Study on the Roles of Supply Chain Management in Corporate Outsourcing

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***Abstract*—Outsourcing has become a strategic tool for corporations seeking to enhance their competitiveness and operational efficiency. This paper investigates the pivotal roles that supply chain management (SCM) plays in corporate outsourcing. By examining the integration of SCM principles with outsourcing strategies, the study aims to highlight how effective supply chain coordination can drive value creation, reduce costs, and enhance overall organizational performance. Key areas of focus include the management of supplier relationships, risk mitigation, and the optimization of logistics and inventory management. The research employs a mixed-method approach, combining quantitative data analysis with qualitative insights from industry case studies. Findings suggest that a robust SCM framework is essential for maximizing the benefits of outsourcing, providing a comprehensive blueprint for companies to streamline operations and achieve sustainable growth. This study contributes to the field by offering a nuanced understanding of the interplay between SCM and outsourcing, and proposes best practices for practitioners aiming to leverage SCM for strategic advantage in outsourcing endeavors.**

Keywords: Supply Chain Management, Corporate Outsourcing, Supplier Relationships, Risk Mitigation, Logistics Optimization, Operational Efficiency.

1. INTRODUCTION

In today's highly competitive and globalized business environment, corporations are increasingly turning to outsourcing as a strategic tool to enhance their operational efficiency, reduce costs, and focus on core competencies. outsourcing involves the delegation of certain business functions or processes to external suppliers or service providers, allowing organizations to leverage specialized expertise and achieve greater flexibility. However, the success of outsourcing initiatives is heavily dependent on the effective management of the supply chain, which encompasses the coordination of activities from raw material procurement to the delivery of final products or services.

supply chain management (SCM) plays a crucial role in ensuring the seamless integration of outsourced functions with the organization's overall operations. SCM involves the planning, implementation, and control of supply chain activities with the objective of creating net value, building a competitive infrastructure, leveraging worldwide logistics, synchronizing supply with demand, and measuring performance globally. The strategic alignment of SCM with corporate outsourcing initiatives can significantly enhance the efficiency and effectiveness of these efforts, leading to improved service levels, reduced costs, and increased organizational agility.
This study aims to investigate the roles of SCM in corporate outsourcing, focusing on how effective supply chain coordination can drive value creation and performance improvement. Key areas of exploration include the management of supplier relationships, risk mitigation strategies, and the optimization of logistics and inventory management. The research employs a mixed-method approach, combining quantitative data analysis with qualitative insights from industry case studies, to provide a comprehensive understanding of the interplay between SCM and outsourcing.

The significance of this study lies in its potential to offer practical insights and strategic recommendations for organizations seeking to optimize their outsourcing practices. By highlighting best practices and identifying key success factors, the research aims to provide a roadmap for companies to navigate the complexities of modern supply chains and achieve sustainable growth through effective outsourcing. Ultimately, this paper contributes to the broader discourse on SCM and outsourcing by presenting a nuanced understanding of their interdependencies and proposing a framework for maximizing the benefits of both.

In the following sections, we will delve deeper into the specific roles of SCM in corporate outsourcing, examining the critical elements that drive successful outcomes and presenting case studies that illustrate the practical applications of these principles. Through this exploration, we aim to shed light on the strategic importance of SCM in outsourcing and provide actionable insights for practitioners and decision-makers in the field.

2. LITERATURE REVIEW

The interplay between supply chain management (SCM) and corporate outsourcing has garnered significant attention in academic and industry circles over recent decades. This literature review examines the existing body of knowledge on the roles of SCM in corporate outsourcing, focusing on supplier relationships, risk mitigation, logistics and inventory management, and the strategic alignment of SCM and outsourcing.

Supplier Relations- Effective supplier relationship management (SRM) is critical for the success of outsourcing initiatives. The literature emphasizes that strong, collaborative relationships with suppliers can lead to improved performance, innovation, and cost efficiencies. Cousins and Menguc (2006) highlight the importance of strategic supplier partnerships, arguing that trust and communication are essential for achieving mutual benefits. Similarly, Krause, Handfield, and Tyler (2007) discuss the role of supplier development programs in enhancing supplier capabilities and fostering long-term relationships. Choi and Krause (2006) suggest that the integration of suppliers into the firm's value chain can lead to significant competitive advantages. They argue that by working closely with suppliers, firms can co-create value and respond more effectively to market changes. This notion is supported by Chen, Paulraj, and Lado (2004), who find that strategic sourcing and close supplier relationships are positively associated with firm performance.

Risk management is a critical aspect of SCM, particularly in the context of outsourcing. The literature identifies various risks associated with outsourcing, including supply chain disruptions, quality issues, and dependency on suppliers. Tang (2006) proposes several risk mitigation strategies, such as diversifying the supplier base, maintaining safety stock, and developing contingency plans. Zsidisin and Wagner (2010) emphasize the importance of risk assessment and proactive management. Their research shows that firms that actively manage supply chain risks are better positioned to handle disruptions and maintain continuity. Blackhurst, Dunn, and Craighead (2011) further highlight the role of supply chain visibility and transparency in risk mitigation, suggesting that real-time monitoring and information sharing can help firms anticipate and respond to potential issues.

The strategic alignment of SCM with outsourcing initiatives is a recurring theme in the literature. Ketchen and Hult (2007) argue that SCM should be integrated into the firm's overall strategy to maximize the benefits of outsourcing. They suggest that firms should adopt a holistic view of the supply chain, considering all elements from sourcing to delivery in their strategic planning. Gilley and Rasheed (2000) explore the impact of outsourcing on firm performance, finding that firms that strategically align their outsourcing decisions with their core competencies tend to perform better. This is supported by McIvor (2000), who presents a framework for outsourcing that emphasizes the importance of aligning outsourcing decisions with the firm's strategic objectives and capabilities.

3. METHODOLOGY

This report highlights the complete understanding of various subjects involved in the form of corporate outsourcing and the methods by which corporations or multinational corporations of various parts of the world handle outsourcing to benefit their own bottom line profits.

A. Corporate outsourcing and its scope

Outsourcing refers to the practice of hiring third parties to perform services or create goods that were traditionally performed in-house by the company's own employees and staff. This can include a wide range of tasks and services.
Scope: It can be applied to various levels of business operations, including small tasks, specific projects, or entire business functions.
Corporate outsourcing is a specific type of outsourcing where large corporations hire or have a percentage of stake in the external firms to manage and perform substantial portions of their business operations.
Scope: Typically involves outsourcing large-scale and critical business functions such as HR, finance, IT, and sometimes even entire departments. Strategic Focus is Often part of a strategic move to focus on core competencies, improve efficiency, reduce costs, and leverage external expertise.

B. Supply Chain in Corporate Outsourcing

Supply Chain Management plays an important role in corporate outsourcing by ensuring that outsourced activities align with the overall strategy and objectives of the organization. Here are key roles of SCM in corporate outsourcing:

Strategic Planning and Decision-Making: SCM helps in identifying functions or processes that can be outsourced to external partners. This includes non-core activities that do not directly contribute to the company's competitive advantage.
Cost Analysis and Reduction: SCM conducts detailed cost-benefit analyses to determine the financial viability of outsourcing. This includes comparing in-house costs with outsourcing costs to identify potential savings.
Process Integration: SCM ensures that outsourced processes are seamlessly integrated with internal processes. This involves synchronizing workflows, systems, and information

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flows between the company and outsourcing partners.
Setting Quality Standards: SCM establishes quality standards that outsourcing partners must meet. This ensures that the outsourced activities do not compromise the overall quality of products or services.

Service Level Agreements (SLAs): SCM defines and manages SLAs to ensure that the performance of outsourcing partners meets the required standards and expectations.
Resource Allocation: By outsourcing non-core functions, SCM allows the company to allocate more resources and focus on core competencies that drive competitive advantage and growth.
Identifying and Mitigating Risks: SCM identifies potential risks associated with outsourcing, such as supply disruptions, quality issues, and geopolitical risks. Mitigation strategies are then developed to address these risks.
Leveraging Expertise: SCM leverages the specialized expertise of outsourcing partners to drive innovation and improve processes. This can lead to the development of new products, services, or technologies.

4. CORPORATE OUTSOURCING MODEL IN TOYOTA MOTOR CORPORATION

Toyota Motor Corporation (TMC) is a major leading vehicle manufacturer in the world with 2nd highest market share headquartered in Japan. To capture other markets around the world, TMC buys stakes in other local manufacturers in that specific region and forms a joint venture with them.

This report highlights the working of TMC in the Asia Pacific region. TMC's joint ventures in Asia Pacific, help the company in establishing their manufacturing plant in the specific country, as well as Corporate Outsourcing model used between these joint ventures.

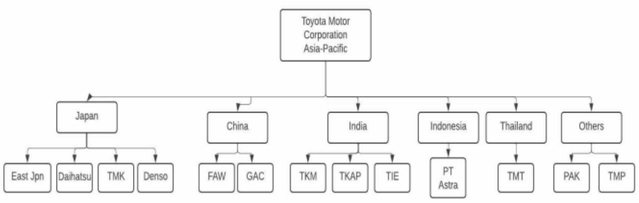

Fig. 1. TMC's stake in Asia Pacific

Figure 1. represents the various partnerships built by TMC in order to control the manufacturing of the products local to the market and also to leverage the use of corporate outsourcing.

A. Toyota Kirloskar Auto Parts (TKAP)

This report is based on the working and operations outsourcing activities of Toyota Kirloskar Auto Parts (TKAP). TKAP, an auto parts manufacturing company based at Bidadi industrial area near Bangalore, India with a land area of 61.7 Acre and 70,000 sq.m. Established in 2002 is a joint venture among

1. Toyota Motor Corporation (TMC), Japan
2. Aisin Seiki Co. Ltd, Japan
3. Kirloskar Systems Limited, India

These investors play a crucial role in the selection and establishment of facilities in the region. The plan for setup, products manufactured and location is predetermined using strategic decisions taken at TMC. TKAP mainly manufactures 3 products -

1. The 5 Speed Manual Transmission (R150)
2. Hybrid Transaxle
3. Rear Wheel Drive Axle

B. Outsourcing of R150 Transmissions

In this case of TKAP and the influence of TMC in the major decisions and directions on operations of TKAP, Procurement of 5 speed manual Transmissions (R-150) of Toyota Motors Thailand (TMT) from Toyota Kirloskar Auto Parts (TKAP), India is an example of corporate outsourcing.

As TMT in Thailand has only the final manufacturing and Assembly unit, TMT outsources its transmission from the Transmission manufacturing plant in India, TKAP.

This type of delegating the manufacturing process in larger corporations such as Toyota Motor corporation is an example of corporate Outsourcing. The process of working is as follows Toyota Joint Ventures around the world actas separate entities that work on their accord. Although thesejoint ventures have a certain operational autonomy, the business and long term vision are in line with TMC, Japan.

Toyota Thailand approaches TMC for manufacturing of Kijang (Innova) in Thailand. The manufacturing constraints are analyzed (In house manufacturing or outsource).

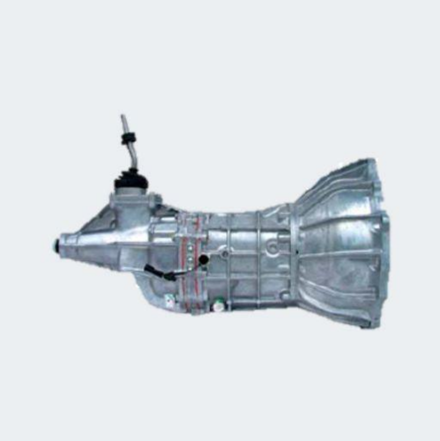

Fig. 2. Representation of R150 Transmission

TMC looks into Resources in Thailand for development of transmission.

When the investment of a new manufacturing facility and resources outweigh the returns that can be generated by outsourcing, TMC decides to outsource transmission manufacturing to TKAP, India as it is located in the Asia Pacific region.

TKAP then receives the order quantity and time from Toyota Thailand and exports the transmissions to Thailand.
This is one of the ways by which TMC outsources its manufacturing facility in order to eliminate the risk of new investments in the region. Similarly, TKAP manufactures R-type Transmissions for plants in Indonesia and TKM (India) as well for Fortuner, Innova and Hilux.

C. Reason for Outsourcing

1. Cost Savings- Reduced Labor Costs: Outsourcing to countries with lower wage rates can significantly cut labor expenses.

2. Access to Specialized Expertise- Skilled Workforce: Outsourcing provides access to a pool of specialized talent and expertise that may not be available in-house.

3. Focus on Core Competencies- Resource Allocation: Outsourcing non-core functions allows companies to focus resources on strategic initiatives that drive growth.

4. Innovation and Continuous Improvement- Outsourcing partners often drive innovation through their specialized knowledge and industry experience.

5. Time-to-Market- Faster Deployment: Outsourcing can accelerate the time-to-market for new products or services by leveling.

6. Scalability and Flexibility- Scalable Operations: Outsourcing enables companies to quickly scale operations up or down based on business needs.

7. Improved Efficiency and Productivity- Streamlined Processes: Outsourcing partners often bring process improvements and efficiencies, leading to increased productivity.

8. Access to Global Markets- Global Reach: Outsourcing can provide companies with access to new markets and customer bases through their partners' global presence.

9. Regulatory Compliance- Expertise in Compliance: Outsourcing partners often have expertise in regulatory compliance, helping companies navigate complex legal requirements effectively.

D. Constraints and Benefits of Corporate outsourcing for TMC in the case of transmissions in Asia Pacific.

Why was the project outsourced to TKAP - (Constraints in TMT)

1. Higher risk for investment in Thailand as market reaction for the product is uncertain.
2. Time constraints for new plant development for manufacturing.
3. Training manpower for completely new product design.

How did Toyota Corporations benefit from the outsourcing -

1. Existing transmission with minor changes in design in TKAP, reduced lead time for manufacturing
2. Low cost and skilled manpower.
3. PLI - Production Linked Incentive scheme in India, provided financial incentive for OEMs manufacturing.

E. Supplier Selection for Corporate Outsourcing

There are many other Toyota manufacturers and Original Equipment Manufacturers (OEMs) in and around TMT for transmission manufacturing. But TMC proceeds to go with TKAP as their supplier.

This decision is taken by a process called New Supplier Evaluation and Registration (NSER). The NSER process considers the following criteria under account for the selection of a new supplier for any particular project by TMC.

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These criteria are Cost, Distance, productivity, quality, research and development, and their corresponding financial condition..

F. Results from implementation of corporate Outsourcing at TMC -

The following charts and indices represent the improvement in operations, supply chain and the corresponding profits and revenue generated by opting for corporate outsourcing.

1. Year-on-year cost reduction percentage -

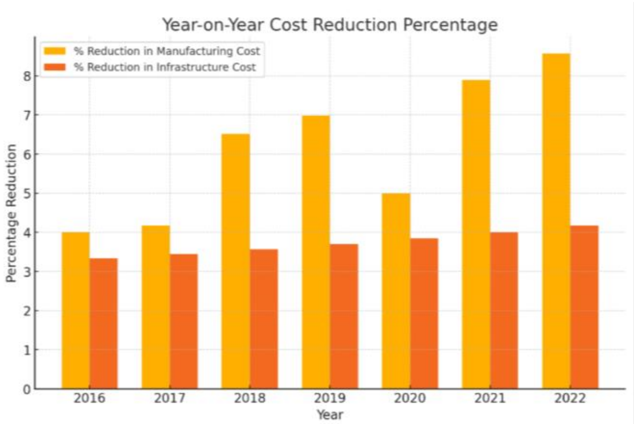

Fig. 3. Percentage reduction in cost against financial years

This bar chart shows the percentage reduction in costs each year after outsourcing was implemented.

This chart displays the percentage reduction in costs each year after outsourcing was implemented:

% Reduction in Manufacturing Cost: Shows annual cost reduction in manufacturing.

% Reduction in Infrastructure Cost: Shows annual cost reduction in infrastructure.

2. Cost Distribution chart -

A pie chart can show the distribution of costs between in-house and outsourced manufacturing over a specific year.This chart provides a snapshot of the cost distribution in 2022:

In-House Manufacturing: 80% of the total cost. Outsourced Manufacturing: 7.5% of the total cost. Total Infrastructure: 57.5% of the total cost.

The distribution shows a balanced approach, with significant investments in both in-house capabilities and strategic outsourcing. This balance could be due to Toyota's efforts to maintain control over core manufacturing processes while leveraging outsourcing for cost reduction and efficiency in non-core areas.

Given the smaller percentage of outsourced manufacturing costs, there may be potential for Toyota to identify additional areas where outsourcing could further reduce costs without compromising quality or control.

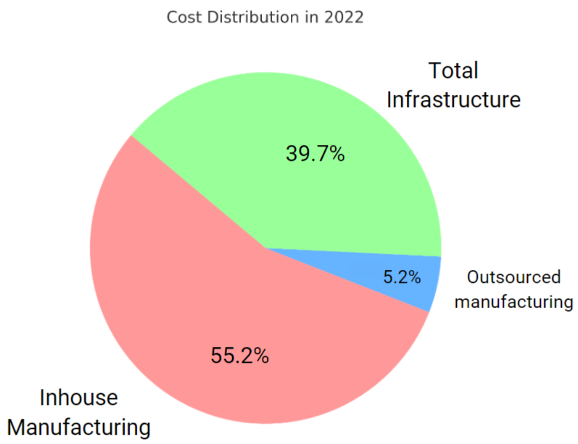

Fig. 4. cost distribution of in-house and outsourced in 2022

3. Savings Analysis -

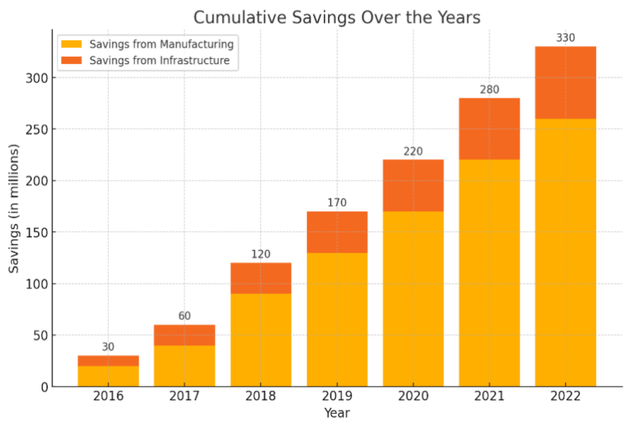

Fig. 5. Savings from manufacturing and infrastructure vs years

Consistent Increase in Savings:

There is a noticeable and consistent increase in cumulative savings from 2016 to 2022.

This trend indicates that the outsourcing strategy is effectively contributing to cost reduction over time.

Higher Savings from Manufacturing:

Savings from manufacturing are consistently higher than savings from infrastructure each year.

This suggests that outsourcing manufacturing processes has had a more significant impact on cost reduction compared to infrastructure-related savings.

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