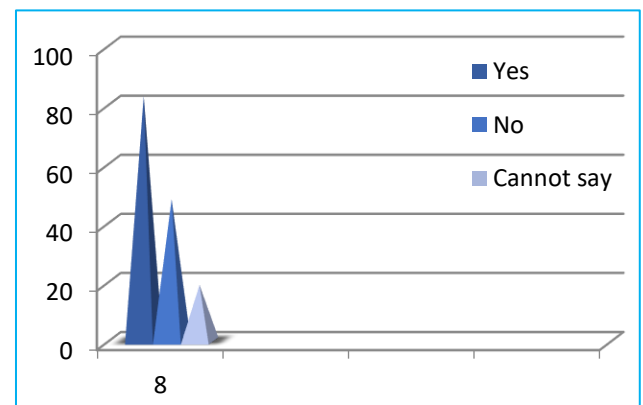
Hybrid supply chain is related to supply chain integration

S. No.	Yes	No	Cannot say
7	44	89	17



Hybrid supply chain is related to supply chain performance

S. No.	Yes	No	Cannot say
8	83	48	19



Hypothesis testing

In this paper ANOVA testing are used

1-H₁- Lean manufacturing supply chain is statistically same to supply chain integration, supply chain performance and customer responsiveness.

H₀- Lean manufacturing supply chain is statistically different to supply chain integration, supply chain performance and customer responsiveness.

2-H₂- Agile chain is statistically same to supply chain integration, supply chain flexibility and customer responsiveness.

H₀- Agile chain is statistically different to supply chain integration, supply chain flexibility and customer responsiveness.

3-H₃- Hybrid supply chain is statistically same to supply chain integration and supply chain performance.

H₀- Hybrid supply chain is statistically different to supply chain integration and supply chain performance.

Name of variables	Source of variation	SS	df	MS	F	p-value
Lean manufacturing	Between the groups	625.38	2	312.69	4.81	0.05
	Within the groups					
	Total	389.29	6	64.88		
Agile manufacturing	Between the groups	6425.39	2	3212.69	87.92	0,00
	Within the groups					
	Total	219.29	6	36.54		
Hybrid manufacturing	Between the groups	516.16	2	258,08	0.48	0.65
	Within the groups					
	Total	1603	3	534.33		

1-In lean manufacturing, the p-value is 0.05 which is equal to 0.05 thus, null hypothesis is rejected and alternate hypothesis is accepted. It means that lean manufacturing supply

chain is statistically same among supply chain integration, supply chain performance and customer responsiveness. This refined interpretation ensures clarity in understanding the

implications of the statistical test results in the context of lean manufacturing.

2-In agile manufacturing, the p-value is 0.00 which is less than 0.05 thus null hypothesis is rejected and alternate hypothesis is accepted. Hence, Agile chain is statistically same among supply chain integration, supply chain flexibility and customer responsiveness.

3-In hybrid manufacturing, the p-value is 0.65 which is greater than 0.05 hence, alternate hypothesis is rejected and null hypothesis is accepted. It means that Hybrid supply chain is statistically different between supply chain integration and supply chain performance.

RESULTS AND DISCUSSION

It presents the findings of the research, including ANOVA (Analysis of Variance).

It indicates that lean supply chain is statistically same among supply chain integration, supply chain performance and customer responsiveness similarly, agile manufacturing supply chain is also statistically same among supply chain integration, supply chain flexibility and customer responsiveness while hybrid supply chains show varying relationships between supply chain integration and supply chain performance [26-30]. This interpretation ensures that the reader understands the statistical relationships and their implications for lean, agile, and hybrid supply chains.

It highlights the importance of strategic supplier partnership, customer relationship, and information sharing as determinants of supply chain performance [31-33].

Discussion and implications

Discusses the weak relationship between supply chain management strategy and supply chain performance, emphasizing the importance of implementing the strategy into organizational practices [34].

Identifies strategic supplier partnership, customer relationship, and information sharing as strong predictors of supply chain performance [35].

Limitations and future research

Acknowledges limitations such as a focus on the manufacturing industry, a convenience sample, and self-reported questionnaire data.

Suggests potential areas for future research, including replication across industries and the use of random probability samples.

CONCLUSION

This study significantly contributes to the understanding of supply chain management by elucidating the impacts of different manufacturing paradigms—lean, agile, and hybrid—on various aspects of supply chain performance. Through the application of ANOVA, we have identified that lean supply chains are statistically similar in terms of supply chain integration, performance, and customer responsiveness. Similarly, agile supply chains show consistency across supply chain integration, flexibility, and customer responsiveness. In contrast, hybrid supply chains exhibit more complex and varied relationships, particularly between supply chain integration and performance. These findings underscore the critical role that tailored supply chain strategies play in enhancing organizational performance. By demonstrating the specific contexts in which different supply chain models excel, this study provides valuable insights for managers and practitioners seeking to optimize their supply chain operations to meet specific organizational goals. The paper concludes by emphasizing the contribution of the study to the understanding of supply chain management and its role in organizational performance. It also acknowledges the limitations and suggests avenues for future research.

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