



Streamlining Operations: The Impact of Effective Supplier-Manufacturer Relationships

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ARTICLE INFO

Article History:

Received: October 03, 2023
Revised: December 15, 2023
Accepted: December 18, 2023
Available Online: December 19, 2023

Keywords:

Supply Chain Management
Supply Chain Management
Supplier-Manufacturer Partnership

Funding:

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

ABSTRACT

Supply Chain Management (SCM) plays a crucial role for firms striving to maintain competitiveness amidst numerous competitors. In the contemporary business landscape, firms enhance their competitiveness by efficiently relying on their supply chain. Moreover, an effective and efficient supply chain has become a vital and valuable means for staying vigilant in the evolving and competitive global business environment, contributing to overall organizational performance improvement. The term "supplier-manufacturer partnership" refers to the relationship established when a manufacturer and supplier mutually agree to collaborate based on a specific contract. This research study is quantitative in nature with population in the vicinity of Rawalpindi & Islamabad working either as manufacturer of goods or are providing the services or in the service business. Simple random sampling technique has been utilized in cross-sectional time horizon. SPSS version 22.0 was used as statistical software to carry out the analysis. The findings suggest that a stronger partnership correlates with improved supply chain performance. Furthermore, the statistical tests conducted in this research underscored the significance of business value addition, communication and trust as the most influential factors contributing to enhanced supply chain performance and overall profitability. The study also unveiled that the partnership strongly affects information flow. Moreover, when information is effectively managed, and its quality is enhanced, it fosters strong partner relations, ultimately leading to improved supply chain effectiveness and heightened performance.



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Citation: Munir, S. (2023). Streamlining Operations: The Impact of Effective Supplier-Manufacturer Relationships. *iRASD Journal of Management*, 5(4), 193–204.

<https://doi.org/10.52131/jom.2023.0504.0117>

1. Introduction

The relationship between supply chain management (SCM) and the economy is symbiotic (Sudusinghe & Seuring, 2022). Effective SCM practices contribute to economic efficiency by reducing costs, increasing productivity and promoting international trade. The resilience of supply chains affects economic stability, affects employment, innovation and the overall business environment. In addition, SCM plays a role in shaping environmental aspects, reflecting the growing importance of sustainability in economic decisions. Ultimately, the dynamic interplay between SCM and the economy underscores the importance of well-managed supply chains in promoting growth, stability, and adaptability in the face of evolving economic challenges (Durugbo & Al-Balushi, 2023).

Supply chain management (SCM) has been characterized in various waysFantazy, Kumar, and Kumar (2010) have considered SCM as a process, a structure, a philosophy, and a function within the realm of management science. While Reid and Sanders (2012), described it as a system encompassing amenities and supply options, navigating through procurement, transformation, and distribution functions. SCM is a nexus of organizational functions, intricately interwoven with both downstream and upstream connections. This interconnected web involves a systematic orchestration of activities and procedures, culminating in the creation of a product or service with inherent value, for which customers are willing to pay (Christopher, 2022; Croom, Romano, & Giannakis, 2000) . Supply chain management (SCM) emerges as a linchpin in establishing and sustaining a robust competitive advantage over industry rivals (Fantazy et al., 2010; Wong, Lai, & Bernroider, 2015).

Hamister (2012) underscores that the fundamental role of the supply chain within any organization is to seamlessly integrate the flow of information. This integration serves as a strategic tool, empowering organizations to remain competitive and gain an edge in the global markets. Markley and Davis (2007), aligned with this perspective, drew attention to the escalating significance of fostering healthy relations with suppliers. They argued that such relationships not only determine the quality of materials to be procured but also influence the cost considerations, prompting organizations to strategize on cost reduction without compromising on quality.

Supplier-Manufacturer relationship describe the collaborative relationship formed when a manufacturer and supplier enter into a mutual agreement, outlined by a specific contract. This contractual agreement encapsulates comprehensive details about the tasks at hand and operates on a pricing model that delineates specific expectations to be met within a defined time period. As this partnership unfolds, its quality is gauged by how effectively the delivered products align with the manufacturer's requirements (Hidayat, Hudha, & Akhmad, 2015).

As the businesses are growing and are realizing the importance of supply chain for their success, it is important for the organizations to have a strong network of supply chain. The organizations can only build strong supply chain networks if they focus on their relationships with their suppliers and vendors. This can only be ensured when the businesses have strong working relations with their suppliers, more like partnerships, which are focused on long-term endeavors rather than being limited to a project or shorter time period. In this scenario, there is a need to understand that how having great working relationship with suppliers can help a business, in fact, it is important to know that how the good relations help the supply chain performance on the whole.

The research aims to examine the dynamics of supplier-manufacturer partnerships and their effects on supply chain performance by addressing key questions. These include the role of communication, the impact of knowledge sharing, the influence of technical knowledge, the active contribution of value by suppliers, organizational benefits of information sharing, the role of trust, and the importance of keeping pace with technological advancements for a successful partnership.

2. Literature Review

2.1. Supply Chain Management

Markley and Davis (2007) has explained that, with time, the field of supply chain management (SCM) has flourished, and due to this, the researchers, theoretician and the practitioners of supply chain around the globe emphasized on finding shared definitions and key terms explaining different phenomenon of supply chain. The field of supply chain like other fields of management has changed and in fact, has evolved over course of years, mainly during the 21st century and there has been a dire need to turn up with some ideas and definitions which will fit in well with the fast growing field of supply chain (Hamister, 2012).

The field of supply chain management (SCM) is more than often discussed as an art. Afterwards, it has been discussed more like a concept. Näslund and Hulthen (2012) explained that the basis provided by the researchers, theoreticians and practitioners in

order to explain or define supply chain is based on the six basic components, firstly, it is a network consisting of levels which are inter-related, secondly, the network acts as an integrated system, whereby each level is dependent on the other, third being the supply chain operates in relevance to a product, fourth component is that the supply chain can be a physical system or can act as a support system or both, fifth, it is bounded by the extent to which a product is seen or perceived by customer and lastly, the boundaries can be explained in terms of locality, distance, and centrality.

Markley and Davis (2007) pointed out one of the most important and critical limitation of the above discussed framework, which is the elimination of human factor from the whole process, however, the reality is that people or the human resource plays an important role in supply chain, as in with the acquisition of the quality human resource. Acquiring quality human resource is an integral part which ensures the success of any business and its operations, but up till now this has been considered the responsibility of the human resource department and has not been made the domain of the managers dealing with the supply chain.

With the passage of time, more and more people tried to research and tried to explain supply chain management (SCM) and in this process, new things kept on adding and enhancing the subject (Tan, 2002). Researchers have identified that the supply chain management (SCM) is a field that has become a discipline because it has combined concepts from many sub-fields like logistics, purchasing, operations and sourcing (LeMay, Helms, Kimball, & McMahan, 2017). Supply chain management (SCM), is a "tactical and systematize synchronization of the multiple business units and its policies across all these units within a specific firm and even across the industry within a same supply chain network, for the sole purpose of improving and bettering the durable performance of the individual firms as well as the whole supply chain" (Carter & Ellram, 2003; Jayant & Azhar, 2014).

2.2. Importance of supply chain

Supply chain management (SCM) assumes a central role in a firm's pursuit of competitiveness amidst a global marketplace characterized by heightened competition (Sabir & Irfan, 2014). The effectiveness of a supply chain has evolved into a crucial tool for organizations aiming to thrive and enhance overall performance in today's dynamic business world (Ul-Hameed, Mohammad, Shahar, Aljumah, & Azizan, 2019). The intensification of competition, spurred by globalization, compels firms to deliver products promptly to the right location, driving the imperative for an efficient supply chain (Näslund & Hulthen, 2012).

Recognizing the strategic importance of coordination, SCM has become instrumental in creating sustainable competitive advantages through enhanced awareness among suppliers and manufacturers (Hayat, Abbas, Siddique, & Cheema, 2012). The rapid progress of SCM is attributed to the realization of the value of collaboration and resource utilization beyond organizational boundaries (McMullan, 1996). The fundamental purpose of the supply chain is to streamline information flow, providing organizations with a competitive edge globally. SCM not only contributes to building a strong competitive advantage but also ensures its sustainability (Fantazy et al., 2010; Tan, 2002; Wong et al., 2015; Wu, Chou, Shih, & Wang, 2011).

In this competitive landscape, organizations are adopting competitive strategies focused on achieving cost advantages through the production of high-quality products at a relatively low cost (LeMay et al., 2017). Poon and Lau (2000) stress the importance of timely responses to evolving market dynamics, preventing customer attrition and revenue loss. Näslund and Hulthen (2012) theorized that meticulous planning and execution of SCM are essential for organizational survival in the global market. A strategic partnership between suppliers and manufacturers yields positive impacts on product performance and overall organizational success. Building enduring relations with suppliers is imperative for organizational flourishing (Wong et al., 2015). In the context of global supply chains, effective communication is highlighted as a critical factor for supply chain integration (Li & Disney, 2017).

An integrated supply chain is characterized by strong internal and external harmonization, leading to benefits such as high-capacity utilization, high-quality manufacturing, reduced lead times, and lower inventory. Mutual understanding, trust, and agreement among supply chain partners are key elements for achieving and sustaining integration (Isaksson & Seifert, 2016; Jayant & Azhar, 2014; Lee, Kim, & Kim, 2014). Partnerships thrive when information is shared, risks and costs are communicated transparently, and activities are integrated (Jain & Khurana, 2016; Zare Mehrjerdi & Hosseini, 2016). A constructive relationship between manufacturers and suppliers fosters compatible organizational cultures, contributing to positive outcomes for both parties (Heizer, Render, & Munson, 2020; Reid & Sanders, 2012).

2.3. Supplier - Manufacturer Partnership

A supplier-manufacturer partnership refers to the relationship formed when a manufacturer and supplier mutually agree to collaborate based on a specific contract. This contractual agreement outlines the scope of work, often incorporating a pricing model that defines expectations within a specified time period. According to Lövblad, Hyder, and Lönnstedt (2012), successful partnerships are characterized by a shared understanding between the supplier and manufacturer, fostering essential knowledge sharing for the development of a robust and cooperative alliance. Over time, the partnership matures, and the quality of the relationship is gauged by how well the delivered products align with the manufacturer's requirements. Researchers have assessed multiple factors influencing "partnership quality," encompassing aspects like participation, joint action, communication quality, coordination, information sharing, relationship age, mutual dependency, cultural similarity, and top management support.

2.3.1. Construct of Supplier-Manufacturer Partnership

Based on the literature review of supplier-manufacturer partnerships, it is evident that these partnerships play a crucial role in benefiting organizations in various aspects. To measure the impact of supplier-manufacturer partnerships on supply chain performance, it is essential to identify the variables that will be used in the research to assess this impact. Several contributing factors to supplier-manufacturer partnerships have been selected and explained in the following sections. The key variables include:

2.3.1.1. Communication

In the contemporary scenario, where cooperation is vital for organizations to achieve goals globally, the level of communication is a determining factor for organizational success (Svensson, Roberts-Lombard, & Mpinganjira, 2017). Chakraborty and Philip (1996) emphasize that communication is a precondition for the success of any organization and serves as the starting point for every project. Communication commences with the signing of a contract, involving managing the supplier, setting expectations, unfolding requirements, and subsequent constant supervision and control. Effective communication is crucial for keeping the supplier updated and motivated, aiding in project activities, and gaining insight into new product development. Establishing a communication plan at the project's onset helps organizations anticipate and overcome future hurdles, with periodic updates tailored to the supplier's and manufacturer's needs (Bennett & Gabriel, 2001; Lövblad et al., 2012). Sushil and Martin (2014) discuss various communication methods, emphasizing their importance for both suppliers and manufacturers. Documenting all communication is essential for future reference. Direct one-on-one communication builds a long-term, trustworthy partnership, providing immediate responses and increasing mutual confidence (Jain & Khurana, 2016).

2.3.1.2. Knowledge Sharing

Outsourcing allows organizations to delegate tasks to external entities, driven by reasons such as time constraints, cost-cutting, or resource limitations (Jain & Khurana, 2016). Bennett and Gabriel (2001) argue that organizations must provide timely and essential information to suppliers, fostering an understanding of product qualifications and requirements. Knowledge sharing is crucial for the supplier's understanding of project

expectations and outcomes (Sushil & Martin, 2014). A proactive approach to resolving technical aspects and involving the supplier in information sharing promotes successful partnerships. Building sustainable partnerships relies on mutual understanding and trust established through knowledge sharing (Chakraborty & Philip, 1996; Jain & Khurana, 2016). However, contemporary trends indicate a shift in this paradigm, with organizations becoming increasingly involved in every stage of the product development process (Li & Zhang, 2015). Bennett and Gabriel (2001) assert that providing timely and essential information to the supplier has become imperative. This ensures that the supplier remains informed about any changes, issues, or updates, fostering a collaborative and responsive environment throughout the manufacturing process.

2.3.1.3. Technical Value Addition

The efficacy of any outsourced task, whether it pertains to product creation or new product development, hinges on the technical skills and know-how available with the supplier (Svensson et al., 2017). Beyond technical proficiency, success demands meticulous adherence to instructions provided for the task at hand. In this collaborative endeavor, both the supplier and the manufacturer are expected to function as partners, actively engaging in all significant technical decisions. Sushil and Martin (2014) argue that this partnership should extend to mutual recommendations for technical improvements, fostering an environment where both parties contribute to enhancing the overall quality of products. In essence, the success of outsourcing endeavors relies not only on technical competence but also on the collaborative synergy between the supplier and the manufacturer, emphasizing shared responsibility and a commitment to continuous improvement.

2.3.1.4. Business Value Addition

Supplier teams capable of providing services beyond the basic product, offering business insights, recommendations for product enhancement, and collaborating towards shared goals strengthen partnerships (Chakraborty & Philip, 1996). Suppliers can act as business analysts, organizing requirements and enhancing goodwill, ultimately improving the partnership (Jain & Khurana, 2016). Indeed, if the supplier's team possesses the capability to offer services beyond the basic product, it opens the door to a more profound and collaborative partnership. This extended scope of service may encompass valuable contributions such as providing suggestions on business strategy, offering insights on product enhancements and feature development, as well as recommending improvements for the product or service.

2.3.1.5. Information Security

Jain and Khurana (2016) underscore the critical aspect of information security, focusing on safeguarding manufacturers' data. This involves managing the confidentiality of information and preventing unauthorized access. Breaches in security can lead to significant business losses for both the supplier and the manufacturer (Sushil & Martin, 2014). It is essential for both parties to mutually agree on the level of information security required, with legal repercussions possible if confidential information is compromised. Therefore, comprehensive contracts or agreements should outline the provisions regarding the extent of information security mandated by the manufacturer.

2.3.1.6. Client Vendor Adaptability

Adaptability is vital for partnership success, especially when projects are outsourced to distant countries with different time zones and cultural differences (Sushil & Martin, 2014). Suppliers should acclimate to manufacturers' needs, demonstrating flexibility and overcoming challenges associated with geographical and cultural disparities (Svensson et al., 2017). Contractual models like best shore, nearest shore, or follow the sun can enhance supplier-manufacturer adaptability (Webb & Laborde, 2005).

2.3.1.7. Trust

Trust plays a pivotal role in supply chain partnerships, fostering long-term relationships and mutual understanding (Alshurideh et al., 2022; Jain & Khurana, 2016). Achieving supply chain integration requires mutual trust and agreement on various issues and objectives (Jayant & Azhar, 2014; Lee et al., 2014). The cultivation of trust forms the foundation for sustained collaboration and achievement of shared objectives in the complex landscape of supply chain management.

3. Theoretical Framework

The research framework of this research study is:

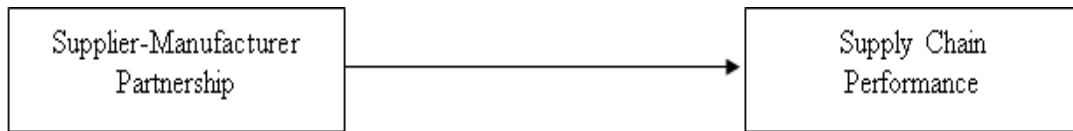


Figure 1: Theoretical Framework

The supplier-manufacturer partnership is evaluated through seven constructs: communication, knowledge sharing, technical value-addition, business value-addition, information security, client vendor adaptability, and trust. Effective communication is crucial for organizational success, as highlighted by (Chakraborty & Philip, 1996; Svensson et al., 2017). Communication begins with contract signing, setting expectations, and ongoing supervision. Outsourcing, discussed by Jain and Khurana (2016), involves passing tasks to external organizations for reasons like time constraints or cost-cutting. Organizations are now more involved in every stage of product development (Li & Zhang, 2015). Bennett and Gabriel (2001) stress the importance of timely information sharing between suppliers and manufacturers. Sushil and Martin (2014) argue that suppliers should provide services beyond the basic product, contributing insights and recommendations for improvement. Information security, as emphasized by Jain and Khurana (2016), is vital to protect manufacturers' data, and adaptability, according to Sushil and Martin (2014), is crucial for partnership success. Trust, playing a pivotal role, enhances long-term relationships between suppliers and manufacturers (Jain & Khurana, 2016). The importance of mutual understanding and trust in achieving supply chain integration is highlighted by (Jayant & Azhar, 2014; Lee et al., 2014).

3.1. Hypothesis Development

H1: Supplier-manufacturer partnership has a positive impact on the supply chain performance.

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4. Methodology

This research study is quantitative in nature. The population under study includes all the organization in the vicinity of Rawalpindi & Islamabad working either as manufacturer of goods or are providing the services or in the service business. The units of analysis were the managers and employees of the organization and were selected through simple random sampling. The time horizon of the study is cross-sectional. A questionnaire with a seven-point likert scale was developed in order to collect the required data. SPSS version 22.0 was used as statistical software to carry out the analysis.

5. Data Analysis

This section of the research study deals with the statistical analysis of the research study and comprises of the descriptive and correlation analysis.

5.1. Descriptive Statistics

The total number of responses for data came to about 153 questionnaires, out of which three were removed based on box plot analysis, making the total number of used responses to 150. Descriptive statistics is discussed below: -

5.1.1. Gender

Out of the 150 respondents, 112 were male and 38 were female respondents, the male respondents are 74.6 % of the sample size, whereas, the female respondents are 25.3 % of sample size. The same results have been shown in the pie chart for better understanding.

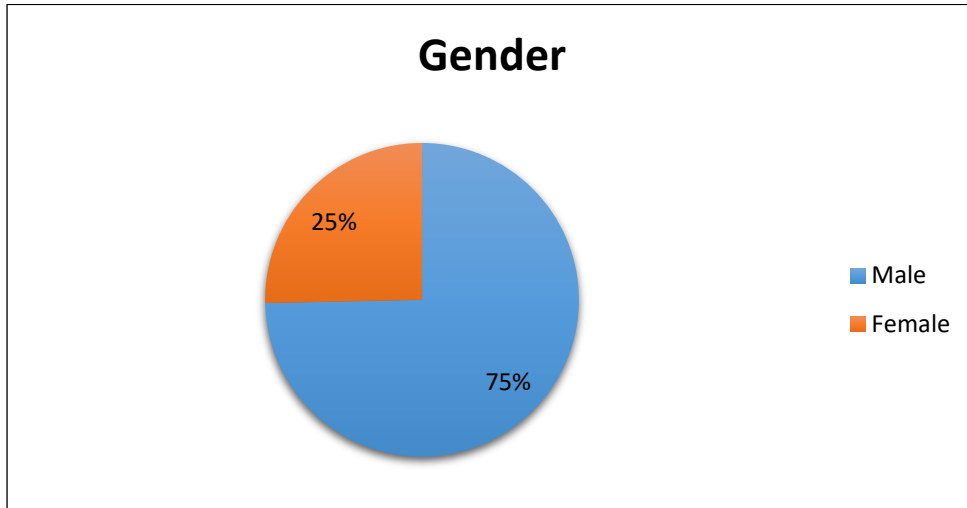


Figure 2: Pie Chart of Gender

5.1.2. Age

Table 1
Descriptive Statistics of Age

| | | Frequency | Percent | Cumulative Percent |
|-------|-------------|-----------|---------|--------------------|
| Valid | 20-29 Years | 64 | 42.6 | 42.6 |
| | 30-40 Years | 49 | 32.6 | 75.2 |
| | 40-49 Years | 30 | 20 | 95.2 |
| | 49 & above | 7 | 4.6 | 100 |
| Total | | 150 | 100.0 | |

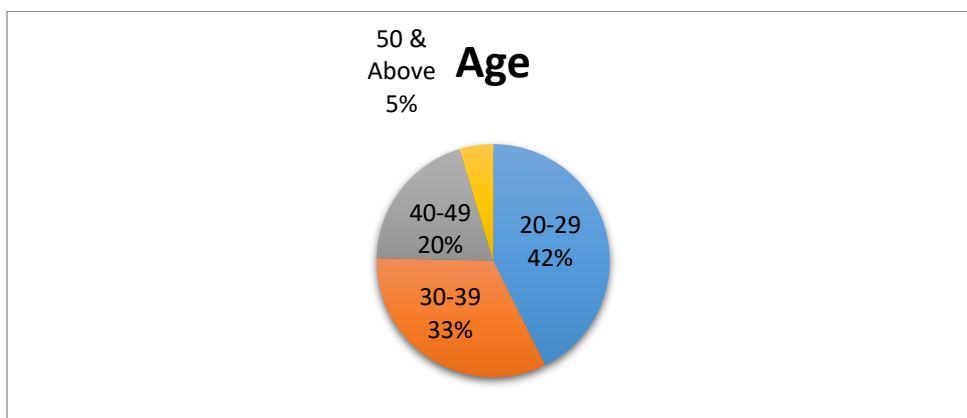


Figure 3: Pie Chart of Age

5.1.3. Industry

Table 2
Descriptive Statistics of Industry

| | | Frequency | Percent | Cumulative Percent |
|-------|---------------|-----------|---------|--------------------|
| Valid | Manufacturing | 97 | 63.39 | 63.39 |
| | Service | 53 | 34.6 | 100.0 |
| Total | | 153 | 100.0 | |

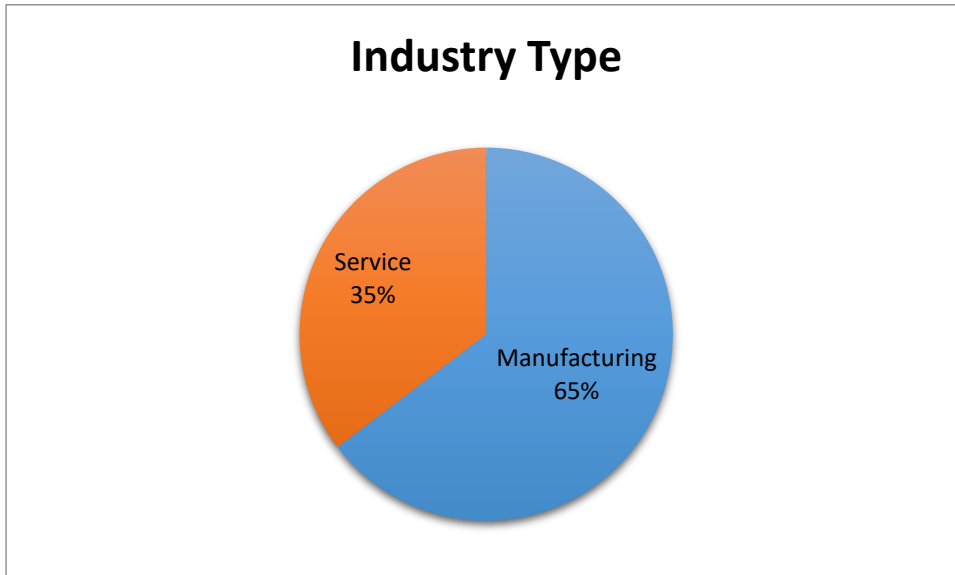


Figure 4 - Pie Chart of Industry Type

5.1.4. Company History

Table 3
Descriptive Statistics of Company History

| | | Frequency | Percent | Cumulative Percent |
|-------|--------------------|-----------|---------|--------------------|
| Valid | Less Than 1 Year | 10 | 6.5 | 6.5 |
| | 1-5 Years | 60 | .2 | .7 |
| | 6-10 Years | 47 | 30.7 | 76.4 |
| | 11-15 Years | 28 | 18.3 | 94.7 |
| | More Than 15 Years | 5 | 3.26 | 100 |
| Total | | 150 | 100.0 | |

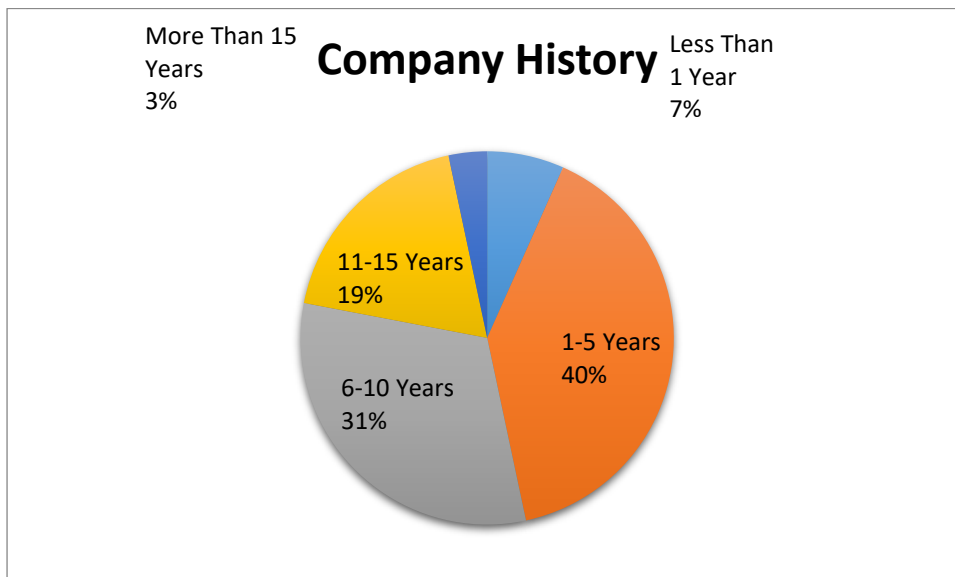


Figure 5: Pie Chart of Company History

5.1.5 Job Title

Table 4 - Descriptive Statistics of Job Title

| | | Frequency | Percent | Cumulative Percent |
|-------|-----------|-----------|---------|--------------------|
| Valid | Executive | 21 | 13.7 | 13.7 |
| | Manager | 57 | 37.25 | 50.95 |
| | Engineer | 40 | 26.14 | 77.09 |
| | Officer | 17 | 11.11 | 88.2 |
| | Associate | 2 | 1.30 | 89.5 |
| | Other | 13 | 8.49 | 100 |
| | Total | | 150 | 100.0 |

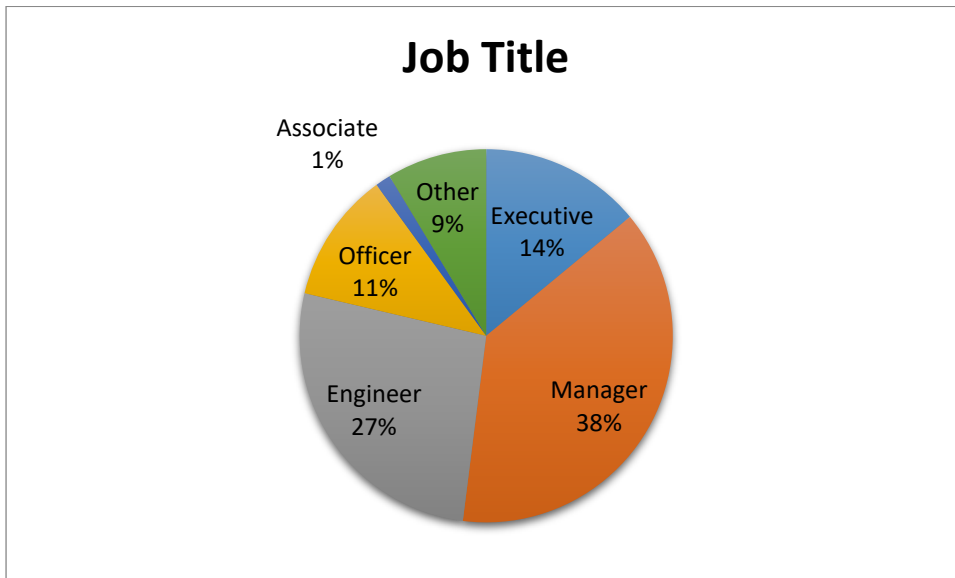


Figure 6: Pie Chart of Job Title

5.2. Reliability Analysis

The following table depicts the values of Cronbach’s alpha for each of the construct:

Table 5
Cronbach’s Alpha

| Scale | Cronbach’s Alpha |
|----------------------------|------------------|
| Communication | 0.854 |
| Knowledge Sharing | 0.769 |
| Technical Value Addition | 0.678 |
| Business Value Addition | 0.754 |
| Information Security | 0.890 |
| Client Vendor Adaptability | 0.899 |
| Trust | 0.786 |
| Supply Chain Performance | 0.898 |

5.3. Correlation

Table show the correlations among the all seven variables and supply chain performance. The correlation analysis indicates that all seven variables have positive correlation with each one of the other variables.

Table 6
Correlation Analysis

| | Communication | Knowledge Sharing | Technical Value Addition | Business Value Addition | Information Security | Client Vendor Adaptability | Trust | Supply Chain Performance |
|----------------------------|---------------|-------------------|--------------------------|-------------------------|----------------------|----------------------------|-------|--------------------------|
| Communication | 1 | | | | | | | |
| Knowledge Sharing | 0.445 | 1 | | | | | | |
| Technical Value Addition | 0.543 | 0.578 | 1 | | | | | |
| Business Value Addition | 0.345 | 0.761 | 0.329 | 1 | | | | |
| Information Security | 0.651 | 0.345 | 0.434 | 0.342 | 1 | | | |
| Client Vendor Adaptability | 0.876 | 0.732 | 0.661 | 0.548 | 0.643 | 1 | | |
| Trust | 0.890 | 0.432 | 0.513 | 0.865 | 0.544 | 0.543 | 1 | |
| Supply Chain Performance | 0.767 | 0.775 | 0.723 | 0.976 | 0.232 | 0.536 | 0.651 | 1 |

6. Conclusion

This study aimed to understand how the partnership between suppliers and manufacturers impacts the overall performance of a firm's supply chain. Seven key factors were identified as drivers of this partnership: communication, knowledge sharing, technical value addition, business value addition, information security, client-vendor adaptability, and trust. The study measured the impact of this partnership on supply chain performance across these variables through a survey. The survey results highlighted the crucial role of all these factors as essential link between supplier-manufacturer partnership and supply chain performance. Statistical analysis emphasized that the partnership between an enterprise and its suppliers significantly influences the overall performance of the supply chain. The findings suggest that a stronger partnership correlates with improved supply chain performance. Furthermore, the statistical tests conducted in this research underscored the significance of business value addition, communication and trust as the most influential factors contributing to enhanced supply chain performance and overall profitability.

The study also unveiled that the partnership strongly affects information flow. However, when information is effectively managed, and its quality is enhanced, it fosters strong partner relations, ultimately leading to improved supply chain effectiveness and heightened performance. Additionally, the research emphasized that supply chain integration plays a pivotal role, with better integration contributing to superior overall supply chain performance.

6.1. Limitations / Future Implications

The research study has certain limitations that should be acknowledged:

a. Geographical Restriction

The study has a limited scope as it was conducted solely in the cities of Rawalpindi and Islamabad. Future studies could broaden their geographical coverage by including other major cities in Pakistan, such as Lahore and Karachi, to provide a more comprehensive understanding.

b. Incompleteness of Framework

The research framework might benefit from the inclusion of additional factors influencing supplier-manufacturer partnerships. There are likely various other elements that could impact this relationship, and future studies may consider expanding the framework to incorporate a more holistic view.

c. Single Perspective

The research solely explores the perspective of manufacturers, overlooking the viewpoint of suppliers. Future research endeavors should strive for a more balanced approach by incorporating the insights and experiences of suppliers. This would provide a more comprehensive understanding of the dynamics within the supplier-manufacturer partnership.

Addressing these limitations in future research will contribute to a more thorough and nuanced understanding of supplier-manufacturer partnerships, fostering a richer and more applicable knowledge base.

6.2. Significance of Study

This study endeavors to improve the intricate relationship between suppliers and manufacturers, exploring the layers of this business dynamic to understand its profound impact on overall supply chain performance. In a world where connections matter more than ever, the research focuses on seven crucial dimensions, including communication, knowledge sharing, and trust. Beyond these metrics, the research explores how effective communication, shared knowledge, and trust contribute to the vitality of the supplier-manufacturer partnership. It highlights the importance of suppliers adding value to a business and the transformative benefits of information sharing.

Authors Contribution

Saqib Munir: Contributed to the conceptualization, data sorting, editing, referencing, analysis and write up of the paper.

Conflict of Interests/Disclosures

The authors declared no potential conflicts of interest w.r.t the research, authorship and/or publication of this article.

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