



Firm size as a moderator: Examining environmental collaboration's impact on organization performance of sourcing firm

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Abstract

This study assesses the moderating effect of Firm size on the relationship between Environmental collaboration and organizational performance metrics. The impact of Strategic sourcing components on the Organizational performance metrics of the purchasing department executives of Textile firms in Hyderabad, Telangana state was also tested. Through the questionnaire, the primary data were collected from purchasing department executives of Textile firms in Hyderabad, Telangana state. Five hundred forty-nine acceptable responses were received eight weeks after the questionnaire was first distributed. After editing and removing outliers, 537 participants' replies were chosen from the obtained data. As a result, 537 responses are legitimate, or around 38% of the selected sample size.

The data collected from various sources have been classified and tabulated using appropriate statistical tools. The statistical techniques used for the study are Reliability Analysis, Descriptive Statistics, Independent sample t-test, One-way ANOVA, and relationship model using SEM. The study has listed Five Research Objectives by testing four main Hypotheses. The study's results suggest that, Environmental collaboration acts as a partial mediator in all the relationships between Strategic sourcing components and the Organizational performance metrics of Textile firms.

The study offers academics, investigators, and executives a paradigm for reorienting strategies in support of strategic sourcing and current possibilities and risks. An organization may establish enduring connections with its suppliers using strategic sourcing. Strategic sourcing aids in creating synergistic effects involving organizations and their vendors by reiterating the importance of the suppliers' core competencies and ensuring the appropriate vendors for the correct procurement target. This study may encourage textile-manufacturing firms to further their education and become knowledgeable about strategic sourcing that positively influences their organizational performance.

Keywords: Strategic sourcing, environmental collaboration, organizational performance metrics, firm size, textile firms, purchasing department executives

Introduction

Strategic sourcing is an institutional procurement process that continuously improves and re-evaluates the purchasing activities of a company. Strategic sourcing was termed in the end of 19th century and since then there has been a lot of study and several organizations have worked towards bringing down total cost involved in the process of manufacturing by taking measures in order to control their purchasing with the help of Strategic sourcing.

Due to recent business instability, businesses are more conscious of the need for greater vendor cooperation and interaction (Ju *et al.*, 2019). This is undoubtedly the case in strategic sourcing when procurement teams make significant manual attempts to locate and choose vendors (Gray *et al.*, 2020).

Yook *et al.* (2018) examine how business size affects the link between the ability to make green purchases and a company's success. In order to examine 239 answers from Japanese manufacturing businesses, the structural equation model (SEM) is applied. The findings show that their ability to make green purchases has a favourable impact on both environmental and economic outcomes. Varying levels of impact operational and dynamical capacities have on the effectiveness of green buying. The solid economic success depends more on the degree of agility capacities than company size, according to a supplementary investigation of the moderating influence of firm size.

In their 2007 study, Koufteros *et al.* examined the causes and effects of supplier development in product design operations. They evaluated the potential moderation effect that company size may have on the correlations. According to the research, depending on product development skills and supplier base rationalisation, vendor choice is significantly correlated with suppliers' connectedness. Conversely, choosing vendors based on their propensity for product creation gives rise to greater collaboration. The moderate role of company size was also shown to have some evidence in the research. Smaller enterprises' use of supplier-based rationalisation has a statistically considerable adverse influence on black-box incorporation; big firms do not experience this influence.

Kumar *et al.* (2019) examine the effect of a vendor's environmental management issues on a purchaser's environmental credibility. It is discovered that more significant amounts of a vendor's environmental management concerns negatively impact a purchaser's credibility. A more vital supplier relationship enhances this influence, whilst larger enterprises diminish the influence.

From 2000 to 2013, Chuang *et al.* (2019) looked at correlations among inventory leanness and operational effectiveness for a selection of public US retailers. The finding illustrates that smaller stores experience efficiency deterioration as inventory leanness increases, but more prominent merchants are more likely to experience efficiency improvement with declining yields. Furthermore,

irrespective of the company's size, being less lean is linked to improved operational efficiency during high volatility conditions. The results demonstrate that retail managers must exercise extra caution while seeking inventory leanness based on the company's size and market unpredictability.

Textile Industry & Telangana

Telangana is widely renowned for its traditional activities in the textile industry, which includes 17,000 handlooms, 50,000 power looms, and lakhs of trained labour. Including an estimated 5 million bales produced annually, it ranks as third-highest manufacturing state for cotton in India. Because of its regional position and easily accessible to the necessary materials, Hyderabad, is among the best places to produce textiles. The spinning industry, which has a total capacity of around 1 million spindles, supports this. Natives of the State make up a sizeable portion of the labour force in neighbouring textile centers in India, hence there is an innate traditional connection between the region's residents and the business. It also provides to major international brands (Kumari *et al.*, 2022).

These figures offer a good enough justification for performing the study in Hyderabad, Telangana, particularly in the context of the textile sector, which is primarily involved in the design, manufacture, and sale of yarn, fabric, and apparel.

Theoretical Foundation

- **Resource Orchestration theory:** The resource orchestration theory states that an organisation can fully utilize its capabilities when adequately organized, packaged and controlled (Yu *et al.*, 2021). It focuses on how a company organizes, aligns, and leverages its resources. Strategic sourcing practices like Communication: Sharing information with key stakeholders across the supply chain. Longterm supplier relationships: Collaborative development of strategies for future operations. Effective procurement plans: Streamlining and automating procurement processes. Supplier development: Building long term relationships to achieve strategic goals, contributes to effective resource orchestration.
- **Resource Based Theory:** Resource Based Theory (RBT) analyzes how a company's external factors impact its effectiveness (Barney, 1996) ^[20]. A vital component of any firm's strategy and operational administration is acquiring alternative sources. Individuals who are short on critical elements would attempt to form ties with others to get the things they need (Olavarrieta & Ellinger, 1997). Similar to how sellers rely on purchasers for valuable marketplaces and purchasers on vendors for outside elements (Acedo *et al.*, 2006). Additionally, organizations work to change their interdependence connections by reducing their dependency or raising the dependency of other organizations on themselves (Barney & Mackey, 2005) ^[21]. According to this perspective, organizations are seen as alliances that utilize their organizational structures and behaviour tendencies to secure and sustain necessary outer forces.

Need for the Study

Both the Indian economy and the multinational textile business are strongly impacted by the Indian textile

business. The primary justification for picking this sector is its significance to the Indian economy, which is reflected in the amount it contributes to manufacturing output, employment, and foreign currency exchange profits. Additionally, the textile industry fulfills one of the most fundamental human requirements and is crucial for sustaining steady development and raising living standards. Strategic sourcing may increase supply chain performance, allowing this heavily labor-intensive sector to hire millions of men and women and assist many more families to escape poverty.

The moderating effect of firm size (FS) on the relationship among environmental collaboration and organisational performance is examined in this research.

This study among the purchasing executives of textile companies in Hyderabad, Telangana, India, provides a fresh viewpoint on the impact of various strategic sourcing-related factors.

Statement of Problem

Companies should exert their maximum capabilities to gain absolute market superiority, for which traditional supply chain procedures by themselves will need to be revised.

The impact of strategic sourcing on organizational performance may be mitigated by the existence of several environmental-related aspects in a company. This has sparked a desire to investigate how one environmental variable mediates the relationship between strategic sourcing and organizational performance among textile sector businesses in Hyderabad, Telangana, India.

Limitations of the study

Strategic sourcing and its influence on organizational performance in the framework of various business attributes and environments nevertheless require further effort, laying the groundwork for new research.

Research Objectives

To analyze the moderating effect of Firm size on the relationship between Environmental collaboration and organizational performance metrics.

To provide valuable suggestions to the firms in the textile industry for enhancing Organizational performance based on the findings of the study.

Literature Review

Utilising a hierarchical regression approach upon SPSS 22.0, Wang *et al.* (2018) investigated the moderation effect of business size on SCM practises and the sustainability performance of the firms. The findings imply that the business's environmental and social performance favourably correlates with sustainable SCM techniques and firm size. The impact of sustainable SCM techniques on economic performance is tempered by firm size. Furthermore, internal sustainable supply chain management methods significantly improve the financial performance of significant firms but less substantially for small and medium-sized businesses (SMEs).

X. Wang *et al.* (2020) also show how company size and enterprise status in the supply chain have a mitigating effect on this relationship. The study shows that while inventory performance in the recipient country and globally does not considerably improve, it positively correlates with manufacturing clustering in the neighbouring areas. Furthermore, aside from the moderator variable of company

size on the favourable spillovers, all business status and firm size can favourably moderate these impacts in the SCM.

By considering the moderate effects of business size, Shi *et al.* (2018) seek to systematically study the relationship between technological innovation strategies and product quality. The findings show that technological innovation approaches have a favourable impact on appealing and average quality. The association involving technological innovation techniques and appealing quality is moderated by firm size.

Research Gap

It is unknown how firm size may moderate the link between strategic sourcing and organisational performance. According to the literature on strategic sourcing and organisational performance, most of the research is carried out in an international setting. On this subject, no research has been done in the Indian textile industry. Few researchers have examined how firm size mediate and moderate the causal connection among strategic sourcing and organisational performance in the Indian setting. Additionally, nothing is known about this investigation into the Indian textile sector.

However, research has not yet been done to examine the moderation and mediation of Firm Size in the Textile Industry in the Indian setting.

Hypothesis

- **H:** Firm Size moderates the relationship between Environmental Collaboration and Organizational Performance.
- **H.A:** Firm Size moderates the relationship between Environmental Collaboration and the Economic Performance of the Firms.
- **H.B:** Firm Size moderates the relationship between Environmental Collaboration and the Environmental Performance of the Firms.
- **H.C:** Firm Size moderates the relationship between Environmental Collaboration and the Social Performance of the Firms.

Research Methodology

Research Design: A descriptive research design is ideal for this study as we aim to understand the current state of strategic sourcing, environmental collaboration and their influence on the performance within the Indian textile industry. A questionnaire survey among purchasing department executives provides information about the purchasing department executives' perceptions of sourcing activity involved, the degree to which they demonstrate strategic sourcing practises, and the effect it has on the organisational performance.

Population of The Study: The survey involves the purchasing department executives employed by textile businesses in Hyderabad, Telangana. Hyderabad was chosen because it is home to many textile businesses and where the state's most prestigious businesses have their headquarters. In Hyderabad, around 611 textile businesses provide a great fusion of handwoven and contemporary textiles along the entire value chain, from fibre, yarn, and fabric to garments.

Sampling Design and Technique: To choose the sample size, we have used the census approach to ensure we gather

data from all relevant companies leading to more generalizable findings. The entire 611 textile firms in Hyderabad were considered for the study.

Four supply chain researchers and business professionals evaluated the study's usability and face validity beforehand. A web-based survey hosted by Survey Monkey was used to deliver the amended survey to a sample of purchasing professionals (www.surveymonkey.com).

Executives at multiple levels in purchasing departments from the textile sector, comprising businesses that make fibre, yarn, fabric, and apparel, made the ultimate list of responses. 1411 respondents received an email with a hyperlink. Periodic weekly reminders were issued to every responder to finish the questionnaire.

Five hundred forty-nine acceptable responses were received eight weeks after the questionnaire was first distributed. After editing and removing outliers, 537 participants' replies were chosen from the obtained data. As a result, 537 responses i.e. around 38% of the selected sample size are legitimate.

Demographic Variables

The variables like age, gender, Position/title, Working tenure, and Qualification in the present organization and organizational characteristics like the employees' size of the firm, Company class and annual gross sales are included as demographic factors.

Data Collection Method

Measurements from past studies had been modified for this research questionnaire. It was constructed in accordance with earlier research reflecting four first-order aspects: Long-term supplier relationship (Gupta & Narain, 2012), Supplier Development (Amin & Razmi, 2009) ^[4], Effective Procurement Plan (Apiyo & Mburu, 2014) ^[6] and Communication with suppliers (Yen *et al.*, 2011).

"5-point Likert scale questions were used to indicate all the conceptual components."

To select the research factors, learn about those factors, and create the conceptual background, secondary data served as a foundation. This information was gathered from various publications, including Infilibnet, Pro-Quest, google scholar, and a few reliable websites, journals, papers, and books.

Pilot Study

Before carrying out pilot research, a sample of 25 executives from the purchasing departments of 20 textile companies in Hyderabad city was selected. It was also established from the pilot research that the survey approach is more appropriate than other techniques like observation, interview, etc., since executives take their time responding to the assertions. Even if it takes a significant amount of time because purchasing department leaders have diverse work commitments, it nevertheless turns into a balanced approach to gathering data from them.

Reliability

Survey instruments' consistency, precision, and efficiency are referred to as reliability. "The Cronbach Alpha value needs to be greater than 0.7 for the instrument to be considered trustworthy" (Nunally & Bernstein, 1978).

Application of Various Statistical Tools

After gathering preliminary information from the selected participants, the results were cleaned, categorised, and

examined using SPSS and SmartPLS, These tools were also used to create and evaluate the proposed model.

The information was gathered via a self-administered questionnaire and entered into an MS Excel spreadsheet for analysis. The data set included a minimal number of missing values. When the data set has fewer than 5% missing values, (Hair *et al.*, 2013) recommendation is to utilize the Mean Value Replacement (MVR) approach.

Ethical Considerations

The research conducted to investigate the information regarding the link among the research components adhered to several ethical requirements:

- The participants were free to share their thoughts and ideas. We acknowledged the participants' worries. A very minority of participants declined to take the questionnaire.
- Neither of the responders was coerced into taking the survey.
- The replies provided by the participants and their personal information are kept in complete confidence.
- Furthermore, the outcomes are entirely reliant on the data gathered. As a result, no data have been fabricated.

Assumption of Normality

In order to determine if the data is consistent with the notion of normalcy, the values of skewness and kurtosis were analyzed. Using IBM SPSS 24, the mean values, standard deviation, skewness, and kurtosis response sets were calculated to ensure that the acquired data was normal.

A 5-point Likert scale, with 1 being the strongest disagreement and 5 being the strongest agreement, was used to measure each variable in the study. As all the means are above 3.5 all have high mean scores.

Skewness and kurtosis findings revealed that all of the constructs' z-scores fell within the permissible range of 1.96 (corresponding to a 95% confidence level), which was arrived by dividing the statistics of each construct by their standard error.

Additionally, on the assumption that the data is normally distributed ($p > 0.05$), the Shapiro-Wilk test of normality was employed.

We may infer that all constructs employed in this study are normally distributed because of the p Value for each construct is larger than 0.05. Hence it is presumed that the data is roughly normally distributed.

Demographic Profile of Respondents

Data were collected from purchasing department executives from textile firms of Hyderabad, India. During the data collection, demographic questions were based on age, gender; Position/title, Working tenure, and Qualification in the present organization are included. In addition, organizational characteristics like the number of employees, Company class and annual gross sales were asked to be filled by the purchasing department executives.

Path Modeling

H: To analyze the moderating effect of Firm size on the relationship between Environmental collaboration and organizational performance metrics. 03 hypothesis (H3 (A) to H3 (L) were formed.

PLS-MGA was used to evaluate the moderating role of business size categories in the link between environmental collaboration and economic performance.

The research produced path coefficient values for the association between environmental collaboration and economic performance of 0.316 for the small firm size group and 0.587 for the big firm size group.

Similarly other 02 hypothesis were tested.

Findings & Recommendations

Findings: Moderating effect of size of textile firms on the relationships between the Environmental Collaboration and organizational performance dimensions.

Business size has a statistically significant moderating impact on the links between environmental collaboration and economic performance.

Business size does not have a statistically significant moderating impact on the links between environmental collaboration and social performance.

Large textile businesses have a greater impact on organisational performance (economic performance and environmental performance) than do small textile enterprises.

Recommendations: Tailored Strategies for Different Sized Firms

- Large textile firms should leverage strategic sourcing to maximize performance gains.
- Small textile firms should focus on improving communication with suppliers.
- Both small and large firms should prioritize regular and positive steps for environmental collaboration.

Theoretical Implications

This study strengthens the understanding of the relationship between strategic sourcing and organizational performance.

It highlights the need for further research on the underlying factors affecting these relationships.

The study contributes to the field of business research by focusing on strategic sourcing in the textile industry.

It provides a foundation for future research on strategic sourcing in various industries.

Managerial implications of the study

There are a number of factors that textile firms need to consider when implementing a strategic sourcing program. These factors can be divided into internal and external factors.

Internal factors include the company's goals and objectives, its procurement processes, and its supplier relationships.

External factors include market conditions, supplier capabilities, and the regulatory environment.

By carefully considering all of these factors, textile firms can develop a strategic sourcing program that is tailored to their specific needs.

Conclusion

Indian Textile Industry has to work on improving supply chain coordination to compete with global competition, one of the area to focus is reducing the costs involved in manufacturing apparels, therefore strategic sourcing is a powerful tool that can help textile firms improve their performance.

By implementing a strategic sourcing program, textile firms can reduce costs, improve quality, increase efficiency, and enhance innovation.

Firms need to work on employ qualified and well trained resources as sourcing managers to develop and implement long term sourcing strategy ensuring cooperation with all the supply chain stakeholders.

All the members of Supply Chain should work towards developing sustainable model of product development and profitability with commitment towards the environmental goals of all the members.

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