

Report On
Supply Chain Management of Service Industry
(Econs Digital Limited)

By

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An internship report submitted to the BRAC Institute of Governance and Development in
partial fulfillment of the requirements for the degree of Masters in Procurement and
Supply Management (MPSM)

BRAC Institute of Governance and Development
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Declaration

It is hereby declared that

1. The internship report is my original work while completing degree at Brac University.
2. The report does not contain material previously published or written by a third party.
3. The report does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.

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Letter of Transmittal

Shish Haider Chowdhury

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Subject: Submission of internship report on “Supply Chain Management of Service Industry”

Dear Sir,

I am extremely happy to submit you my internship report titled “Supply Chain Management of Service Industry”. I am currently working at EDL, a software development firm where I work as Managing Director. For this internship report I have worked with utmost dedication and have tried my level best to meet the needs of the course and follow all the guidelines given by my supervisor to prepare the report. This internship program has been really very helpful for me.

I would be happy if the report that I have created is able to serve its purpose. I would be available to explain any kind of queries related with my work anytime.

Sincerely yours,

Kazi Azharul Islam Samin

Student ID: 21382015

MPSM, BIGD

BRAC University

April, 2023

Non-Disclosure Agreement

This agreement is made and entered into by and between EDL – Econs Digital Limited. And the undersigned student, Kazi Azharul Islam Samin at BRAC University. As I am currently working at the organization, I have the access to the company information that are confidential. I agree that, I will keep all the information strictly confidential and will not share with anyone outside of the organization.

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Md. Eamin
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Acknowledgement

Firstly, I am thankful to almighty Allah who gave me the strength to complete this paper. Then, I would like to pay gratitude and want to give special thanks to respected academic supervisor Shish Haider Chowdhury for helping me in all ways to complete the Report. I also would like to pay gratitude to my respected workplace supervisor Md. Eamin who guided me time to time. I have learned about Service Supply Chain in detail while writing this report which helped me to know the prospect even better. Also, I am grateful to EDL director board who gave me an opportunity to be a partner of this organization where I learned ins and outs about tech startup and its sustainable supply chain management. Finally, thanking my parents for supporting me throughout my master's program to earn a degree on Procurement & Supply Management.

Executive Summary

This report exhibits the procurement and supply chain management of the service industry through exploration of the tech startup Econs Digital limited who provides software development and relevant services with validating its impact on the overall operations and competitiveness for a service company. The procurement and supply chain management practices and their alignment with market demand and end-consumer needs are depicted. The report also analyzes the entire value chain of the software firm through some frameworks and evaluates the effective measures to enhance its performance, efficiency, and effectiveness while maintaining its competitive edge and market growth. The analysis includes a consideration of various parameters that affect procurement and supply management, including planning and sustainability, and how they impact the service company. The drives to decision making and optimizing the supply chain, there's some applications that are overviewed with the help of driving factors that emphasize the success of the service industry. The report concludes with recommendations and measures that can be taken to improve the service supply chain's performance and efficiency.

Keywords: Service Supply Chain; Sustainable Supply Chain; Process Centered Service Supply Chain; Service Performance Management; Porters Forces for Service Supply Chain.

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List of Acronyms

EDL	Econs Digital Limited
CRM	Customer Relationship Management
SCM	Supply Chain Management
PCSSC	Process Centered Service Supply Chain
SRM	Supplier Relationship Management
B2C	Business to Customer
B2B	Business to Business
DMP	Data Management Platform
CE	Customer Experience

Chapter 1

Overview of the Internship

1.1 Introduction

In today's global economy, the importance of services has never been greater. While the service sector has always driven economic growth, the shift from manufacturing to services continues to evolve. However, despite the growing importance of services, their performance needs to catch up to manufacturing, mainly due to the latter's focus on supply chain management. While service providers can learn from manufacturing, the inherent differences between the two sectors call for specific service supply chain performance measures. Developing such standards is essential, as measuring the performance of processes is crucial for managing and improving them. Creating or structuring a framework for service industry's supply chain performance measurement, service providers can identify opportunities for improvement, promote integration, and increase overall customer service levels and profitability.

1.2 Objectives

- To evaluate the present state of the supply chain of the service industry, such as tech startups.
- To identify the primary challenges that service providers face when managing their supply chains,
- To know the broader view of the SCM process of Econs Digital Limited.
- To analyze the existing literature on service supply chain management and performance measurement.
- To discuss the impact of effective service supply chain management on overall customer service levels.
- To emphasize the potential benefits of adopting a service industry's supply chain perspective for service providers.

1.3 Company Overview

EDL provides innovative software development to client who is working on different niche. The aim is to create innovative products which might be unique in selling point and has some problem-solving angle. The services are provided considering the feasibility of the product that may sustain for the long term in the market along withstand competitors. The following services may help the client to build their own brand structure, marketing strategy or sales generator. The follow-up services may needed to provide to the clients as per demand. However, aligning with client's organization goal, building the profitable service products are being focused by our company.

1.4 Vision & Mission

EDL aims to be a leading provider of digital product solutions for businesses from local to global by delivering cost-effective and, innovative software to help clients to reach their target goals and increase profitability. We strive to be recognized as a reliable and trustworthy business partner, committed to the success of our clients in the long term focusing the sustainability.

Chapter 2

Supply Chain Management of Service Industry

2.1 SCM of Econs Digital Limited

Our organization's supply chain management (SCM) process is responsible for overlooking the planning, coordination, and implementation of various tasks related to the development, distribution, and support of software products and services. Effective SCM is essential for software firms to enhance customer satisfaction, increase efficiency, and reduce costs. Due to the highly competitive and rapidly evolving nature of the service industry, Our organization's SCM plays a vital function that does close collaboration between different teams.

Our SCM team starts with the planning phase, which involves defining the project's scope, identifying required resources, and estimating the cost and time for software development. This phase necessitates close cooperation between the SCM team and the software development team to ensure the software aligns with the required specifications.

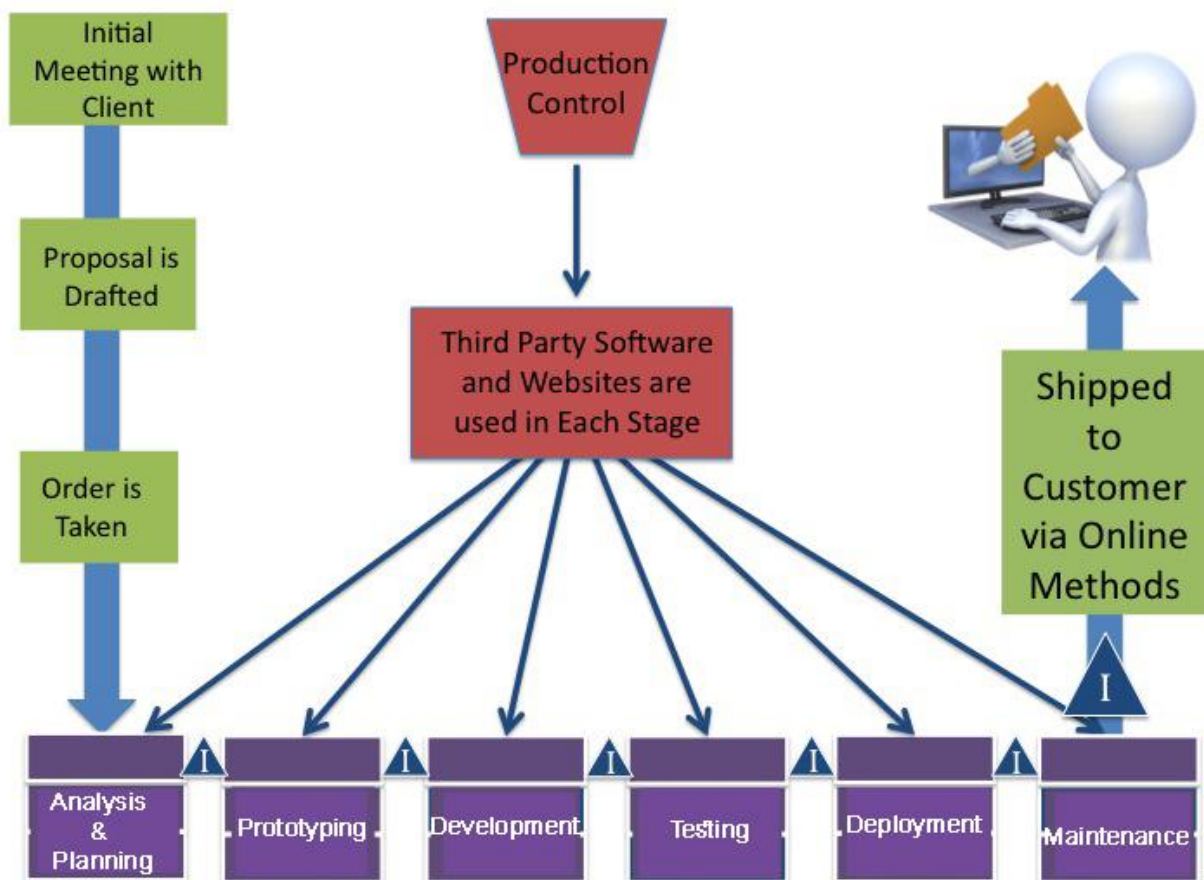


Fig: EDL's SCM Process

Following the planning phase is the procurement of software development tools, hardware, and other resources required for software development. Whether through in-house development or third-party partnerships, the SCM team guarantees the resources are of high quality, delivered on time, and cost-effective. The procurement process also involves negotiating contracts and managing relationships with the third-parties when it is outsourced for some reason.

Once the software is developed, it is essential to distribute it to customers, which involves managing digital distribution channels like app stores and e-commerce platforms or other CRM. The SCM team ensures timely delivery of software in the correct format, with the proper licensing agreements, and with our robust measures in place to prevent unauthorized distribution, copying, and sharing.

Apart from software distribution, our SCM also oversees software updates and patches, ensuring they are delivered promptly and are easy to install and use. This involves working closely with the software development team to identify and address bugs, vulnerabilities, and improve performance.

Effective SCM requires an understanding of the different markets, regulations, laws, and cultural differences that impact the supply chain. Our SCM team collaborates with the legal team either client's or ours's to comply with local laws and regulations, ensure data privacy, and provide support services.

Overall, we carry out various activities related to software development, procurement, distribution, and support to optimize our SCM and reduce costs, enhance quality, and increase customer satisfaction, ultimately driving long-term success and growth.

2.2 Framework

Our service sector adheres to certain frameworks to acquire a competitive edge. For software firms, four factors are extremely important, such as organizational competitiveness, development and implementation, information technology, and operations (Cho et al., 2012). These factors are managed and monitored in two separate frameworks to achieve this edge across the industry.

2.2.1 Process-Centered Framework: PCSSC framework is being used to optimize the supply chain operations. By improving service quality, reducing costs and enhancing the overall customer experience, our firm aligns resources and capabilities with critical processes throughout the following components:

- **Process Identification:** The critical processes, which include software development, product delivery, software installation, and customer support, are pre-identified.
- **Process Optimization:** Process bottlenecks are identified, and new processes are designed and implemented to improve the critical processes, such as agile methodology, DevOps practices, and Continuous Delivery.
- **Resource Alignment:** Once the processes are optimized, necessary resources are aligned to execute them effectively. This involves reallocating resources, training staff, and investing in new technology or equipment, such as automated testing, deployment tools, and cloud infrastructure.
- **Performance Monitoring:** Continuously monitoring the performance of the software supply chain helps ensure that it meets customer needs and delivers high-quality services. This involves tracking key performance metrics, analyzing data, and making necessary adjustments. Businesses can gain meaningful insights from this data and more accurately target their user base with their services. EDL focuses on implementing data-centric digital strategies that use marketing funnels, growth hacking, and optimization to address clients' problems.

2.2.2 Performance Measure Centered Supply Chain: Our decision making drives through the performance metrics and the framework emphasizes the importance of measuring and monitoring performance at every stage of the supply chain to identify the areas for improvement and prepare informed decisions that enhance supply chain efficiency and effectiveness.

- **Performance Metrics:** This metric considers the performance including cycle time, product quality, delivery time, customer satisfaction, and cost of goods sold.
- **Performance Monitoring:** Afterwards continuously monitoring the metrics to identify areas for improvement involves collecting and analyzing data on performance metrics, such as through the use of dashboards and other reporting tools.
- **Performance Analysis:** Analyzed data are gathered during performance monitoring identifies trends and potential areas for improvement. To do this, company might use tools for data visualization, statistical analysis, or other methods to find patterns and insights. (Drzymalski & Ma, 2012).
- **Performance Improvement:** The actions taken to improve supply chain performance requires technology upgrades, supply chain network optimization, or other interventions aimed at enhancing performance.

2.3 Application

2.3.1 Demand Management:

At our software company, we understand the importance of demand management as a critical component of our supply chain management process. We strive to estimate and manage customer demand to inform our operational decisions by forecasting, generating, managing, reconciling, and updating demand information. We acknowledge that managing demand in the software industry can be challenging due to the unpredictable nature of demand patterns and the inability to inventory services. However, we implement strategies to control or influence demand to manage this situation effectively. We think that the performance of all other supply chain activities depends on accurately predicting demand and planning processes accordingly. We understand that prior to actually providing services, demand forecasting, determination, and planning are crucial in our service supply chains. We also take into account the ancillary roles in the service supply chain that are connected to the service industry's product supply chain. (Wang et al., 2015). Overall, we believe that effective demand management helps us optimize our supply chain operations, enhance customer satisfaction, and gain a competitive advantage in the market.

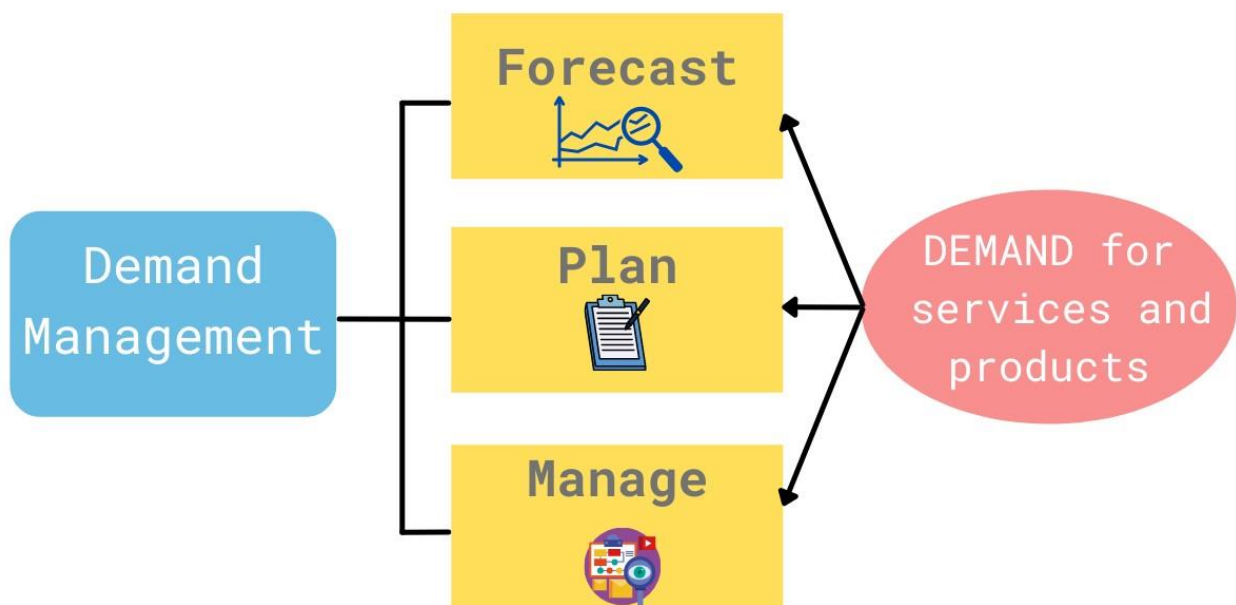


Fig: Demand Management for Services

2.3.2 Capacity and Resources Management:

The control of capacity is a crucial step in our service delivery process. We make an effort to strike a balance between client demand and the capabilities of our service delivery system, ensuring that we can satisfy variable demand while maintaining excellent service levels. Although controlling capacity is a difficult undertaking for our service managers, we provide them with the knowledge and tools they need to make wise choices. When it comes to capacity management, we have two choices: either we can match capacity to demand or we can maintain capacity at a level that can accommodate the most demand. In order to operate at peak efficiency, we manage our resources, which may include physical assets, facilities, cash, and services acquired from other companies, to ensure that we can effectively and efficiently meet the expectations of our clients.

2.3.3 Customer Relationship Management:

At our company, we prioritize customer relationship management (CRM) to facilitate communication with our clients. Our ultimate goal is to meet their needs and improve their experience by simplifying the ordering process and anticipating their requirements. With CRM, we can identify our key customers and customer groups to develop partner programs and enhance communication. As the service industry is highly dependent on effective CRM due to the involvement of both internal and external clients (Baltacioglu et al., 2007), we aim to collect sufficient data and implement business strategies based on customer feedback. By prioritizing market research in service sectors, we can ensure that our clients receive quality service and maintain a positive relationship with our company. Overall, effective CRM is essential for managing customer relations and achieving business growth.



Fig: CRM System of Service Industry.

2.3.4 Supplier relationship Management (3rd Party Developers):

With the ever-increasing complexity and costs of doing business, it is more important than ever to establish strong inter-firm relationships (Baltacioglu et al., 2007). A link between product development, sourcing, supply planning, and procurement is provided across the value chain by SRM, an integrated solution. Our goal is to handle multiple supply sources for various goods and services, which includes contract management, supplier appraisal and negotiation, procurement, and supply chain performance control. We also strive to improve design through cooperative component selection. To ensure successful service delivery, we emphasize coordination, collaboration, responsiveness, and trust-building to maintain sustainable relationships with our suppliers.

2.3.5 Order Process Management:

Our Company defines order processing as the system for receiving and fulfilling customer orders, which includes various sub activities, for example, order preparation, filling, and status reporting. The order process management function intersects with other supply chain management functions and impacts customer satisfaction. Due to its reliance on automated systems and information flows, it is crucial for businesses to establish strong linkages with

other logistics functions like demand management and production (Baltacioglu et al., 2007). In the service industry, order taking should be fast, accurate, and polite to enhance customer experience. Therefore, our company ensures a well-designed and managed order processing system that cooperates with all logistics activities to achieve customer satisfaction and cost reduction.

2.3.6 Service Performance Management:

In our company's service supply chain, service performance management is a crucial function that necessitates the presence of both clients and developers throughout the service production process. Although it is comparable to the production function in supply chains that are geared toward manufacturing, it is distinct because suppliers and buyers are involved. The skill workforce is heavily involved in the creation of services as service professionals and clients, hence human resources are essential to service performance management (Baltacioglu et al., 2007). As a result, our human resources management function serves as a bridge to accomplish performance through service delivery.

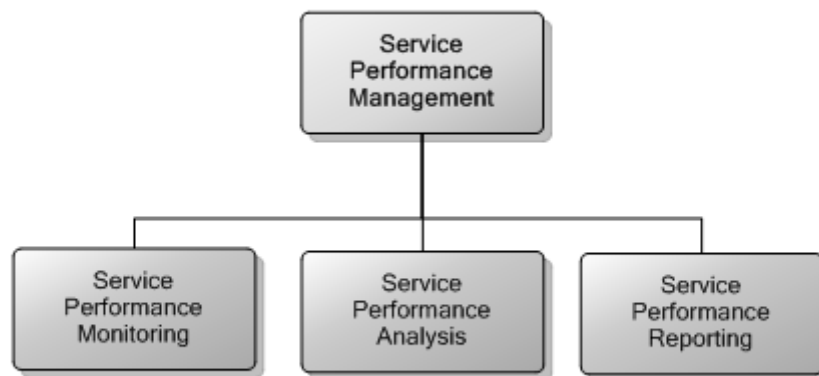


Fig: Service Performance Management
(Service Performance Management Applications Monitor, Analyze, and Report on the End-end Service Performance., n.d.)

Chapter 3

Review & Analysis

3.1 Disparity Between a Manufacturing & Service Supply Chain

The difference between manufacturing and service firms can be distinguished based on their primary component. While manufacturing firms rely on physical products, service firms depend on human labor as their main component. These two types of industries have different defining characteristics, which have been debated by various authors (Drzymalski & Ma, 2012b).

Fisk et al. (2002) have identified four major characteristics that differentiate service industries from manufacturing industries. These are intangibility, inseparability of production and consumption, heterogeneity, and perishability. On the other hand, Pride and Ferrel (2007) have identified six characteristics, including client-based relationships and customer contact. While these last two may also be present in goods industries, they are more critical in the service industry. Simultaneity is another significant characteristic of a service system identified by Baltacioglu et al. (2007).

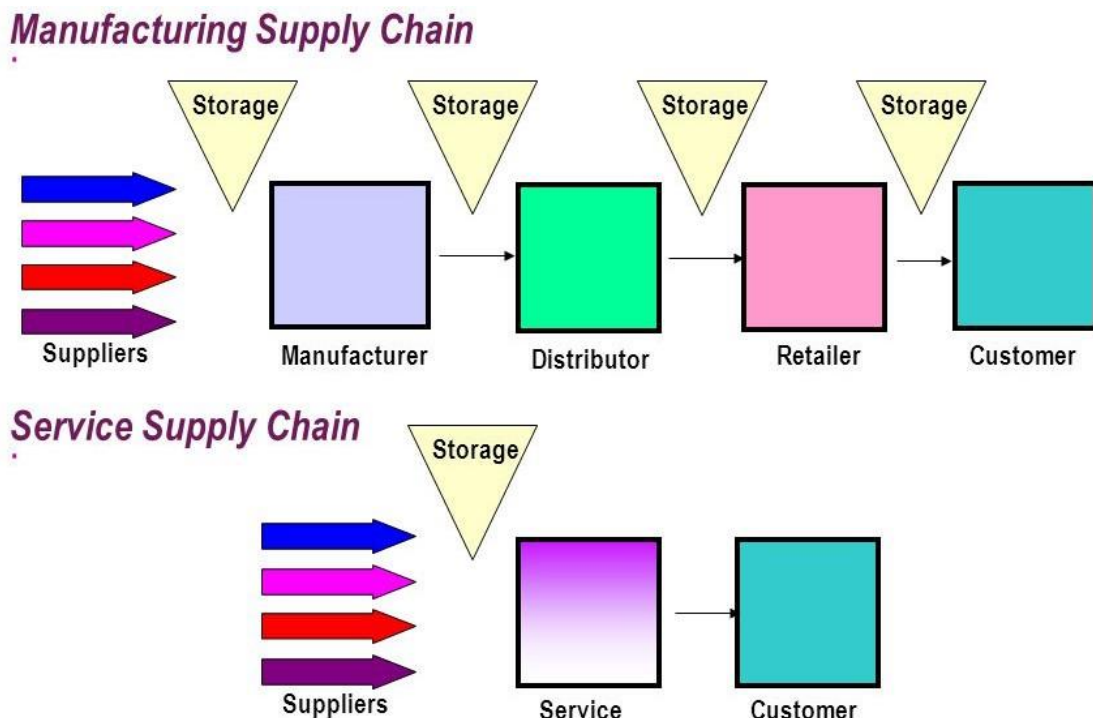


Fig: Disparity Manufactory vs. Service Supply Chain

Another difference between service and manufacturing industries is their processes. Goods industries have a high level of control, standardization, and little variation. In contrast, service

industries have a more significant variation in their processes due to local decision-making made by humans. This can lead to a higher level of unpredictability and complexity in service firms.

Overall, understanding the defining characteristics of manufacturing and service industries is critical for firms to succeed. Service firms rely on their human component and have unique characteristics that distinguish them from goods industries. By understanding these characteristics, service firms can develop strategies that will enable them to manage their processes effectively and deliver high-quality services to their clients.

3.2 Driving Factors for Success of Service

Service organizations that achieve success are determined by a range of factors that have been examined by various researchers. A significant study was conducted to explore the correlations between supply chain strategies and metrics in both manufacturing and service sectors. The performance measures of service SCs and how they differ from manufacturing, which provided the basis for identifying critical success factors. These factors can be categorized into two areas: operational performance and financial performance. Operational performance is directly linked to customer satisfaction, while financial performance is related to cost and profit measures in comparison to competitors.

The study discovered that there are notable disparities between the service and manufacturing industries. In the service sector, information sharing and level of customization in comparison to competitors are more critical for operational performance. Conversely, placing strategic importance on the distribution network can significantly affect financial performance. However, higher customization costs are associated with lower profits, as service industries are unable to command a price premium like their manufacturing counterparts.

To attain competitive advantage, the entire service delivery system should focus on three crucial areas: resources, the flow of processes, and the configuration. According to Armistead and Clark's Resource Activity Mapping, each of these areas has five to seven associated key activities.

Additionally, other researchers have also identified critical areas for service organizations concerning processes and corporate strategies, including best practices, organizational connection and visibility, process simplicity, and a unified vision.

Overall, achieving success in service organizations necessitates a comprehensive understanding of the critical factors that affect operational and financial performance.

By identifying and optimizing these factors, service organizations can enhance customer satisfaction and profitability.

3.3 Sustainable Service Supply Chain

Organizations looking for a competitive edge in today's fiercely competitive market are realizing more and more the value of sustainability in the service supply chain. Although putting such practices into reality can have many positive effects, it is important to recognize the unique opportunities and problems that come with this strategy.

The significant impact that customers have over the products provided is a critical component of sustainability in the service supply chain. As a result, businesses in this industry need to be ready to handle social pressure from both customers and governments. This entails attending to the needs of both upstream and downstream clients, resolving social issues, and upholding environmental protection standards.

The service supply chain is unique in that services are developed and delivered simultaneously, resulting in indivisible product features (Liu et al., 2017). Evaluating service quality can be difficult due to this characteristic, and therefore, stricter agency constraints are necessary to ensure sustainability. Service providers will be subject to tighter industry laws and protection norms, and upstream enterprises must be involved throughout the entire process. To comply with these requirements, service providers must use renewable resources, reduce industry ethics' negative impact, and protect the rights and interests of customers.



Fig: Sustainable Supply Chain Framework (Hussain, 2016)

The current strategy for managing a sustainable supply chain is based on a binary structure, which undervalues the role that interactions between the three components of the connection between clients and firms play. The framework for the supply chain should instead be built on ternary linkages, which are included in a framework for sustainable supply chain management that was developed based on the triple bottom line restrictions and the ternary supply chain theory. With the economy resting on three pillars, this strategy highlights the significance of the environment and society as the bases of the sustainable supply chain. Service integrators are essential in motivating their clients and 3rd party developers to accomplish three supply chain successes based on social responsibility and life cycle analysis. The integrator is the core business that develops the strategy layer for sustainable management, and the ternary relationship in the service supply chain strongly interacts with the triple bottom line. To guarantee the caliber of services and goods, the entire supply chain should share ISO and SAI certification programs, set up social responsibility evaluation programs, and keep open lines of communication. For the supply chain system as a whole to remain balanced, the supplier assessment and supervision system for the social and economic aspects is crucial.

Core businesses must assume responsibility for their societal role because of the workforce intensity in the service supply chain. They must make sure that no employee suffers from unemployment, poverty, or inadequate medical care. To overcome such problems, a supply chain must be service-oriented, with each stakeholder completing their responsibilities and taking remedial action when required.

While sustainability in the service supply chain can present challenges, it offers significant benefits. By understanding the unique features of this sector and addressing them accordingly, companies can develop a more sustainable, responsible, and profitable business model.

3.4 Porter Five Force for Service Supply Chain :

In Porter's Five Forces is being used to analyze the competitive environment of a company. When applied to a software company's supply chain, the firm might be the supplier and the buyer as a client for the five forces context. There are five forces to consider for our software company as well and each has an impact on a software company's supply chain as following:

Threat of New Entrants: HIGH

The threat of new entrants is a concern since the software industry is highly competitive and the

entry barrier is relatively low. To minimize the threat of new entrants, a software company must differentiate itself from competitors and maintain its competitive edge.

Bargaining Power of Companies: LOW

The bargaining power of companies is usually low due to many agencies/companies in the market, a software company still needs to manage its 3rd party/outsourcing relationships to ensure quality, timely delivery, and competitive pricing.

Bargaining Power of Clients: HIGH

Buyers in the software industry have significant bargaining power. Clients have multiple options and can quickly switch to other software companies. Therefore, to retain clients and maintain its market share, a software company must provide top notch service products and excellent customer service.

Threat of Substitute Products or Services: LOW

The threat of substitute products or services is low in the software industry because most clients prefer customized solutions that meet their unique needs. However, a software company must stay current with technological advancements and trends to avoid being replaced by more innovative software solutions.

Competitive Rivalry: HIGH

The competition in the software industry is intense, with many companies competing for market share. To stay ahead of competitors, a software company needs to innovate constantly, develop new products, and provide excellent customer service.

A software company must differentiate itself from its rivals, manage its supplier relationships, and provide top-notch products and customer service to keep clients, keep up with technological advancements, and continually innovate to stay competitive.

Chapter 4

Conclusion & Recommendation

4.1 Recommendation

Service supply chain management is essential in the modern economy. Yet, there is still a huge knowledge gap in this area despite some research projects that have been done. Future research will have the chance to close the knowledge gap. This report makes recommendations for further research in a various number of areas, including consumer welfare, operational risk management, outsourcing and competitiveness.

Effective customer service is essential to the success of any business. Analyzing the impact of customer service in consumer behavior and satisfaction, this is critical to service supply chain management. In addition it is important to understand how service delivery management and supply chain channel coordination may have affect customer service quality. Conducting research in these areas will provide service providers with valuable information on how to improve their operations, strengthen their relationships with customers. Overall, more emphasis should be placed on customer service in service supply chain management research to ensure the continued success of service industries. The level of channel coordination in the service supply chain under competition is a topic of interest in service supply chain management, although there is a limited study on this topic. Further research will therefore be necessary to close this gap.

In service sectors, for example, IT, telecommunications, healthcare, and electricity, consumer welfare is a major factor. Despite its significance, the majority of recent studies mainly focus on single-echelon problems, thus there is still a need to optimize the complete service supply chain system from the standpoint of consumer welfare.

In especially for service supply chain systems, risk management is crucial for supply chain operations management. Yet, operations risk management in service coordination is still a poorly understood and less cared subject that requires further study.

The operational models of two different service supply chain systems are examined in this research, which also highlights several knowledge gaps. The suggested directions for future research are meant to close these gaps and improve our knowledge of service supply chain management.

4.2 Conclusion

The necessity for efficient supply chain management has grown in importance as the service sector continues to expand and become more complicated. To gain a competitive edge, service companies must continually seek new approaches to optimize their supply chain processes. Globalization and technological advancements have drastically changed the landscape of the service industry, leading to the development of more diversified organizational structures. In order to successfully manage service businesses, an integrated supply chain management approach that fosters close relationships with both suppliers and customers is essential. New models and frameworks tailored to specific service sectors are necessary to accommodate these changes and ensure efficient operation of the industry.

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