LOGISTICS AND TRANSPORT DISTRIBUTION MANAGEMENT

Nikita Nadkarni

LOGISTICS AND TRANSPORT DISTRIBUTION MANAGEMENT

LOGISTICS AND TRANSPORT DISTRIBUTION MANAGEMENT

Nikita Nadkarni

ALEXIS PRESS

ALEXIS PRESS

Published by: Alexis Press, LLC, Jersey City, USA
www.alexispress.us

First Published 2023

A catalogue record for this publication is available from the British Library

Library of Congress Cataloguing in Publication Data

Includes bibliographical references and index.

Logistics and Transport Distribution Management by *Nikita Nadkarni*

ISBN 979-8-89161-430-7

CONTENTS

CHAPTER 1

ANALYSIS AND INVESTIGATION OF LOGISTICS AND DISTRIBUTION MANAGEMENT

Nikita Nadkarni, Assistant Professor
Department of ISME, ATLAS SkillTech University, Mumbai, India
Email Id-nikita.nadkarni@atlasuniversity.edu.in

ABSTRACT:
The vital and dynamic field of distribution and logistics management, illuminating its core ideas, practical uses, and relevance in contemporary supply chain processes. In order to effectively coordinate the transportation of commodities from the place of origin to the final customer, the abstract highlights the complex roles that distribution management and logistics play. Efficient logistics and distribution management are essential for maximizing supply chain efficiency in the current intricate global marketplace. The inquiry explores many important areas, such as order fulfillment, warehousing, inventory management, and transportation logistics. It explains how real-time monitoring, demand forecasting, and efficient operations have been made possible by technological, data analytics, and automation breakthroughs that have transformed logistics processes. Logistics strategies are highly adaptable to a wide range of sectors and supply chain configurations, which highlights their critical role in improving customer satisfaction and operational efficiency. To provide a comprehensive knowledge of this important sector, the study incorporates ideas from business management, information technology, and logistics, drawing on multidisciplinary research.

KEYWORDS:

Distribution Management, Logistics, Supply Chain Operations, Technology, Warehousing.

INTRODUCTION

For many years, transportation, inventory management, and storage have been essential aspects of industrial and commercial activity. However, it has only been acknowledged as a significant function in logistics' own right within the past 20 years or so. The nature of logistics itself is the primary cause of this recognition's relatively late arrival. It is a function composed of several subsystems and sub-functions, each of which has been and maybe currently is handled as a separate management activity. The business and academic communities now agree that in order to consider how these many activities interact and connect to one another, a more comprehensive perspective of them is required [1], [2]. A more scientific approach is being taken to the topic of logistics and the supply chain as a result of the recognition of their significance and breadth. The general idea of the logistics function has been the focus of this approach, but it's also critical to consider how the various subsystems interact with one another. This strategy has mostly addressed the need and methods of supply chain and logistics planning, but it has also unavoidably taken into account some of the most important operational concerns [3], [4].

An overview of some of the most fundamental concepts in supply chain management, logistics, and distribution is given in the book's first chapter. First, the definition and extent of supply chain, logistics, and distribution are reviewed. Since the topics addressed may be so varied, it is really impossible to find a "true" name or "true" meaning that can be pedantically applied to these many designations. Every sector has unique qualities, therefore there may be significant differences in a firm's strategy, size, product line, market reach, etc. for every company operating in that industry. Thus, logistics is a dynamic, multifaceted role that must be adaptable

to the many demands and limitations placed upon it as well as the environment in which it operates. As a result, these several phrases are often used synonymously in both literature and commerce. One of the important connections is also described by a term that is quite well-respected. The production, storage, and transportation of commodities and products have, of course, always depended on the components of supply chains and logistics [5], [6]. However, they have only just started to be acknowledged as essential roles in the commercial and financial worlds. The success of several activities and organizations is now greatly attributed to the function that logistics has grown into. The fundamental ideas and reasoning behind logistics are, for the most part, not novel. Although they have undergone several phases of evolution, they continue to use fundamental concepts and methods including value chains, systems theory, and trade-off analysis. The distribution networks of the 1950s and early 1960s were ill-conceived and unmanaged. The products were produced by manufacturers, sold by merchants, and eventually found their way into the stores. Manufacturers' own-account fleets and the haulage sector were the main representatives of distribution. Positive control was minimal, and there was no true communication amongst the many tasks involved in distribution [7], [8].

The notion of physical distribution emerged in the 1960s and 1970s as a result of the growing recognition that administrative engagement was legitimate in the "dark continent," as distribution was first referred to in scholarly literature. This included realizing that a number of physically connected tasks, including moving, storing, managing items, and packing, might be connected and handled more skillfully. Specifically, a link between the different functions was recognized, allowing for the use of a systems approach and total cost viewpoint. Several distribution trade-offs might be planned and handled under the supervision of a physical distribution manager to provide better service at a lower cost. Manufacturers first saw the advantages and created distribution operations that mirrored the movement of their goods throughout the supply chain. A significant decade in the evolution of the distribution notion was the 1970s. One significant shift was the realization by some businesses that distribution must be a part of an organization's functional management structure. The distribution chain's control and structure also underwent changes throughout this decade [9], [10].

The power of suppliers and manufacturers decreased, while the power of the big retailers increased considerably. The bigger retail chains created their own distribution networks, first basing them on the idea of using local or regional depots to serve their shops. A notable rise in distribution professionalism occurred in the 1980s as a result of comparatively quick cost rises and a better understanding of the underlying costs of distribution. This professionalism was accompanied by an effort to find and pursue cost-saving strategies as well as a shift towards longer-term planning. These actions included using computers to give better information and control, drastically cutting down on stockholding, and centralizing distribution. These businesses led the way in information and equipment technology advancements, which contributed significantly to the expansion of the third-party distribution services sector.

Forward-thinking businesses involved in distribution acknowledged the need for the notion of integrated logistics systems. Information technology advancements in the late 1980s and early 1990s allowed corporations to expand their ideas about what operations might be merged. This addressed, in essence, the merging of physical distribution (the outward side) with materials management (the incoming side). This notion was referred to as "logistics."

This resulted in yet another chance to lower related expenses and enhance customer service. During this time, a key point that was emphasized was the importance of informational factors in guaranteeing an efficient logistics strategy, just as much as physical factors. The integration process was expanded in the 1990s to include not only the essential tasks performed within an

organization's walls but also those outside its walls that support the delivery of a product to a final consumer. The idea that a product's journey to the market may include several companies gave rise to the term "supply chain management." Manufacturers and retailers, for instance, must to collaborate to establish a logistical pipeline that facilitates the smooth and fast delivery of the appropriate items to the end user. Third-party contractors and other supply chain middlemen should be a part of these alliances or partnerships. Business organizations faced several obstacles as the new century approached as they worked to grow their profitability, introduce new items to the market, and retain or strengthen their position relative to their rivals. As a result, several fresh concepts for enhancement were generated, particularly those that included redefining corporate objectives and completely re-engineering systems.

Finally, the importance of supply chain management and logistics to overall corporate performance was acknowledged. Indeed, for a lot of companies, improvements in logistics have acted as a catalyst for significant growth in their operations. Rather than the conventional perspective that the many operations under logistics were solely a financial burden that had to be lowered regardless of any other ramifications, leading firms realized that there was a positive "value added" role that logistics could give. Consequently, the significance and function of logistics became acknowledged as a vital facilitator for enhancing commercial operations [11], [12].

DISCUSSION

Research conducted in the United Kingdom revealed that around thirty percent of the working population was engaged in logistics-related activities. According to a recent report by Capgemini Consulting the overall logistics spend as a proportion of sales revenues was 11% in Latin America and 11% in North America, Europe, and Asia-Pacific, the three main trade areas. Similar data was reported at the national level by Armstrong and Associates in another research, which showed that for large countries, logistics accounted for between 8 and 21% of the GDP of that nation. Approximately 8–11 percent of the GDP was accounted for by logistics in the major economies of North America and Europe. This range was larger for emerging nations, ranging from 12 to 21 percent; China was at 21 percent, while India was at 17 percent. These figures show some extremely significant expenditures and highlight the need of understanding the nature of logistics costs and figuring out ways to minimize them. Countries with the lowest costs are generally those where the importance of logistics was recognized relatively early and where there has been time to create more efficient systems. Over the next years, it is anticipated that emerging nations' logistics expenses would drop as they become eligible for advancements. If the same data had been available around 25 years earlier, all of these nations' percentage components would have surely been far higher.

Records in the UK date back around 30 years, and at that time, logistics expenses were estimated to be between 18 and 20 percent. Figures from the Council of Supply Chain Management Professionals in the United States' Annual State of Logistics Report (2012) showed that, from 2007 to 2009, the country's logistics expenses as a proportion of GDP continued to decline. On the other hand, percentage expenses have somewhat grown since 2009. This resulted from both the rise in gasoline prices and the global financial crisis. For further details, refer to a helpful discussion paper that was given at the International Transport Forum (2012). It offers some precise numbers for the evaluation of country level logistics performance and cost for a number of different nations. There was also a pan-European cost breakdown from the 2008 poll. This put the percentages of total expenditures for transportation at around 40%, warehousing at roughly 32%, inventory carrying costs at roughly 18%, customer service/order entry at roughly 5%, and administration at roughly 5%. Due in large part to high fuel prices, the distribution's transport cost component was the main component in

both studies. The large distances traveled in the US have a significant impact on transportation expenses, making it much greater than in Europe. The data from the preceding section may be used to get a general idea of how important the various logistical components are. It is essential to acknowledge, however, that the expenses mentioned above are averages derived from a variety of businesses when examining the industry and company levels. Numerous factors may contribute to the notable differences in the outcomes reported by the different firms. The fact that logistics systems may and often do vary greatly across businesses and industries is one of the primary causes of these cost variations. Channels may be extensive (i.e., contain several intermediary stocking stations) or short (i.e., extremely straight). Different parties may run supply chains, including merchants, manufacturers, specialized third-party distribution firms, and even a combination of these.

It is important to highlight that the examples estimate the relative significance of logistics in respect to the total value of the specific items under consideration. This has consequences for comparing the relative importance of various enterprises. For example, the relative costs of logistics for cement are relatively high since it is a low-cost commodity (and very bulky!). Spirits The main elements of a logistics or supply chain system have been shown by the discussion in earlier parts of this chapter. The basic elements of a physical distribution system are represented by the material or product flow, with periods of time when the material or product is stationary inserted at different places, as shown in the first section of Figure 1.4. Usually, the product is transported in some way via this flow. The stationary periods are often used for storage or to for modifications to be made to the product, such as during break-bulk, assembly, packaging, or production.

Of course, there is also a cost involved in making the distribution process possible. It has previously been mentioned how crucial this logistical or distribution expense is to the product's overall cost. As said, it might differ based on the product's inherent worth and the complexity of the distribution system being employed. Recent years have seen the proposal that, rather than merely adding to the cost of a product, these many logistical components are adding value when the product is delivered to the end consumer. This is a more optimistic perspective on logistics and a helpful method of determining the true value and contribution of distribution and logistics services. This gives an example of this expense or value addition for a standard low-cost product.

The aspect of added value differs significantly between products. A few of the very large number of definitions were taken into consideration, and the fairly bewildering quantity of related names and meanings was noted. There was no "true" or "final" definition provided since supply chains and logistics may and often do vary greatly across businesses, industries, and products. A number of figures were used to highlight the significance of supply chain management and logistics for both individual businesses and the economy as a whole. The recent history of distribution, logistics, and the supply chain was also discussed.

The key elements of logistics were delineated and many definitions of the term were presented. It was shown that the many supply chain and logistics tasks are a component of a flow process that affects several company domains. The focus of this chapter is on how to integrate the many logistical components into a cohesive system that works as a whole to maximize system performance. As a result, the idea of "total logistics" is explained, and the significance of identifying the chances for sensible trade-offs is explored. The financial effect that logistics has on a firm is explained, along with several important logistics planning considerations. Lastly, some significant advancements in logistics thinking are shown, such as the effects of several businesses becoming global, integrated planning systems, the use of logistics to assist gain a competitive edge, and the growth of supply chain management. The goal of the total

logistics concept (TLC) is to handle all of the many components that make up the wide category of logistics and distribution as if they were a single, cohesive system. It is an understanding that many aspects, such delivery, transportation, and storage, have interrelationships that must be taken into account in the context of the larger supply chain. Therefore, it is important to take into account the whole system rather than simply a single component or subsystem. Comprehending the notion is particularly crucial when organizing any facet of distribution and logistics. A firm makes toys out of plastic that are stored in cardboard boxes. The wooden pallets that are used as the standard unit load in the warehouse and in the delivery trucks for clients are filled with these boxes.

According to research, the cardboard box is an unnecessary expense since it doesn't seem to give any substantial marketing benefit and doesn't offer any appreciable further protection for the very sturdy plastic toys. As a result, the toy's unit cost is reduced, giving the manufacturer a possible competitive edge. However, the box is thrown away. One unanticipated consequence, however, is that the toys—without their boxes—must be kept and transported in special trays as they are too tippy to be placed on wooden pallets. The unit load that is now used in the warehouse and on the trucks is completely different from these trays (eg the wooden pallet). The extra expense incurred in making specific trays and accommodating a different kind of unit load for distribution and storage is substantial—much more than the cost reductions realized on the product packing. This scenario serves as a classic illustration of a logistics system's sub-optimization. It demonstrates how a corporation may incur large costs if the idea of overall logistics is disregarded.

Those in charge of this business function will believe they have performed successfully since the expenses associated with product packaging have decreased. On the whole cost of logistics, however, there is really a negative impact. It would be in the company's best interest to ignore this potential packing savings, since the extra costs associated with storage and transportation drive up overall expenses. This simple illustration of sub-optimization highlights how crucial it is to comprehend how the various logistical components interact. Measuring and interpreting these and other interrelationships via a deliberate strategy to discovering and evaluating any cost trade-offs would be a more constructive course of action. This strategy will help the logistics system as a whole. Such a trade-off will result in a larger cost savings in one function but may result in more costs in another. A net gain for the system will constitute the overall success.

Thus, the core of the whole logistics idea is these kinds of trade-offs. It is crucial to consider the entire expenses of a logistics system when designing distribution and logistics. Naturally, there is also the need to give the degree of service that the consumer has requested. Successful logistics depends on striking a balance between the overall cost of logistics and the quality of customer service. A positive planning strategy must be used to guarantee that the idea of comprehensive logistics is implemented and that appropriate compromises are reached. The different planning horizons and the corresponding logistical choices are explained in this section. A more structured planning framework will be covered in Chapter 6. This will be expanded upon in later chapters to provide a more thorough and useful method of logistics planning.

Different planning time horizons should be reflected in the hierarchy that should guide planning efforts. These fall into one of three categories: strategic, tactical, or operational. I The fact that certain levels of this planning hierarchy overlap highlights the fact that various aspects may be taken into account at different times. One firm may place a different value on each of these components than another. For instance, selecting a mode of transportation could be a strategic choice for a business launching a new global logistics operation, but it might only be a tactical

choice for a different business that primarily supplies a local market and sporadically exports goods over great distances. For a single corporation, the means of transportation may even be the subject of both an original strategic and a later tactical choice.

Lean emphasizes concentrating only on what the client wants in order to provide value in the least wasteful manner possible. Because of this, it's critical to foster an attitude of continuous improvement among staff members who identify and remove waste because they think there's always a better way to do things. They place the responsibility on procedures rather than on individuals. Breakthrough and continuous improvement procedures are not the same in Lean. While "kaizen," or continuous improvement, is a method of progress that happens little by little, breakthroughs are made possible by the Hoshin Kanri methodology, which is further discussed in this book. Lean is about removing or decreasing inventory levels, streamlining processes to one-piece flows or eliminating batches altogether in order to increase long-term viability. After the Second World War, Toyota Production System (TPS) creator and lean master Taiichi Ohno realized that Japan needed a large number of models in small numbers.

Toyota was on the verge of going bankrupt at the same time because it could not afford any more machinery, storage facilities, or inventory. Toyota prepared for the scenario by shortening changeover times, which allowed them to quickly create a variety of goods, and collaborating with their staff to provide them more freedom to perform numerous roles. "We are just looking at the time from the moment the customer gives us an order to the point when we collect the cash," Taiichi Ohno said. We are cutting out the non-value-added wastes to shorten that time. Although Lean began in a single organization, it has now spread over the whole firm. To add value to every step of the supply chain, from the procurement of raw materials to customer delivery, one organization implements the lean methodology throughout. The supplier is seen as an extension of the business and a partner working toward the same objective. The goal is to create long-lasting partnerships rather than short-term price cuts that would reduce the supplier's profitability. Teams from many departments work together to eradicate trash, believing that both the businesses and their staff will reap the rewards. Restricting the number of providers aids in keeping the efforts focused. The most successful businesses have a communication structure where employees are well-informed, share information with others, identify and solve problems, are empowered to take action, are aware of how the company is doing, receive recognition and appreciation at all levels, view conflicts as a chance for growth, and align their priorities and actions with the company's objectives.

The operations director may be assigned operational responsibilities; lean is not one of them. Lean is also not about using the Lean tools exclusively—there may be other helpful tools for certain circumstances nor is it a one-time event or a reorganization strategy intended to cut headcounts quickly. Toyota claims that Lean is a long-term, long-term strategy to establish and preserve a continuous improvement culture across the whole supply chain via cross-functional teams. Before they can encourage and direct any change toward a lean culture, top management must develop a common vision and understand and apply this idea. Black belts or experts cannot handle such a shift. Following the maturity of lower-level management layers to whom responsibilities may be delegated, the leadership involvement must continue. Potential Lean leaders are carefully developed internally through a lifetime of on-the-job training, learning, and one-on-one coaching by mentors (referred to as "sensei" in Japanese). These mentors bring problems to light and assist, challenge, and support staff members as they grow as problem solvers by working on real-world problems within the organization. In order to ensure that their actions are appropriately connected to the strategic objectives, lean leaders are modest and take the time to plan and guide all improvements and staff in the same direction. Visual management is used to communicate with team members and gemba visitors where the real work is being

done, in order to indicate the direction and progress towards the set objectives. While being lean is critical, maintaining leanness is even more crucial, and this can only be taught and maintained by actively putting lean concepts and methods into practice. Charles Jennings found that the average worker learns 70% of what they need to know on the job, 20% from coworkers, and 10% via formal training.

Characteristics like cooperation, standard work, respect for others, go see for yourself, daily kaizens, and embracing difficult goals are embodied and promoted by ean leaders. Setting goals (the what) is critical, but knowing how the leaders achieved those goals the how is even more crucial. Toyota does not support the "make the targets no matter how" philosophy. According to the Lean concept, the proper outcomes may be achieved by combining a sound strategy with specific goals. Aligning the goals with the staff via a combination of top-down and bottom-up counseling is the recommended approach. It also involves keeping the goals challenging, maintaining an open mind, and paying attention to what the individuals carrying out the actual job have to say. Lean leaders go to the gemba to understand operations and learn to spot process and performance gaps, so they have a thorough understanding of the company's processes.

CONCLUSION

The analysis emphasizes how crucial distribution and logistics management are from a strategic standpoint in the cutthroat business environment of today. The abstract promotes continued study, instruction, and teamwork in order to maximize logistical tactics and take use of new technology. Adopting innovations in distribution and logistics management is crucial for attaining operational excellence, cutting expenses, and preserving a competitive advantage in the global market as sectors continue to change. The area of logistics and distribution management plays a crucial part in the current supply chain operations environment, as shown by the study and examination of this topic. The complex field of logistics and distribution management includes vital components including order fulfillment, warehousing, inventory control, and transportation logistics. These components are all necessary to guarantee the smooth flow of products from the point of production to the final customer. The results highlight how technology and data-driven methods are revolutionizing logistics operations. Automation, real-time monitoring, and sophisticated analytics are now essential tools that help businesses improve visibility, streamline operations, and adapt quickly to changing consumer needs. These technical developments minimize environmental effects via efficient transportation and less waste, which not only increases operating efficiency but also supports sustainability initiatives.

REFERENCES:

[1] H. P. Skender, P. A. Zaninović, and A. Lolić, “The importance of logistics distribution centers as nodes in logistics networks,” *Pomorstvo*, 2019, doi: 10.31217/p.33.2.4.

[2] S. K. Mangla, Y. K. Sharma, P. P. Patil, G. Yadav, and J. Xu, “Logistics and distribution challenges to managing operations for corporate sustainability: Study on leading Indian diary organizations,” *J. Clean. Prod.*, 2019, doi: 10.1016/j.jclepro.2019.117620.

[3] A. F. Fagbamigbe, G. K. Basele, B. Makubate, and B. O. Oluyede, “Application of the exponentiated log-logistic Weibull distribution to censored data,” *J. Niger. Soc. Phys. Sci.*, 2019, doi: 10.46481/jnsps.2019.4.

[4] J. Wang, M. K. Lim, M. L. Tseng, and Y. Yang, “Promoting low carbon agenda in the urban logistics network distribution system,” *J. Clean. Prod.*, 2019, doi: 10.1016/j.jclepro.2018.11.123.

[5] H. M. Osano, "Global expansion of SMEs: role of global market strategy for Kenyan SMEs," *J. Innov. Entrep.*, 2019, doi: 10.1186/s13731-019-0109-8.

[6] R. A. Zeineldin, C. Chesneau, F. Jamal, and M. Elgarhy, "Statistical properties and different methods of estimation for type I half logistic inverted kumaraswamy distribution," *Mathematics*, 2019, doi: 10.3390/MATH7101002.

[7] M. Bortolini, F. G. Galizia, M. Gamberi, C. Mora, and F. Pilati, "Enhancing stock efficiency and environmental sustainability goals in direct distribution logistic networks," *Int. J. Adv. Oper. Manag.*, 2019, doi: 10.1504/IJAOM.2019.098518.

[8] Y. M. Duan and H. T. Fu, "Research and application on logistics distribution optimisation problem using big data analysis," *Int. J. Inf. Commun. Technol.*, 2019, doi: 10.1504/IJICT.2019.102048.

[9] L. Chen, M. Ma, and L. Sun, "Heuristic swarm intelligent optimization algorithm for path planning of agricultural product logistics distribution," *J. Intell. Fuzzy Syst.*, 2019, doi: 10.3233/JIFS-179304.

[10] M. Lisowski and M. Bednarek, "Lean manufacturing and logistics distribution 3.0," in *New Challenges in Change Management*, 2019.

[11] A. Martinson and X. Qiang, "Route Optimization in logistics distribution based on Particle Swarm Optimization," *Int. J. Comput. Appl.*, 2019, doi: 10.5120/ijca2019919179.

[12] J. Zhang, Y. Zhao, M. Liu, and L. Kong, "Reliability Modelling for Degradation Based on Type-II Generalized Logistic Distribution and Particle Swarm Optimization," *Huanan Ligong Daxue Xuebao/Journal South China Univ. Technol. (Natural Sci.*, 2019, doi: 10.12141/j.issn.1000-565X.180091.

CHAPTER 2

INVESTIGATION OF THE FINANCIAL IMPACT OF LOGISTICS

Poonam Singh, Associate Professor
Department of ISME, ATLAS SkillTech University, Mumbai, India
Email Id-poonam.singh@atlasuniversity.edu.in

ABSTRACT:

The complex link between logistics and its enormous financial ramifications, offering a thorough analysis of how efficient logistics management greatly affects companies' financial success. Throughout the supply chain, logistics which includes the strategic coordination of the movement of information, services, and goods becomes more important in establishing revenue streams, cost structures, and overall financial sustainability. The study explores important aspects including order fulfillment, inventory control, and transportation expenses and explains how these directly affect financial results. By streamlining operations, cutting down on inventory holding expenses, and optimizing routes, effective logistics techniques can save costs. The abstract emphasizes how strategically important logistics are to striking a balance between timely delivery and cost-effective operations, which in turn affects customer loyalty and satisfaction and, eventually, revenue generating. The main focus of this study is how technology, particularly automation and data analytics, is transforming current logistical procedures. The abstract delves into how technology innovations impact financial performance by improving visibility, enabling data-driven decision-making, and boosting overall supply chain efficiency.

KEYWORDS:

Cost Structures, Financial Implications, Logistics Management, Supply Chain Efficiency, Technology Integration.

INTRODUCTION

An organization's financial performance may be impacted by logistics in a number of ways. Although logistics has historically been seen as an unavoidable operational need, a successful logistics operation may also provide chances to boost financial performance. The return on investment (ROI), which is the ratio of net profit to capital used in the firm, is a crucial success metric for many organizations. This ratio has to be changed to raise earnings and lower capital used for better company performance. The ROI may be impacted by logistics in a variety of ways, both favorably and unfavorably. Sales may be improved to raise profit, and high-quality, reliable service levels can boost sales [1], [2]. Attaining OTIF (on time in full) delivery is a primary goal of many logistics systems, and it is one of the objectives of many service level agreements. On the other side, effective logistical practices may reduce expenses. The various logistical components may also have an impact on the quantity of capital used [3], [4].

For instance, businesses keep a wide variety of inventory, such as components, work-in-progress, completed items, and raw materials. The main logistical operations have a big influence on how much of each of these is in stock. This effect may be felt in relation to, among other things, integrated systems, order and reorder amounts, stock location, inventory management, and stockholding rules. Key logistical operations, order cycle durations and cash-to-cash, have an impact on cash and receivables. a variety of permanent assets are used in logistics operations, including material handling equipment, depots, transportation, and

warehouses. The quantity, size, and scope of their use are essential components of efficient logistics planning. Moreover, there can be advantageous chances to outsource all or part of these processes, which significantly lowers fixed assets [5], [6].

A breakthrough is a significant advancement in a crucial area of business. It's a challenging, multipurpose challenge that a committed team quickly resolved. In order to fulfill the company's vision, the objective is often greater than a 50% improvement, also known as "Target to Improve" [TTI]. Hoshin Kanri, also known as "compass management" or "policy deployment" to manage the company's direction, is a top-down and bottom-up back-and-forth "catch ball" systematic approach of a strategy planning process to achieve mid-term and long-term goals by aligning the business strategy with the daily activities. This is the Toyota-developed Lean tool to use in this situation. Dr. Yoji Akao is credited as the founding father of Hoshin Kanri, which had its origins in Japan in the 1960s. By coordinating the objectives of the middle management tactical programs, the operational management projects, and the top management strategy goals, the tool seeks to have all workers working toward the same goal at the same time [7], [8].

Every management level solicits input from the lower levels and modifies strategies and objectives as necessary. The lower management levels, who now have a greater grasp of the company's direction, the logic behind the goal setting, and their involvement in it, support and commit to realistic and aligned methods as a result of this communication. Employees are willing to take on the tasks and bear the associated accountability when they realize that their contribution is acknowledged and put to use. In addition to this vertical alignment, there is also a horizontal alignment, which means that since the value streams are aware of the higher shared objectives of the organization and the more distinct roles and duties, they may collaborate with one other more effectively. Due to the recurring nature of this conventional strategy planning process, the organization becomes quicker and more efficient throughout this cycle, producing higher-quality output. Picking only a few objectives is advised in order to maintain concentration.

A strategic vision is necessary for this process, after which the strategic objectives—which are then subdivided into smaller ones must be defined. Action plans get resources and are shared with every employee. Delivering breakthroughs involves the whole company via a back-and-forth structure. It involves formulating a yearly objective, breakthrough targets, and purpose. The whole company reviews the TTIs once a month using a bowling chart. It is a tool for discussing and monitoring how well strategic objectives are performing in comparison to how they were expected to, showing the status of each goal in red for unmet goals and green for fulfilled goals. The shop floor, where DM is used, sees an even higher frequency of checks to see whether the projects are on track to fulfill the objectives. When upper management and the shop floor meet, employees are expected to express their emotional states, project progress, problems they've run across, and suggestions for improvement [9], [10].

Small changes that are started and carried out by everyone in the business to enhance the procedures they operate in are known as continuous improvement. It may be thought of as a systematic method and set of rules that aid in identifying ways to decrease waste. Businesses are adopting structured methodologies like Lean and W. Edwards Deming's Plan-Do-Check Act (PDCA) cycle. These solutions prioritize continuous improvement, which enables the elimination of waste and the achievement of high customer service standards. Setting and upholding standards takes discipline, which is necessary for continuous progress. Following the execution of a kaizen, the new standard is established during the Plan phase. The new manner of working is put into practice during the Do phase. Performance is assessed and contrasted with the goals during the Check phase. Countermeasures are established in the Act

phase to return to the standard if necessary. A fresh kaizen is initiated after a while, and the PDCA cycle is repeated. Time and money may be saved by streamlining processes and continuously enhancing how to provide value to the client. Kaizen, which translates from Japanese to mean "an improvement" or "change for the better," is one of the most important Lean tools for TPS's continuous improvement process. In actuality, it is a method that Toyota created rather than just a tool for streamlining operations by taking a methodical approach that avoids making snap decisions or racing to "solutions."

Kaizens are always being utilized to enhance the same process, hence their use is constant. What is made better today is taken into consideration tomorrow as the foundation for a fresh improvement project aimed at reaching a higher goal. Kaizens are steps taken to make processes more dependable, stable, and competent by getting rid of tedious chores and minimizing burdens. The tool and associated improvement process are predicated on the idea that there are perpetually issues within an organization; talent is encouraged to seek out issues and not to conceal them, resolve them and focus on process enhancements, make mistakes and grow from them without assigning blame. The main objective is to provide value for the client, but this method of working also boosts staff members' self-esteem, encourages cooperation, and promotes personal growth, which results in a more driven workforce.

DISCUSSION

The team members go forward by looking for the underlying reasons why the process isn't operating in accordance with the desired future state which isn't always the perfect condition. Once the underlying reasons have been identified, the group may consider and test various workarounds, which don't have to be the best available options. Countermeasures refer to short-term or long-term steps used to minimize waste or gradually address issues, while solutions include the total eradication of the problem. Once the countermeasures have been decided upon, it's time to draft an implementation strategy that outlines who will do what, when, and how, as well as what to do in case of problems that arise. In order to confirm that the process has been improved and that the goals have been reached, the team members are asked to measure the performance in the new scenario. This is because the Lean concept is founded on utilizing facts and statistics from the gemba rather than on assumptions or desk research. A standard work template describes and standardizes the new procedure. This is measured and posted on a DM board to track the process performance. In order to continuously refine this process and get it closer to perfection, fresh repeating kaizens are applied to the existing scenario. This book goes into additional detail on value stream mapping, issue resolution, standard work, DM tools, and procedures. The kaizen event is a more extensive application of a kaizen technique.

While a kaizen may be carried out in a few days by an individual or small team, a kaizen event is a team exercise that might take several weeks, during which a cross-functional team is concentrated on working exclusively on the selected issue in a war-room-style setting. The team members are the ones carrying out the real task and have the authority to enhance their procedures. People are enlisted to actively support the change in this manner. The team outlines the topic's history, maps the current state of affairs establishes a goal statement, looks for the root causes, discusses potential short- and long-term fixes, gathers proof that the changes have had an impact, and decides on next steps. Kaizen events encourage small, cost-effective changes over time.

The team tracks their activities, monitors the progress of the team, communicates both inside and outside the team, and uses an A3 one-pager (the "A3" refers to the paper size) as a guide with instructions on how to plan an improvement initiative, lead a team, solve problems, think,

discuss, and gain agreements. By creating and revising the document, it enables the team members to gather and share ideas and monitor the evolution of the problem-solving process. Toyota created the tool and procedure combination first, and they utilize it to speed up the decision-making process. Managers may make choices with confidence when they use the structured PDCA-based method because they know that the proper procedures have been followed by all parties to get the appropriate findings and suggestions. The A3 is also used by team coaches as a tool for efficient coaching and mentoring. Kaizen is the primary Lean activity for eliminating waste and fixing issues, but it's also a method for developing people. This is how to build a learning company that will eventually develop a Lean culture, which has its own distinct style of thinking and doing. A kaizen event begins with planning four weeks prior to the workshop itself. It is crucial that the steering committee confirms, in its report, if and to what extent the team helped the shipper achieve its strategic objectives, which might include reducing inventory or lead times, growing market share, or raising customer satisfaction.

The kaizen team must clearly state the objectives they worked toward, the Lean tools they employed and how they used them, the target's description, the target-setting procedure, and the extent of the improvement as demonstrated by verified and validated data. The kaizen team is also expected to demonstrate that the outcomes are long-term sustainable, explain and disclose how it regularly compares actuals and trends to the standards, and identify any discrepancies on a DM board. Knowing if and how the team uses the PDCA cycle to improve when objectives are not met or to raise performance levels is also essential. The plan is to get to work on the most important tasks first and demonstrate the effectiveness of the strategy by resolving actual problems that the staff is facing. It's critical that senior management identify effective kaizen teams and pay attention to all employee suggestions, regardless of how large or little. The workshop personnel are intimately familiar with the workings of a process. Outsiders believe they are also knowledgeable. This is often determined by how the procedure is explained in the documentation for the quality system. In the event that this is unavailable, the information is derived via interviewing workshop participants.

It then becomes apparent that various persons working in the same process accomplish the same tasks in different ways. Hence, in order to understand how the job is really done, it is a good idea to visit the gemba, see the procedure, and speak with individuals. The Value Stream Map is a Lean tool that may help support this process description (VSM). A value-added and non-value-added activity map of a supply chain is called a value-stream map, or VSM for short. Toyota invented the process map. Parts supply, inventory, and transportation procedures are a few examples of material flows.

A visual system diagram (VSM) is a useful and efficient tool for visualizing the products and information flows from the perspective of the consumer. A service gains value as it progresses through a supply chain. In addition to highlighting the direct value-added operations, a VSM also shows the auxiliary indirect information flows. This approach discourages the suboptimization of particular operations and encourages the identification and improvement of the whole supply chain. A VSM begins by mapping the existing state using common symbols, highlighting wastes and their underlying causes. without the identified waste, a future state which need not be the ideal state is established. It has important Lean components including the pull system, one-piece flow, and takt time a German term meaning "beat" time. A variety of techniques, including fishbone diagrams, Pareto, brainstorming, and trystorming, may be used to arrive at the future state and provide recommendations for improvements. Next, in order to prioritize the activities that will be taken to get to the future state, an effort-impact matrix is created. Apart from its visual component, a VSM establishes the foundation for a kaizen. By approaching the process from a different perspective than they typically do, it ensures that

members of a cross-functional team communicate in the same language and accelerates mutual understanding. It compiles information on lead times, inventories, and defect levels. Employees in the process and those in supporting roles have similar perspectives on and metrics for evaluating process performance. This map is dynamic. Updates are made whenever anything changes. Within Toyota, the "Material and Information Flow Diagram" is another name for the VSM tool. In their book "Learning to See: Value Stream Mapping to Create Value and Eliminate Muda," Rother and Shook lay out an eight-step process for making a VSM. It's a group exercise where each person's job is to collect real data using tools like stopwatches and videotapes, among other things. From order intake to payment receipt, a VSM records all steps involved in the process and incorporates relevant connections and data. When it comes to improvement projects, VSMs are utilized to convey both the present and the future. Finding areas for improvement to save waste and increase process flow is the goal.

When a service is provided in accordance with the takt time and a leveled workload to satisfy customer demand, without any waiting periods, delays, movements, non-value-added activities, or errors, it is referred to as the perfect flow. Typically, VSM pilots are initiated at the multi-process level in order to establish a model line that may serve as a guide for further Lean implementations. Drawing VSMs at the corporate level is the next step, as this is often the greatest level that individuals can optimize within their purview. By include supplier and customer locations in the value stream, an enterprise-level VSM may be created in a well-developed Lean environment. To make a VSM, butcher paper is adhered to the conference room wall. The procedure stages are written down and pasted on the page using markers and sticky notes. Unlike when using pens, the sticky notes enable frequent VSM changes without losing the overview. Team members are encouraged to stroll and think while working in this manner. Because each person may ask for an explanation of their opinion, communication is improved. To avoid wasting time learning how to utilize software, it is not advised. After mapping is finished, the team may upload the drawings into the program to communicate with the stakeholders even more.

DM is a daily activity to ensure that operations are operating efficiently to meet the demands of the client. Toyota created this tool, which is a disciplined and scheduled daily meeting where staff members gather to review what is working well, what issues exist, and how to use the problem-solving tool—discussed in the next paragraph—to address those issues. It is a control system that uses an action-oriented and forward-thinking methodology to ensure that the daily goals are reached. Reviewing previous performance is not the only goal of the meeting or call.

While reflecting on the past might be beneficial, the majority of the time should be devoted to formulating fresh plans of action to achieve the day's goals. The maximum duration of the meeting should be fifteen minutes. It's critical to begin and end on schedule and to forbid extensions. Managing the company in this manner requires having the self-control to show up for calls or meetings each day. Because company settings and processes are so complicated, a less frequent follow-up method is insufficient to ensure survival. Ensure that everyone who was invited joins and that new hires go through an onboarding procedure. For DM to be effective, performances must be visualized so that it is clear when procedures are departing from the standard. Placing a DM board where the work is done on the shop floor and holding the daily meeting around it is a frequent method of doing this. Figure 1.5 shows an illustration of a DM board.

In principle, it is sufficient to write the agreements and acts on the board rather than creating minutes. You may utilize different presentation and registration technologies in a virtual environment. In this manner, workers feel more accountable and have a stronger sense of urgency to identify issues, investigate them, and take appropriate corrective or preventative

action. They also have a better understanding of what matters to the customer. Before the meeting begins, it is the duty of each team member to utilize the standard task to prepare and update a portion of the material on the board. The people, performance, and improvements portions make up the three parts of the board. Employees in the people department use the appropriate smiley colors green, yellow, and red to paste messages on the board to let each other know how they are doing and if they can provide the necessary output. The workers are informed about the goal, the gap between these, the trend, and the actual key process performance in the performance section. Productivity, safety, quality, and delivery are often measured KPIs.

Checklists, charts, graphs, Pareto diagrams, and colors are a few examples of visualization tools. Make sure the data is accurate and up to date, and avoid letting KPIs remain red for extended periods of time. Examine the nature of the issue and determine if the goal is doable. The improvements section includes the owner, the submission date, the concern that describes the issue, the cause that indicates the problem's underlying cause, the countermeasure that illustrates the solution to the issue, the owner, the due date, and the progress that has been achieved. To ensure that the agreed-upon activities are carried out in line with the plan, it is crucial that they be monitored regularly. Don't let an action remain open for too long. Employees are drawn to such a board and can quickly determine if the process is under control or not. People are free to halt the process if its output exceeds the control limitations. After that, they begin working on the root cause analysis by using the predetermined processes for fixing problems.

They are invited to take part and provide their suggestions for either interim or long-term solutions to meet the deadlines. It is simpler to solve difficulties on a daily basis than to analyze events that happened weeks or months ago. It also enables the team to predict problems earlier. To achieve the Lean objectives and manage the appropriate Lean behaviors in the proper way, DM is required. The deployment process is streamlined by the visual representation of the individuals' emotional states, KPIs, and improvement status data. Disciplined standard work, leader standard work, and accountability and leadership checks are other DM issues.

The basic DM standard work instructions specify who should do what, when, how, and where. The value stream leader uses leader standard work as part of a daily routine to ensure that the scheduled work has been completed on time and accurately. People will start auditing themselves before the leader asks whether they use a daily checklist. This kind of action is what the Lean concept seeks for. All organizational levels must carry out this DM procedure in tier-based meetings or phone calls. Having the first DM on the shop floor in the morning, the middle management one around lunchtime, and the top management one at the end of the day is an example of a tiered meeting method. A lower tier representative attends each tier meeting to facilitate daily information flow both top-down and bottom-up, which facilitates management decision-making. Additionally, this method of working is less subjective and more fact-based.

In typical businesses, when anything goes wrong, people strive to figure out what the issue is right away. Without doing a thorough root cause analysis and coming up with many solutions, they make snap judgments. This wastes resources without addressing the underlying issue. Toyota created an organized method for resolving issues in order to get rid of these drawbacks. A gap between the current state and the ideal state or an unmet consumer requirement are two examples of problems. It's also possible to see not always reaching the goals as a problem. Time, money, and occurrence-based problems might all exist, yet they are all connected and have an impact on one another. Time is lost as a result of many line stops and other incidents, and time is worth money. The effect of countermeasures may be measured in terms of cost savings, lead times, or quality standards. Since a team may approach a challenge in a variety

of ways, it's critical to establish a shared understanding and problem description to ensure that everyone is working toward the same goal. This makes it possible to address the issue more quickly and saves important time that would otherwise be spent arguing about arbitrary standards and viewpoints. This structure is based on the notion that the issue may not always be what people perceive. Digging a little bit more is required to identify the problem's primary cause. In this procedure, the PDCA cycle application is essential. First, a thorough root cause analysis must be conducted, countermeasures must be agreed upon (P), implemented (D), and their effectiveness must be evaluated (C). Standardize the procedure if the countermeasures were successful (A). If not, carry out one more PDCA, and more ones if necessary, until the problem is resolved. Gaining awareness of problems and waste is crucial.

People may complete the eight phases of the issue-solving cycle via structural problem solving. It's critical to complete each one of them step-by-step. The following "5w + 1h" tool questions may be used to shed light on the issue in step 1: What's the issue? What makes it an issue? Where is the issue? When is it an issue? For whom is it an issue? What degree of an issue is it? A problem statement that is Specific Measurable Achievable Realistic and Time (SMART) bound results from these inquiries. Since they are unknown at the beginning of the cycle, a root cause and/or countermeasure are not included in a problem description. If they are understood up front, the issue seems to be obvious and the cycle of problem-solving doesn't seem necessary. These "low-hanging fruit" and "quick wins" may be put into practice right now. It is important to exercise caution while using this method since it might be hard to pinpoint tiny, hidden problems. The second step is to divide the issue into manageable chunks and choose which sub problems to focus on. It is essential to visit the gemba beforehand in order to see the workflow, understand how the job is completed, and become aware of any problems.

CONCLUSION

Logistics as a critical factor that determines financial performance in modern corporate settings. It pushes companies to see logistics as a strategic tool that, when used well, can improve overall financial health, promote sustainable development, and have a beneficial influence on the bottom line. This study highlights the need of having a sophisticated grasp of the financial dynamics behind logistics choices in a quickly changing corporate environment where logistics is being acknowledged as a strategic enabler. The concept promotes firms to take a comprehensive approach to logistics management, using technology, strategic alliances, and data-driven insights to maximize financial results. It does this by drawing on multidisciplinary ideas from the fields of finance, logistics, and technology.

REFERENCES:

[1] J. M. Salsman, K. Bingen, R. D. Barr, and D. R. Freyer, “Understanding, measuring, and addressing the financial impact of cancer on adolescents and young adults,” *Pediatric Blood and Cancer*. 2019. doi: 10.1002/pbc.27660.

[2] C. C. L. Leopoldino, D. C. Barbosa, F. M. de Mendonça, C. E. D. de C. Infante, and E. A. T. Nogueira, “Environmental and financial impacts of the implementation of solid waste management in a steel complex: A case study,” *Eng. Sanit. e Ambient.*, 2019, doi: 10.1590/s1413-41522019185146.

[3] A. Berger, T. W. Kelsey, S. J. Goetz, R. C. Goodling, and V. A. Ishler, “Financial impact of Penn State Extension’s know your numbers dairy program,” *J. Ext.*, 2019, doi: 10.34068/joe.57.01.08.

[4] T. H. Le, A. T. Chuc, and F. Taghizadeh-Hesary, "Financial inclusion and its impact on financial efficiency and sustainability: Empirical evidence from Asia," *Borsa Istanbul Rev.*, 2019, doi: 10.1016/j.bir.2019.07.002.

[5] N. K. Klint, L. Satu, and T. Risto, "Costs of dental care and its financial impacts on patients in a population with low availability of services," *Community Dent. Health*, 2019, doi: 10.1922/CDH_4389Nyamuryekung'e06.

[6] J. Watson, D. Lacey, D. Kerr, P. Salmon, and N. Goode, "Understanding the effects of compromise and misuse of personal details on older people," *Australas. J. Inf. Syst.*, 2019, doi: 10.3127/ajis.v23i0.1721.

[7] Z. A. F. Al-Slehat, "Impact of Financial Leverage, Size and Assets Structure on Firm Value: Evidence from Industrial Sector, Jordan," *Int. Bus. Res.*, 2019, doi: 10.5539/ibr.v13n1p109.

[8] M. Skalická, M. Zinecker, M. B. Pietrzak, Tomáš Meluzín, and M. Dohnal, "Financial impact analysis of going public at the warsaw stock exchange: Using fuzzy set theory to understand behaviours of mature companies," *Manag. Mark.*, 2019, doi: 10.2478/mmcks-2019-0005.

[9] L. Araújo, "Implantation financial impact of caqi in Brazil," *Educ. e Soc.*, 2019, doi: 10.1590/es0101-73302019181802.

[10] A. Sujová, L. Simanová, and K. Marcineková, "Reengineering of production processes and its impact on the financial situation and business performance of the company," *Eng. Manag. Prod. Serv.*, 2019, doi: 10.2478/emj-2019-0025.

CHAPTER 3

GLOBALIZATION AND INTEGRATION IN LOGISTICS

Simarjeet Makkar, Associate Professor
Department of ISME, ATLAS SkillTech University, Mumbai, India
Email Id-simarjeet.makkar@atlasuniversity.edu.in

ABSTRACT:

The complex world of globalization and integration in logistics, offering a thorough Examination of their significant effects on modern supply chain management. As economies become more interdependent and linked, a phenomenon known as globalization, logistics has become essential for companies trying to make their way through the challenges of a global marketplace. The study looks at how supply chain integration has been affected by globalization and how logistics techniques have changed to enable smooth cross-border trade in products, information, and services. The abstract highlights the strategic significance of integration in improving overall supply chain efficiency, cutting costs, and optimizing operations. It also emphasizes the interconnectedness of global supply networks. grasp the dynamics of globalization and integration in logistics requires a grasp of key elements such information technology, communication, and transportation. The study looks at how developments in these fields have made it easier for companies to communicate in real time, increase visibility, and adjust to the ever-changing global market.

KEYWORDS:

Globalization, Information Technologies, Integration, Logistics, Supply Chain Management.

INTRODUCTION

The number of businesses participating in the global marketplace has increased recently, which is one sector that has seen major change. This calls for a more expansive viewpoint than when a domestic business does foreign business. While businesses may be present over a large geographic area in the latter case, local or regional sourcing, production, storage, and distribution support this presence. In the former, the organization has policies and a structure that reflect a really global business, making it truly global. Global branding, global sourcing, global production, centralization of inventory, and centralization of information are examples of typical global attributes [1], [2] However, local requirements can also be met, such as electronic standards for electrical goods, packaging language, and left- or right-hand drive options in the automotive industry. These factors all work to highlight how much more challenging it is to do business successfully in a global setting. The complexity of logistics and supply chain networks has increased, making it harder to design and operate logistics as an integrated, whole system [3], [4].

In order to cater to worldwide markets, logistics networks must inevitably expand and grow more complex. Once again, logistics must be planned and handled as a whole, integrated system. In addition to the previously listed characteristics, businesses that operate in international markets often utilize "focused" factories manufacturing facilities that specialize in a small number of products and outsource some of their manufacture. A direct consequence of company internationalization is the rise in supply chain management complexity. As previously said, there's a good chance that globalization increases complexity [5], [6]. Logistics operations are significantly impacted by complexity. Among them are: This should make it

abundantly evident that there is a direct clash between globalization and the shift that many businesses are seeking—to fast response, just-in-time operations. Due to the distances involved and the complexity of logistics, multinational organizations tend to suffer increases in inventory levels and order lead times. The goal of businesses adopting the just-in-time mindset is to cut lead times, get rid of wasteful inventory, and streamline processes. Logistics provide a definite problem for businesses attempting to accomplish both objectives [7], [8]. A lot of advancements in distribution and logistics systems have been made, with the idea of comprehensive logistics serving as the foundation, in order to meet the need for more integrated operations. As a result, quite innovative "trade-offs" are now used. There are two main causes for this eruption of novel concepts. Realizing the significance, expense, and intricacy of logistics comes first. The second is the advancements in information technology, which have made it feasible to create complex information systems that support and improve logistics operations planning and management. This has made it possible to collect and analyze previously unattainable levels of detail data. Information systems in the supply chain are covered in Chapter 32, where some of these different methods for integrating physical and information systems are explained. some of the most important aspects of integration while taking into account current advancements in manufacturing methods. An extensive history of integrated systems may be traced back to the industrial industry [9], [10].

DPP is a method for assigning all relevant expenses and allowances to a certain product. As a result, each distribution expense (storage, transportation, etc.) is attributed to a particular product as opposed to being averaged throughout the full product line. Thus, the actual costs of delivering a product are tracked and compared to a standard cost established using DPP, much how a budgeting system works. This makes it possible to pinpoint inefficient regions across the board for the logistical operation. DPP approaches may be used to determine the costs of certain MRP/DRP systems, which are advanced computerized planning tools designed to ensure that inventory or resources are accessible when required. Materials needs planning, an inventory management method for figuring out dependant demand for manufacturing supplies, is where the idea first emerged. The goal of manufacturing resource planning (MRPII), which was created later, is to increase productivity by carefully scheduling and managing production resources. The foundation of MRPII systems is an integrated approach to the whole manufacturing process, from orders to buying and material supply to production planning and control strategies. The application of MRPII concepts to inventory and material flow management effective warehousing and transportation support is known as distribution needs planning.

In order for DRP systems to function, the movement of materials from the supply source via the depot and transportation network distribution network must be broken down. In order to guarantee that the necessary items "flow" through the system and are accessible as needed in the correct location, at the right time this is done on a time-phased basis (one of the traditional distribution definitions). These kinds of integrated systems need complex, computerized information systems as their foundation. One may easily see the advantages of an efficient system in terms of lower freight, storage, and inventory holding costs as well as better customer service. In recent years, attitudes concerning logistics and distribution have undergone a significant shift.

It was often believed that the several components of logistics just added to the expenses incurred by businesses looking to sell goods on the open market. It is increasingly acknowledged that distribution and logistics also significantly increase a product's value, even if there are costs involved in moving and storing commodities. This is due to the fact that logistics operations provide the method by which the product may be delivered to the client or

final user in the needed location and condition. Businesses can compete by offering a product at the lowest possible price (hoping that the customer will choose it because it is the cheapest) or at the highest possible value (hoping that the customer will choose it because it is precisely where, when, and how they want it). Some businesses could foolishly attempt to meet both of these value and cost goals, and they most likely won't be successful in either! When preparing a logistics operation, it is especially crucial to know which competitive posture a firm hopes to attain.

Standard work is defined as tasks that are effective, planned in the proper sequence, and closely adhered to by every team member. In Toyota, Taiichi Ohno and Shigeo Shingo created standard work throughout the 1950s and 1960s. This method preserves process knowledge and guarantees process stability, which serve as the foundation for kaizen and problem-solving activities. It works well for maintaining changes that have been made. People are encouraged to consider the most productive and efficient approach to do their tasks when they are asked to list the stages in a process. Since standard work should be prepared in an understandable style for all staff members, it may be used to teach new hires. These guidelines are also applicable to auditing procedures, since they aid in verifying that the task is being done in the approved and recorded manner.

Information about who should do what, when, how, and where to accomplish it is all part of standard work. The goal is to arrange the work in a logical and safe manner to avoid variations in the process outputs. As a result, there are fewer errors and more predictable process results. It enables the business to enhance its scheduling of resources and deliver on schedule. All workers must adhere to the standard work since it maximizes the efficiency of people, machinery, and raw materials while organizing tasks in the best possible sequence. Regular labor keeps performance declines at bay.

DISCUSSION

Energy that might be utilized to enhance procedures rather than go back to the norm is wasted recovering from these decreases. various approaches to the same task by various people are producing varying levels of excellence. Every worker usually trains new staff in their style of working. This makes it challenging to locate the exact point in a process when an issue occurred. To provide a single method of operation for all operators, standard work is implemented. In order to maintain high standards of quality and safety, new personnel are trained using this recorded and standardized work. It facilitates the identification of process deviations from the norm. When an employee follows a procedure that is under control, the result is consistent and dependable. Additionally, it may be repeated and yields the same results when carried out by various persons. The net available time does not include meetings, breaks, or restroom breaks. The takt time reduces as client demand increases but working hours stay constant, indicating that work must be done faster to keep up with demand. The takt time rises, which means that work may go more slowly, when consumer demand declines and working hours are the same.

The takt time rises when working hours rise without a corresponding shift in client demand, which implies that work pace may also slow down. The tact time reduces as working hours decrease without a change in client demand, indicating that work must be done faster to keep up with demand. Cycle time is the amount of time a worker needs to do a job. A time study may be used to quantify cycle time, which might fluctuate over time owing to changes in worker productivity, machine configuration, labor force, and raw material sources. The time study provides information about the quick and slow processes. Step 2, the out-of-balance processes are brought under control, i.e., the cycle times are returned to the takt time level.

Cycle time is divided by takt time to determine if the existing process setup can meet customer demand.

If there is a problem with the process and it has to be temporarily paused, this strategy will cause delays. The cycle time must be somewhat less than the takt time in order to account for these circumstances. Yamazumi, which means "balancing the work" in Japanese, is a technique for assessing work balance that involves drawing a graph showing stacked job durations and how they might be divided equitably among the available individuals. This is a helpful tool to determine the required cycle time per person in order to meet consumer demand. It makes the detection of resource problems and bottlenecks visually clear. Creating a one-piece flow that satisfies client demand is the ultimate objective. Variation makes it harder to plan resources, which results in waste and overload.

Things are arranged so they are easily accessible when they are straightened. Sweeping involves equipment and floor cleaning. The standardization of the workplace makes irregularities obvious. It is advised to employ visual aids like photos as they convey more information than words can. Make the procedure a regular routine and a habit to keep it going. The 5S method is a methodical approach to establish and maintain a productive and efficient workplace. Some businesses add extra "S" for safety, therefore they refer to their process as Events may result in fatalities, major and minor injuries, or even close misses. Physical factors and/or people's risky behavior are to blame for the majority of accidents. It must be obvious where the closest emergency exit, escape routes, alarm buttons, fire extinguishers, first aid kits, and automated external defibrillator (AED) are in order to improve people's safety at a workplace. Safety is prioritized in Lean, then quality, and last efficiency.

Despite not using Lean evaluations, Toyota seems to be beneficial since they are used to the idea that "you get what you measure." Assessment instruments are available to gauge an organization's Lean maturity and suggest actions required to advance. An audit performance scorecard that is submitted to upper management is the Lean evaluation. Customer input indicates what is working well and what needs to be made better. The first steps in a typical Lean deployment are educating and involving the leadership team in the Lean mindset. The following conditions must be met in order to be prepared for the Lean transformation: a defined burning platform, eliminated possible obstacles, project organization, and selection of a model line. The model line is a constrained area of a business or procedure where the first enhancements are applied and which may serve as a case study to promote the Lean concept across the rest of the enterprise.

To consider standardizing and expanding the new method of working, or establishing the appropriate structure for Leaner implementation. This business has used a "train the trainer" strategy to introduce the Lean foundations to the rest of the organization in addition to creating value streams with a designated value stream leader. The Lean level scorecard is continuously evaluated, measured, and reported to upper management in order to maintain the continuous improvement culture. This makes it possible for the company to strive for a world-class Lean implementation. Implementing the Lean concept might take up to five years, depending on the size and/or breadth of the company. Site-by-site, process-by-process, business-by-business, or region-by-region deployment options are available.

It should be noted that many businesses must have variously arranged logistics systems in order to accommodate the range of services they are required to deliver. Today, it is recognized that a "one-size-fits-all" approach to logistics is often too restrictive, since suppliers must consider a variety of distinct client needs and ensure that their competitive edge is recognized and used in every market. These days, the phrase "supply chain management" is often used to refer to

most, if not all, of the many logistical tasks. The notion of the supply chain is essentially a continuation of the concepts around the interconnected nature of logistics that were explored in this and the preceding chapter. The advantages of considering the many components of logistics as an integrated whole are promoted by the complete logistics concept. Similar to this, supply chain management also involves the provider and the final consumer, or, as Figure 1.1 shows, the supply chain's upstream (supply side) and downstream (demand side) partners. This is the primary distinction between conventional logistics and supply chain management.

Although several of these components have also been acknowledged as essential to the effective planning of logistics operations, supply chain management is said to vary from the more traditional view of logistics in four major ways. Instead of being seen as a collection of disjointed components like production, distribution, and procurement, the supply chain is seen as a one entity. This is also how most forward-thinking businesses see logistics. However, in an integrated supply chain, the planning process involves both suppliers and end users, stepping beyond the confines of a single company to try to plan for the supply chain as a whole.
Supply chain management is essentially a strategic planning process, with a focus more on making strategic decisions than on the day-to-day operations. Managing inventories may be done rather differently using supply chain management. Historically, inventory has served as a safety valve between the various pipeline components, which often results in enormous and costly product stockpiles. By changing this viewpoint, supply chain management seeks to balance the integrated flow of goods along the pipeline by using inventories as a last option. Integration across various supply chains has progressed somewhat slowly; in fact, many businesses still only have rudimentary internal integration. Thus, complete external integration continues to be the "Holy Grail" that most businesses want to attain. Numerous businesses have made the transition to functional integration, and some have even reached a partial level of internal integration.

Numerous innovative methods for integrated systems have been developed as a result of the recognition of the need of efficient logistics planning and management as well as the evident interrelationships within logistics systems. The potential for implementing these novel strategies in practice has been enabled by the latest developments in information technology. Overall, there has been a very good shift toward an integrated approach to logistics, but many businesses—big and small—still have a lot of room for improvement.

Numerous large, usually international corporations have embraced the more intricate and sophisticated systems and ideas, such DPP and DRP. Smaller businesses have been slower to embrace these ideas, even though the advantages are obvious. Another important consideration for a lot of small and medium-sized businesses is that they should learn how to walk the logistics road before trying to sprint on it. But even for businesses like these, there's a lot to be gained by making the initial move to acknowledge that logistics should be seen as an integrated system, with strong interrelationships among the various components of transportation, storage, information, etc. Furthermore, a constructive approach to the development and management of such systems is required.

Thankfully, businesses have, more or less, acknowledged in recent years the significance and applicability of logistics to their overall operations. The "total logistics concept" has been presented, and it has been underlined how important it is to identify the chances for trade-offs in logistics. It has been explained how logistics affects a company's bottom line. It has been determined how crucial it is to combine the many logistical components into a cohesive operational framework in order to maximize system performance. A few crucial elements of logistics planning have been examined. Lastly, a number of contemporary innovations in logistics thought have been discussed, such as supply chain management, integrated planning

systems, the use of logistics to assist build competitive advantage, and the globalization of businesses. The great majority of businesses see providing excellent customer service as crucial to their operations. However, many businesses find it challenging to define customer service precisely or to provide a clear explanation of what constitutes customer service measures when asked. Traditionally, service delivery has been predicated more on broad assumptions about what consumers desire than on their actual needs, or at the very least, their perceptions of what they need.

Therefore, it is essential for each business or organization to define customer service precisely and to have defined, acknowledged customer service procedures. It is vital to comprehend that variations exist not just between sectors and firms, but also across market segments that a corporation may cater to in terms of customer service and expectations.

The understanding of the complexities of providing customer service is another important component.

The logistics and distribution processes are intrinsically tied to customer service operations. There are several factors at play in this process that might be pertinent to customer service. These include things like ordering simplicity, product availability, and delivery dependability. Ultimately, it's important to strike a balance between the cost and the quality of the services offered. The demise of several service offerings is sometimes caused by the inflated and unacknowledged high cost of delivering a service that may, in certain cases, exceed what the client really needs. The secret to a good customer service strategy is to set realistic goals using a suitable framework that involves communication with the client, assess progress, and keep an eye on it.

Logistics, which started in the military to facilitate the movement of troops and equipment during military operations, includes transportation. These days, it is used for a variety of tasks in both public and private domains. Since logistics strategy is developed from the company's strategy, transportation cannot be considered an independent operating system. In addition, a purpose, vision, and deployment strategy that results in a transportation policy statement are required for transportation. Logistics encompasses incoming transportation, warehousing, inventory management, outgoing transportation, customer deliveries, returns, and repair processes. It deals with the actual physical movement of items from one location to another and for just-in-time delivery against reasonable prices. Supply chain management, which addresses all aspects of the market, including product distribution, production, and sourcing, includes logistics. Planning for supply and demand, purchasing, subcontracting, product creation, and working with outside partners are examples of complementary activities. The capacity to pick up the appropriate amount of items at the agreed-upon service and price level and deliver them to the agreed-upon location is known as transportation. More energy and space are required the longer the travel durations and the greater the inventory.

Both the driver and the truck must wait if the truck arrives too early. The workers at the warehouse must wait for a truck that arrives too late. Delivery to the final consumer may be accelerated while inventory and storage expenses are decreased via transportation. It is the primary hub for a wealth of data pertaining to manufacturing, distribution, and marketing. As a result, choices made by the transportation function are optimized across the whole supply chain. The ultimate objectives of transportation are flexibility, consistency, and dependability. shortages of workers, problems with market capacity, complexity of the network, environmental constraints, growing traffic, legal obligations, rising fuel prices, and road charges. Well-understood customer needs must serve as the foundation for all transportation management choices. Clients expect prompt, high-quality delivery of their purchases from

motivated staff members who follow established procedures. The best possible balance between expenses, inventory, and service levels is found via transportation. Transport and storage expenses are typical. Purchasing and ordering raw materials, employing labor and machinery to produce finished goods, and financing inventory carrying costs for storage, obsolescence, scrap, loss, damage, and other non-quality costs are examples of typical inventory-related costs. Additionally, the cost of capital is incurred because inventory requires financial investments that cannot be used for other business cases.

Carrying expenses for inventories might reach 20% to 25% of the product's worth. After an order is placed, the service shows if the product is in stock. According to conventional wisdom, high service translates into high expenses and large inventory. large service and cost are correlated with large inventory. High expenses result in high service and inventory levels. There is also a relationship between the amount of inventory, particularly expensive inventory, that is centralized in a single central distribution center and the resulting higher service levels, lower working capital and inventory holding costs, and higher transportation costs due to the longer distances required for inbound vendor flows and outbound customer flows. Lean aims to increase service while decreasing costs and inventory. Lead-time reduction efforts target each of these factors concurrently. variables. But using this approach won't help a business succeed in any of them. When a consumer compares the performance of many providers, it can reveal that those who specifically choose one of the three is outperforming the others. High expenses associated with quick shipment might be strategically positioned as a service differentiation to increase sales. Transporting more people than is necessary is waste that need to be avoided as much as possible. There are several kinds of transportation businesses.

CONCLUSION

This study presents integration and globalization as the two main forces influencing logistics development. It emphasizes how important it is for companies to adopt integrated logistics strategies that take advantage of technology breakthroughs, encourage cross-border cooperation, and manage the difficulties posed by a linked global marketplace. In a period characterized by globalization and integration, the abstract promotes further study, instruction, and cooperative efforts to enhance logistics techniques. In addition to improving decision-making, technology integration has significantly reduced the difficulties brought on by cultural and geographic disparities. The abstract argues for a comprehensive knowledge of the complex interaction between globalization, integration, and logistics as organizations operate on a global scale more and more. It provides an in-depth analysis of the potential and difficulties brought about by the integration of logistics in a globalized society by using multidisciplinary perspectives from the fields of technology, international business, and logistics.

REFERENCES:

[1] S. K. Samal, “Logistics and supply chain management,” *Int. J. Psychosoc. Rehabil.*, 2019, doi: 10.37200/IJPR/V23I6/PR190779.

[2] E. Tijan, S. Aksentijević, K. Ivanić, and M. Jardas, “Blockchain technology implementation in logistics,” *Sustainability (Switzerland)*. 2019. doi: 10.3390/su11041185.

[3] S. Rubio, B. Jiménez-Parra, A. Chamorro-Mera, and F. J. Miranda, “Reverse logistics and urban logistics: Making a link,” *Sustain.*, 2019, doi: 10.3390/su11205684.

[4] H. C. Pham, T. T. Nguyen, S. Mcdonald, and N. Q. Tran-Kieu, "Information Sharing in Logistics Firms: An Exploratory Study of theVietnamese Logistics Sector," *Asian J. Shipp. Logist.*, 2019, doi: 10.1016/j.ajsl.2019.06.001.

[5] M. Li, L. Shen, and G. Q. Huang, "Blockchain-enabled workflow operating system for logistics resources sharing in E-commerce logistics real estate service," *Comput. Ind. Eng.*, 2019, doi: 10.1016/j.cie.2019.07.003.

[6] O. Seroka-Stolka and A. Ociepa-Kubicka, "Green logistics and circular economy," in *Transportation Research Procedia*, 2019. doi: 10.1016/j.trpro.2019.06.049.

[7] W. Manopiniwes, K. Y. Tippayawong, J. Numkid, S. Santiteerakul, S. Ramingwong, and P. Dallasega, "On Logistics Potential of Thai Industry in Identifying Gap to Logistics 4.0," *ARPN J. Eng. Appl. Sci.*, 2019, doi: 10.36478/JEASCI.2019.1608.1613.

[8] T. Sakai, K. Kawamura, and T. Hyodo, "Evaluation of the spatial pattern of logistics facilities using urban logistics land-use and traffic simulator," *J. Transp. Geogr.*, 2019, doi: 10.1016/j.jtrangeo.2018.10.011.

[9] M. Klumpp, M. Hesenius, O. Meyer, C. Ruiner, and V. Gruhn, "Production logistics and human-computer interaction—state-of-the-art, challenges and requirements for the future," *Int. J. Adv. Manuf. Technol.*, 2019, doi: 10.1007/s00170-019-03785-0.

[10] M. Björklund and H. Forslund, "Challenges addressed by swedish third-party logistics providers conducting sustainable logistics business cases," *Sustain.*, 2019, doi: 10.3390/su11092654.

.

CHAPTER 4

INVESTIGATION OF THE IMPORTANCE OF CUSTOMER SERVICE

Jaimine Vaishnav, Assistant Professor
Department of ISME, ATLAS SkillTech University, Mumbai, India
Email Id-jaimine.vaishnav@atlasuniversity.edu.in

ABSTRACT:

The vital necessity of customer service, thoroughly examining its complex relevance for companies in a range of sectors. Customer happiness, customer loyalty, and overall organizational performance are all significantly impacted by customer service, which is often seen as the cornerstone of the customer experience. The inquiry concentrates on the material and immaterial facets of customer service, examining the ways in which efficient service tactics support the establishment and upkeep of favorable client interactions. It explores how providing great customer service affects word-of-mouth advertising, client retention, and repeat business. In today's fiercely competitive markets, where consumer expectations are always changing, the abstract highlights the importance of customer service as a differentiator in the marketplace. To grasp the significance of customer service, key components including issue solving, communication, and response are essential. The study looks at how these elements affect consumer views, brand reputation, and the customer journey as a whole.

KEYWORDS:

Brand Reputation, Customer Experience, Customer Loyalty, Customer Service, Customer Satisfaction.

INTRODCUTION

Few businesses do not understand how important it is to provide excellent customer service. Why, however, is it so crucial? There are several variations some asset-based businesses own their own machinery. These are mostly small businesses that may possess one or more trucks that are used for road transportation. Larger businesses often lack their own equipment. These freight forwarders use the little asset-based businesses to manage the cargo of their clients. They serve as a go-between for the shipper and the real transportation providers. One technique to reduce the amount of money required to cover a large transportation region is via the subcontracting procedure [1], [2]. It may also be used as a risk reduction strategy when volume declines. Because the forwarder's contracts with the subcontractors are often for a year or less, it may quickly decrease the amount of equipment that is not required by not giving the subcontractor a new contract. In addition to scaling down, rapid scaling up is possible. There are large freight forwarders in the air, parcel, and express industries that do not own aircraft. In maritime freight, the larger corporations do own ships [3], [4].

A growing number of businesses want to provide their clients with a one-stop-shop experience, which entails offering all modalities to all locations. But no business can operate at peak efficiency in every mode and location. Leading the worldwide industry in supply chain services, DHL provides a vast array of options. Kuehne + Nagel is ranked number two, followed by UPS and CEVA. With a single digit worldwide market share, DHL demonstrates the extreme industry fragmentation. In an effort to boost revenues, service providers are continuously gaining control over more and more portions of the value chain. Given the unequal market shares in the various areas and the carriers' increasing cooperation in alliances

to increase efficiency, more consolidation is predicted [5], [6]. Due to fierce competition, unstable markets with shorter contract terms, and local small transportation businesses that are better at meeting local client needs, the profit margins are poor. To boost profits, forwarders make an effort to distinguish their service offerings. They focus on providing specialized solutions for certain sectors, value-added services, and intricate supply networks. Other terms for cargo are merchandise, freight, or commodities; the sender is referred to as the "consignor," and the recipient as the "consignee." When the products reach at their destination, the carrier will get in touch with the firm designated as a "notify party." This can be an indication for the customs broker of the recipient to begin the clearance procedure. The period of time between the time a cargo is picked up from one location and delivered to another is known as the transportation lead-time. Turn Around Time (TAT), Transit Time (TT), and transit time are other terms that are used to describe lead-time. Transportation firms are referred to by many different names, even though their precise roles might vary greatly.

Moving from one place to another is referred to as transportation. The next section describes the various location and flow categories, albeit the precise definitions and traits may vary depending on the sort of company and items being handled. The object itself, including its technical specifications, features, usability, style, and quality, is the focal point of the product. The service components, also referred to as the "product surround," include product availability, ordering simplicity, shipping timeliness, and post-purchase assistance. As we will see later in this chapter, the list is lengthy, and it is obvious that not every service item is applicable to every product.

Many businesses' marketing teams understand the importance of the product's surrounding components in predicting a product's ultimate demand. Furthermore, these factors often account for a very modest portion of a product's overall cost. According to the Pareto 80/20 rule, product surround or logistical factors are said to account for 20% of the product's cost but for roughly 80% of its influence. As a result, regardless of how appealing the product is, it is essential that the customer service components be met, and as we will see, logistics is critical to delivering excellent customer service [7], [8].

The positioning of resource at the right time, in the right place, at the right cost, at the right quality" was one of the definitions of logistics. One may extend this concept to include what are known as the seven "rights" of customer service. The right quantity, cost, product, customer, time, place, and condition are all important considerations when it comes to customer service. In fact, each of these factors may be necessary to guarantee that a product meets its sales targets in the different markets in which it is offered. It is noteworthy that the caliber and standard of the logistics operations which are critical to bringing a product to market—have an impact on all of these factors.

As a result, these components can serve as the foundation for determining the various logistics-related components that ought to be included in any customer service offering. Moreover, and perhaps even more importantly, these components ought to serve as the foundation for the primary metrics that are employed to track the success or failure of operations. There are many methods to categorize the logistical aspects of customer care. They can be viewed as either indirect support (i.e. non-transactional, or pre- and post-transactional) attributes that are related to general aspects of order fulfillment, like the ease of order taking, or as direct transaction-related elements, where the emphasis is on the specific physical service provided, like on-time delivery. Multifunctional dimensions may also be used to categorize aspects of logistics customer service. In an effort to facilitate smooth service delivery, the goal is to evaluate the many aspects of customer service across the board for the whole spectrum of business operations. For instance, time is the only prerequisite that must be met during the order cycle,

which spans from the moment the order is placed to its actual execution. This method's primary effect is that it makes it possible to extract certain very pertinent general logistical measurements [9], [10].

Shippers have the option to request value-added services from carriers, which may come with an additional fee and are not covered by the carrier's basic service. Accessorials are supplemental fees for extra services that the shipper requests. In-room deliveries and/or collections, shipment status updates, milestone exchanges, proactive exception monitoring, handling of heavyweight and/or oversized cargo, SMS and/or email shipment status messages, hardcopy PODs, manual carrier bookings, slot bookings, round-the-clock customer service, and hand-carry options are a few examples of these services. Additional choices include same-day, in-night, overnight, hold for pick-up, Saturday, Sunday, vehicle boot, and time deliveries. Customers may cancel an order at any moment, however whether or not the transaction will be executed the same day will depend on the prearranged order cut-off time. The latest time an order may be entered into the WMS, processed, packaged, and sent the same day is known as the order cut-off time.

DISCUSSION

The time required by the warehouse to prepare the package and the latest truck departure time will determine the outcome. In the transportation network, a vehicle must begin traveling at a certain time in order to make the following connections. The time at which trucks leave is determined by the modes of transportation and carrier networks. In order to allow clients more time to cancel orders for same-day processing, it is advised to contract with carriers that have a late order cut-off time. This also holds true for warehouse providers: the quicker they can handle orders, the better. Selecting a carrier may be either dynamic or fixed. According to the trade channel, the kind of commodities, or the needs of the client, fixed carriers may be defaulted. When choosing a dynamic carrier, the desired lead-time, destination, weight, measures, and other cargo details are taken into consideration to choose the optimum price-quality carrier. Selecting a carrier may be done manually, with basic tools, or with the use of an advanced Transportation Management System (TMS). Every cargo must be packaged to withstand the journey from the shipper to the recipient.

In addition, shippers have access to internet-based tools, separate carrier shipping systems, and handwritten waybills. Depending on the origin-destination combination, each shipping item must be accompanied with the required paperwork, such as a packing list, DN, invoice, or customs document. If the item is repairable, you may return it by including a return label in the package you send out. The shipper places the package in a shipping route so that it may be picked up when it has been chosen and packaged. It is customary to provide the carrier a pre-notification before the package is picked up. The mail includes a copy of the documents together with details about the cargo, such as the number of pallets, packages, shipping units, destinations, etc. Pre-alerts of this kind may be sent to the carrier system by EDI message, email, or phone from a WMS/TMS.

In order to inspect and retrieve the cargo, the trucks often arrive one or thirty minutes ahead of the scheduled truck departure time. The volume determines how long it actually takes to inspect the actual goods and determine whether the same is reflected in the documents. Other factors that affect this time include the kind of goods (pallets, parcels), the number of destinations, the type of destination (national, export), and the loading procedure (manual versus automated). It is required of drivers to see the warehouse employees load the products and sign a receipt. Once the package has left the warehouse, the carrier has the responsibility of promptly notifying the shipper of any changes in status and/or delays, along with the reason for the delay,

any necessary corrective action, and, if relevant, a revised Expected Time of Arrival (ETA). To protect the quality of cargo delivery and reduce the volumetric weight that must be paid for, several orders placed on the same day and going to the same delivery location should be stacked, combined, and transported as a single shipment. Dimensional weight and chargeable weight are other terms for volumetric weight. This pricing model was used when it was discovered that an aircraft's cargo capacity rather than its weight had a greater impact on the cost of a shipment.

Because there are additional warehouse tasks including unloading, put-away, sorting, repackaging, and placing on stock, the incoming transportation process is constrained. Receives inbound include bulky items, boxes, crates, shrink-wrapped shipments, and full or partially filled pallets. These may be any kind of commodities, including fresh, dangerous, and regular items. The location for incoming handling and/or storage is determined by the kind of commodities. It is necessary to inspect the items for any visible or hidden damage, shortages, excesses, weights, measures, and paperwork such the waybill, invoice, and Customs Trade Reference Number (CTRN).

Any errors or inadequacies must be noted on the electronic device or transportation document. In the event of damage, photos must be taken. If it is not possible to verify the items right away, the inspection must be completed within 24 hours after delivery, and the supplier will be notified of the results. Purchase orders (POs) in the WMS or other methods are often used to notify customers in advance of each delivery. This is to let the recipient know that the products are in route so they can schedule resources and handle instructions. A typical goal for a dock to stock processing time is twenty-four hours. A procedure may be implemented to locate and process the particular PO or PO line (one kind of product) within a few hours in the event of a backorder or out-of-stock scenario, although at a fee. The real weights and measures are verified upon receipt to ensure acceptable master data quality, and if needed, they are updated in the WMS. Incorrect carrier choices and possible problems with customs clearance are avoided by this procedure. Additional problems that may arise throughout the incoming process include missing or incorrect reference numbers, incorrect labels, incorrect labels, boxes without labels, and incorrect items dispatched to the proper address or delivered to the incorrect location. An organization must provide the incoming process owners guidance on what to do in these circumstances.

Examples of instructions include returning the products to the seller, accepting them on other terms, or disposing of them. Moving products from the pick-up location to the delivery point exposes them to a variety of pressures that may cause losses or damages, including wet cargo, containers going overboard, theft, and damaged goods. Together with the force of gravity, these forces may also be caused by braking, acceleration, collisions, and vibrations.

Correct labeling and suitable packing are essential for a flawless delivery. Typically, factories use packaging that is enough to safeguard the goods throughout palletized transportation. The product may not be packaged well enough to be sent as a single item. A shipment unit is a collection of goods packaged into a single physical package that is unbreakable and has a distinct Serial Shipping Container Code (SSCC) identifying number on the shipping label. The shipping unit is identified by the SSCC barcode on the label, which is read at various points in the transportation network. A shipment unit may also be referred to as a box, package, pallet, or parcel. Additionally, the phrase "handling unit" is used, which might refer to a pallet that holds many packages for several clients. Following the initial sorting facility, the packages will follow their own route, identified by their own shipping unit labels. A pallet is a logistical equipment used in lift, reach, or electric pallet trucks (EPT) operations to transfer and store items. Pallets may be purchased new or secondhand from pallet suppliers, or they can be rented

from a rental business. There are several non-standard pallet sizes in the world, but there are also standardized pallets with unique dimensions and load capabilities that are found in the UK, North America, Europe, and other regions. Some sample pallet types include the following dimensions (l × w × h): 80 cm × 120 cm × 15 cm (Euro), 100 cm × 120 cm × 15 cm (UK), 48 inches × 40 inches × 6 inches (North America), and TAPs with different sizes. A pallet that is empty might weigh up to 25 kg. Pallets may be manufactured from a variety of raw materials, including hard wood, plastic, pressed wood, metal, and coconut, however each industry has its own specifications. Every kind has standard features including material, price, weight, measurements, longevity, and quality. Because different countries may have different standards, it is crucial to know up front what kind of items the pallets are designed to protect and to which locations the pallets are going to be delivered before buying or renting them. The size of the pallet and the raw material used will determine the precise cost of buying a pallet, but in general, the raw material will cost two thirds of the total cost and the labor will cost one third. Pallet transportation expenses are constrained since a typical trailer may hold between 500 and 600 empty pallets.

A precise pallet registration system is necessary in order to facilitate the interchange of pallets between shippers, carriers, and recipients. Shippers often employ the less expensive TAPs since it is frequently not feasible or cost-effective to swap pallets with other nations because the expenses associated with transit and administration are more than the price of the pallet. Pallet registration begins while the truck is being unloaded. The unloader keeps track of the quantity, kinds, and quality of the pallets that are received as well as whether or not they have the International Plant Protection Convention (IPPC) mark. The Food and Agriculture Organization (FAO) of the United Nations (UN) created and maintains this standard, and IPPC is a component of it. For international flows, the stamp certifies that the solid wooden pallet has undergone heat treatment or fumigation to stop the spread of illnesses and wood pests from one nation to another. The IPPC emblem, the Heat Treatment (HT) abbreviation, and the International Organization for Standardization (ISO) 3166 two-letter country code, region, and unique registration number given to the package maker by the regional phytosanitary are all included in the standard stamp pattern. According to the International Standards for Phytosanitary Measures (IPSM) 15 standards, a package or pallet must have the stamp placed on two opposing sides so that a customs officer may easily see it. pertaining to the International Contract for the Transportation of Goods by Road (CMR). Businesses notify the pallet pool provider and the shipper of the products of any discrepancies they find and record them on the shipping document. Each person who rents a pallet from these companies is required to handle their own inbound and outbound registration. The administrative receiver is responsible for paying for any pallets that are misplaced, lost, or improperly recorded. Pallet administration tool records the number of pallets that are physically received and accepted based on the papers.

When the truck is loaded, the pallet outbound process begins, and the quantity of pallets per type and ship-to is entered into the pallet administration tool. You may register using a WMS or any other tool. Accurate registration is essential because the amount invoiced is calculated from the number of pallets that enter the company less the pallets for which there is proof that they were sent to an authorized location. A regular, often monthly, procedure of stock counting is carried out to confirm if the kind and quantity of pallets that are recorded are also physically present. Count lists are created and personnel are assigned to them at the beginning of this procedure. They record any discrepancies by tallying the quantity and kind of pallets at each site. The pallet manager will then get the count lists and check the actual numbers with the stock list. Disparities are examined and clarified. The physical state is taken into account while updating the stock list. The shipper, recipient, and pool provider get generated credit or debit notes. Making a pallet budget, which is evaluated on a regular basis, is a part of pallet

management. Pallets are often "lost," thus it's critical to foster an environment where this hidden expense is recognized as a major procedure requiring discipline and training in order to comprehend and manage pallet flows. Regular audits and improvements are made to the pallet registration procedure. Shippers may be charged excessive fees if the outbound registration is incomplete or inaccurate because of factors like the extended period of time between the occurrence and the registration. Pallets are sometimes registered on the organization's account, but as the registrations are not routinely reviewed, this does not really happen. Ex-factory packaging is often insufficient for individual product shipping over almost any transportation network, and it is most definitely insufficient for parcel and fast shipping. Leading to additional loading and unloading tasks. To limit shipping costs, it is crucial to employ light, thick, yet sturdy packing.

When it comes to packing, hazardous material is more costly than regular cargo. Every shipment unit must include a shipping label with the items' details, the country of origin, the weight, and any additional information the destination country may want. To avoid damage from lift and pallet truck handling, it is essential to maintain the items within the pallet's bounds. There are many ways to move goods: parcel and express, air, road, sea, rail, and multimodal. Costs and travel times are the main determinants. The cost of faster transportation is higher. The complete addresses of the shipper and the recipient, the kind of cargo (hazardous or standard), the quantity of pieces, the dimensions, the net weight, the volumetric weight, the net volume, the gross volume, the stackability, the mode of transportation (air, sea, road, or train), the necessary speed, and the carrier all affect the real cost of a shipment. Labor is the largest operating expense for a transportation firm, followed by tires, gasoline, insurance, road taxes, IT, repair and maintenance, trains and ferries, and IT. Typically, shipments and their transportation providers agree on pricing for a minimum of one year.

Since the real costs depend on the market's transportation capacity and the period between the request for quote and the movement of the products, the rates are an average for the whole year and may contain a market volatility risk mitigation component. As the transit capacity declines, the rates increase with a shorter time period. The smaller the transportation capacity, the closer to the shipping moment the charges are. The assurance of having enough capacity to convey all the products throughout the whole year, including the peak season, is one possible benefit of set longer-term tariffs. When there is less demand for transportation than there is supply, the shipper does not profit from the dynamic market's lower prices, which might result in higher charges. In the opposite direction, a shipper may profit from the daily supply and demand situation, which might result in reduced rates, by tendering each cargo directly to the market. In situations when demand is great, the higher rate may be a drawback.

Alternatively, there can be absolutely no transportation capacity available to carry the goods. It's also crucial to be aware that demand is often greater near the end of the month as sales representatives strive to meet monthly goals and immediately before and shortly after holidays to guarantee proper inventory levels during these times. Additionally, fewer flights are scheduled during holidays like Christmas and New Year's, which results in reduced capacity. In addition to increased prices, larger shipments are more difficult to accommodate during certain periods, and lead times may lengthen as a result of backlogs. the normal stages of a transit flow. The products are picked up by a truck from the shipper's location and transported to a port or terminal for unloading. After being sorted, the cargo is sent to the next port or terminal via one or more transshipment sites.

The products are delivered to the client after customs clearance. The inbound, return, repair, and scrap flows all follow essentially the same procedures and stages. Reservations may be canceled at no cost up to a certain period before to the scheduled pick-up. The carrier will

impose fees for the canceled cargo if the deadlines are not followed. The shipper and the carrier agree on the precise dates and quantities, but the mode of transportation also plays a role. When a road trip is canceled at least 24 hours prior to the scheduled pick-up time, it is standard procedure that there are no fees associated. The carriers then charge around 75% of the shipping rate. The network may have many more flows and location kinds, which would make management challenging. A growing number of shippers are handling this complexity using a control tower and a TMS. The terms parcel and express are often used interchangeably to describe the same service. Express denotes "quick," and parcel denotes "package." All of these add up to a quick bundle service. A standard shipment with door-to-door delivery weighs less than 70 kg. There are service providers on a global, regional, local, and domestic level. Trends like globalization, e-commerce, lean inventory management, and the just-in-time mentality have all helped and enabled the sector. For day-and time-definite services, carriers utilize their own business brands and provide a variety of services and fees. "Economy" refers to a day-definite service that is not guaranteed and is available for both conveyable and non-conveyable goods. Conveyable bits are comparatively tiny parcels that fit into the typical parcel transportation network and may be sorted using a regular sorting belt.

Non-conveyable parts may nevertheless fit in the transportation network even if they are often lengthy and heavy, cannot be sorted by normal sorting belts, and must be handled manually. Pallets are accepted by some carriers inside their parcel network; however, they are processed manually rather than using a typical sorting conveyor. displays the delivery promises and typical service names. These services are offered for shipments going both domestically and internationally. The ship-from, ship-to, and product specifications determine the precise leadtimes and delivery guarantees. Since cheaper road transit may reach adjacent locations, express items are not typically flown. However, since express goods are given precedence over economy packages, they are loaded first (priority boarding). It is often impossible to change the service level of a cargo once it is in the carrier's network. The majority of shipments are delivered to the customer's door, but an increasing number of businesses also provide customers the opportunity to pick up their products at HFPU, PUDO, or any other pick-up site. This service option was added to help carriers deliver packages more efficiently since, in many cases, consumers are not home or able to sign for deliveries. Another benefit is that the carrier just has to convey large quantities to one place as opposed to many. The benefit that the consumer gets in addition is that they don't have to wait for the driver to arrive at the delivery site.

CONCLUSION

This study urges companies to emphasize and invest in customer-centric initiatives, positioning customer service as the cornerstone of corporate success. In order to achieve long-term success in a customer-driven environment, the abstract promotes continuing research, instruction, and the integration of customer service into overall corporate objectives. It highlights that creating resilient, customer-centric firms requires an appreciation for and knowledge of the value of excellent customer service. Proactive and tailored customer care cultivates a feeling of confidence and allegiance, impacting consumers' opinions of a company. The abstract argues for a thorough awareness of the customer service environment as firms increasingly realize the strategic benefit of providing great customer service. Utilizing knowledge from marketing, organizational behavior, and customer relationship management, it offers a sophisticated viewpoint on the complexities of providing exceptional customer service.

REFERENCES:

[1] Z. Li *et al.*, "A blockchain and automl approach for open and automated customer service," *IEEE Trans. Ind. Informatics*, 2019, doi: 10.1109/TII.2019.2900987.

[2] M. Groth, Y. Wu, H. Nguyen, and A. Johnson, "The Moment of Truth: A Review, Synthesis, and Research Agenda for the Customer Service Experience," *Annual Review of Organizational Psychology and Organizational Behavior*. 2019. doi: 10.1146/annurev-orgpsych-012218-015056.

[3] Z. Huang, Y. Luo, and D. Wang, "Online customer service quality of online shopping: evidence from Dangdang.com," *Cluster Comput.*, 2019, doi: 10.1007/s10586-018-2565-5.

[4] P. Raman, "Understanding female consumers' intention to shop online: The role of trust, convenience and customer service," *Asia Pacific J. Mark. Logist.*, 2019, doi: 10.1108/APJML-10-2018-0396.

[5] M. Groth, Y. Wu, H. Nguyen, and A. Johnson, "Annual Review of Organizational Psychology and Organizational Behavior The Moment of Truth: A Review, Synthesis, and Research Agenda for the Customer Service Experience," *Annu. Rev. Organ. Psychol. Organ. Behav.*, 2019.

[6] C. B. Nordheim, A. Følstad, and C. A. Bjørkli, "An Initial Model of Trust in Chatbots for Customer Service - Findings from a Questionnaire Study," *Interact. Comput.*, 2019, doi: 10.1093/iwc/iwz022.

[7] E. Sthapit and P. Björk, "Sources of distrust: Airbnb guests' perspectives," *Tour. Manag. Perspect.*, 2019, doi: 10.1016/j.tmp.2019.05.009.

[8] S. Scheidt and Q. B. Chung, "International Journal of Information Management Making a case for speech analytics to improve customer service quality : Vision , implementation , and evaluation," *Int. J. Inf. Manage.*, 2019.

[9] R. Nyiranzabamwita and J. B. Harelimana, "The Effect of Electronic Banking on Customer Services Delivery in Commercial Banks in Rwanda," *Enterp. Risk Manag.*, 2019, doi: 10.5296/erm.v5i1.15904.

[10] Y. Zhang and A. Luong, "Emotional labor of customer service employees in China," *Nankai Bus. Rev. Int.*, 2019, doi: 10.1108/NBRI-01-2018-0005.

CHAPTER 5

INVESTIGATION OF THE PROCESS OF DEVELOPING A CUSTOMER SERVICE POLICY

Bineet Naresh Desai, Professor
Department of ISME, ATLAS SkillTech University, Mumbai, India
Email Id-bineet.desai@atlasuniversity.edu.in

ABSTRACT:

The complex procedure of creating a policy for customer service, providing an in-depth analysis of the essential elements and factors involved in creating a framework that is successful in providing outstanding customer care. Creating a customer service policy is a calculated move that will eventually impact customer happiness and loyalty by establishing service standards, creating corporate culture, and defining service standards. The study focuses on the fundamental stages of policy formulation, which include determining the values of the firm, consumer expectations, and industry standards. It looks at how these elements affect the formulation of precise, quantifiable service goals that complement overarching corporate objectives. In order to achieve inclusiveness and relevance, the abstract emphasizes how crucial it is to include important stakeholders in the policy formulation process, such as consumers and workers.

KEYWORDS:

Customer Expectations, Customer Loyalty, Customer Relationship Management, Customer Satisfaction, Customer Service Policy.

INTRODUCTION

Every business that offers goods and services to its clients must to have a suitable policy for handling consumer complaints. In order to deliver this service, an appropriate logistics operation must be set up and a customer service policy must be formed based on specific customer service criteria. How to do this is covered in the following few parts of this chapter. This policy has to be very well specified since customer service encompasses so many different things. Additionally, there are several varieties of customers even for same products. For instance, you may purchase a can of soda from a self-service dispenser, a corner store, a gas station, or a supermarket. A fizzy drink maker is unlikely to want to provide each of these wildly diverse consumer groups precisely the same degree and kind of service. For this reason, a lot of businesses divide their clientele into several groups [1], [2]. It is yet another justification for having a unique customer service philosophy. Numerous investigations have been conducted to quantify the consequences of poor customer service. These studies unequivocally suggest that many customers will quickly shift to the items of an alternate provider in order to meet their needs if stock is unavailable or delivery is erratic.

It is important to comprehend the very fundamental prerequisites for defining any specific service policy. In order to surpass the barrier of customer satisfaction, suppliers really strive to fulfill the minimal criteria of their consumers. Should these minimal prerequisites be unfulfilled, the provider has little chance of being taken into consideration as a viable supplier [3], [4]. Customer satisfaction may be attained and value-adding to the supply relationship can start after these conditions are fulfilled and even exceeded by the provider. Once the need of a customer service policy has been acknowledged, it is helpful to follow a recognized methodology to ascertain the fundamental specifications and structure of this policy. Figure

3.6 illustrates one such method, which is further discussed in this section. The picture not only illustrates the primary actions that need to be conducted, but it also shows how these actions may be completed. This is a six-step approach that outlines the essential elements of customer care before creating and managing an appropriate customer service package [5], [6].

The costly but dependable air freight industry handles the movement of valuable commodities in passenger or cargo aircraft. Shipments involving passenger aircraft are referred to as "belly" deliveries, while shipments involving cargo planes are referred to as "freighter" deliveries. This transportation modality's shipping capacity is measured in tons per year and is often utilized to assist the just-in-time (JIT) approach by keeping stocks and inventory holding expenses to a minimum. Only when the higher transportation expenses are balanced against the reduced inventory costs can there be a profitable business case [7], [8]. The items are transported to neighboring airports via cargo and passenger aviation gateways. The majority of the aircraft used for air freight are passenger planes. Shippers purchase transportation capacity from freight forwarders, who then resell it to airlines. Some airlines fly only for the forwarders under longer-term contracts. When necessary and when they have the capability for incidental cargo, other airlines are employed. Certain integrators, such as UPS and FedEx, which provide door-to-door air freight services both domestically and internationally, own a portion of the cargo planes and are also airlines. Different labor laws and regulations apply to this business than to truck drivers and warehouse workers. The bulk of the expenses associated with transportation are labor and fuel. Time-sensitive items may be delivered to any location in the globe using airfreight.

Because of the stringent airport regulations, it is also a safe mode of transportation. Pallets or parcels weighing more than 70 kg are sometimes sent by airfreight from one continent to another. The "70 kg" figure is an estimate since the precise amount varies depending on a number of factors, including the trade channel, the relative costs of parcel carriers and airfreight forwarders, service levels, and distances. Shipments designated as "airfreight" that are located 500 km or less from an airport are often not flown. Even in cases where the shipper booked airfreight, it is more expedient and cost-effective to drive them under AWB terms and conditions from one point to another. Driving is less expensive than flying, hence it is less expensive. It is quicker since there is no need to truck the items to the airport, sort them there, and then present them to the airline a few hours before to the uplift [9], [10]. The same motivations also drive airport-to-airport flows within the same range of distance. Airfreight business provides both an economy service of roughly 1 week and a premium service of around two days lead-time.

Every business that offers goods and services to its clients must to have a suitable policy for handling consumer complaints. In order to deliver this service, an appropriate logistics operation must be set up and a customer service policy must be formed based on specific customer service criteria. How to do this is covered in the following few parts of this chapter. This policy has to be very well specified since customer service encompasses so many different things. Additionally, there are several varieties of customers—even for same products. For instance, you may purchase a can of soda from a self-service dispenser, a corner store, a gas station, or a supermarket. A fizzy drink maker is unlikely to want to provide each of these wildly diverse consumer groups precisely the same degree and kind of service. For this reason, a lot of businesses divide their clientele into several groups. It is yet another justification for having a unique customer service philosophy.

Numerous investigations have been conducted to quantify the consequences of poor customer service. These studies unequivocally suggest that many customers will quickly shift to the items of an alternate provider in order to meet their needs if stock is unavailable or delivery is

erratic. It is important to comprehend the very fundamental prerequisites for defining any specific service policy. In order to surpass the barrier of customer satisfaction, suppliers really strive to fulfill the minimal criteria of their consumers. Should these minimal prerequisites be unfulfilled, the provider has little chance of being taken into consideration as a viable supplier. Customer satisfaction may be attained and value-adding to the supply relationship can start after these conditions are fulfilled and even exceeded by the provider.

Once the need of a customer service policy has been acknowledged, it is helpful to follow a recognized methodology to ascertain the fundamental specifications and structure of this policy one such method, which is further discussed in this section. The picture not only illustrates the primary actions that need to be conducted, but it also shows how these actions may be completed. This is a six-step approach that outlines the essential elements of customer care before creating and managing an appropriate customer service package. The costly but dependable air freight industry handles the movement of valuable commodities in passenger or cargo aircraft. Shipments involving passenger aircraft are referred to as "belly" deliveries, while shipments involving cargo planes are referred to as "freighter" deliveries. This transportation modality's shipping capacity is measured in tons per year and is often utilized to assist the just-in-time (JIT) approach by keeping stocks and inventory holding expenses to a minimum. Only when the higher transportation expenses are balanced against the reduced inventory costs can there be a profitable business case. The items are transported to neighboring airports via cargo and passenger aviation gateways.

DISCUSSION

The majority of the aircraft used for air freight are passenger planes. Shippers purchase transportation capacity from freight forwarders, who then resell it to airlines. Some airlines fly only for the forwarders under longer-term contracts. When necessary and when they have the capability for incidental cargo, other airlines are employed. Certain integrators, such as UPS and FedEx, which provide door-to-door air freight services both domestically and internationally, own a portion of the cargo planes and are also airlines. Different labor laws and regulations apply to this business than to truck drivers and warehouse workers. The bulk of the expenses associated with transportation are labor and fuel. Time-sensitive items may be delivered to any location in the globe using airfreight.

Because of the stringent airport regulations, it is also a safe mode of transportation. Pallets or parcels weighing more than 70 kg are sometimes sent by airfreight from one continent to another. The "70 kg" figure is an estimate since the precise amount varies depending on a number of factors, including the trade channel, the relative costs of parcel carriers and airfreight forwarders, service levels, and distances. Shipments designated as "airfreight" that are located 500 km or less from an airport are often not flown. Even in cases where the shipper booked airfreight, it is more expedient and cost-effective to drive them under AWB terms and conditions from one point to another. Driving is less expensive than flying, hence it is less expensive. It is quicker since there is no need to truck the items to the airport, sort them there, and then present them to the airline a few hours before to the uplift. The same motivations also drive airport-to-airport flows within the same range of distance. Airfreight business provides both an economy service of roughly 1 week and a premium service of around two days lead-time.

There are far more passenger aircraft than cargo aircraft available, and the latter provide less deck area at a lower market price. Air shipments that weigh less than 500 kg and are scheduled in the morning are picked up that same day in the afternoon. Booking requests are automatically accepted by the airline. Larger shipments or reservations made later in the day are picked up

the next day since they need a formal booking acceptance from the carrier. The transmission of flight information, AWB codes, and arrival and departure data is called a booking confirmation. This information may be sent by EDI, email, or other channels of communication, depending on the shipper-carrier link. Larger shipments can often only be handled by cargo aircraft, which are built to accommodate larger items that can't be moved on passenger airplanes owing to their restricted weight and size capacities. Smaller shipments are simpler to schedule with both passenger and cargo airlines. Certain products, such lithium batteries, and certain hazardous goods (DGs) may only be flown on cargo aircraft. With passenger flights, it is simpler for the carrier to quickly uplift items since there are more passenger planes than cargo aircraft. The bulk of goods transported by aviation is carried on passenger aircraft. The products go to a nearby carrier consolidation point or, in the event of an urgent shipment, straight to the airport after being picked up from the shipper's location or delivered by the shipper to the carrier's site.

After that, they go to the airline location at the airport or the carrier consolidation point. The products are then transported to the aircraft and loaded there. The ordered service level and carrier's network determine the precise route. NFOs and other urgent goods are often taxied straight to the airport for aircraft loading. The carrier attempts to uplift the items with the first aircraft to the designated destination after handling export customs clearance, which may also be handled by the shipper. When a package is delivered "on-board," it indicates that the carrier picks it up, sets off for the destination, and delivers it to the recipient. Shipments using economy services are typically routed through a local carrier consolidation point, consolidated with shipments from other customers, sent to the airport carrier consolidation point, and then brought to the airline location at the airport to be loaded into the aircraft, which takes off for the destination airport by the recipient's customs broker, the carrier, or the receiver. The items are thereafter, in accordance with the delivery arrangement, either picked up or delivered to the recipient. Although the shipper and the carrier may make different decisions, the lead-time computation typically begins on the day of pickup and ends on the day of delivery. The earliest potential delivery day may be determined based on the agreed-upon lead periods and the pick-up date. Calendar or business day lead times may be agreed upon.

The reason calendar days are complicated is because most receivers are closed on weekends. Airlines operate on weekends as well, so even if the carrier is prepared to deliver the product in time for the intended lead-time, it won't be feasible after the aircraft lands on the weekend. This is causing disagreements about whether or not the package is delivered on schedule. Unless other arrangements have been established by the shipper, the receiver, and the carrier, the carrier may deliver the items early. It is necessary for the shipper to inform the carrier of these criteria as well as for the receiver to inform the shipper. Then, every supply chain participant actively tracks the shipment's development.

The carrier is required to provide exception notifications within the pre-arranged timeframes in the event that meeting the delivery date or time becomes impracticable. The problem description, the fix, and the updated delivery time and date are all included in these mails. Not all carriers can provide this status information quickly enough. This is often due to inadequate information systems or sluggish information processing, but it is also sometimes a result of the restricted customer service hours of the carriers, which are, for example, 8 a.m. to 6 p.m. It is already 10 a.m. or later before they process the cargo status information they have received and share it with the shipper. For expedited shipments with an anticipated arrival time of before, say, 9 a.m., this is too late. When a "system down" occurs that is, when people, equipment, and systems are waiting for a spare component to solve the issue and resume production the effects of a delayed shipment are severe.

While most customers find these milestones enough, some shippers need a more comprehensive view with more milestones and shorter intervals between them. One notable example of such an enhancement is Delta Air Lines, which is outfitting ULDs with Bluetooth-enabled tracking devices in order to monitor their precise location in real-time. Because of the greater digital visibility, the airline's control tower can keep an eye on cargo and redirect them as necessary. Since the receiver of the products utilizes the arrival date and time as the starting point for scheduling manufacturing, assembly, or re-distribution operations, the ETA is likely the most crucial piece of information. This is also the reason why clients need frequent ETA updates so that they may modify their plans as necessary, as it might be difficult to predict a trustworthy ETA while processing an order at the warehouse or scheduling transportation. It might happen that the initially stated estimated times of arrival (ETAs) are not fulfilled because of transportation-related problems including bad weather, mechanical breakdowns, traffic congestion, and other "uncontrollable" underlying causes.

Since these circumstances cannot always be avoided, informing supply chain partners as soon as possible on the status of shipments can help to lessen their effects. Although the logistics sector has not yet advanced to that point, the ideal scenario would be for consumers to check in online at any time to view the precise location of their shipments while they are in route or to get these updates proactively on their cellphones. All three legs can be coordinated by one airfreight carrier, door-to-door; however, it is also feasible to source via three distinct carriers, which may result in reduced costs and greater levels of service and quality. The port-to-port market is dominated by a small number of large airlines, but the door-to-port and port-to-door transportation markets are more competitive due to the large number of competitors. For the first and third legs, alternate means of transportation are also an option (for example, moving papers by rail, which is less costly than road freight; this will be covered later in the book). The driver-signed HAWB operates as a contract between the parties and certifies that the carrier has received the shipper's goods. It includes details about the carrier's obligations, claims processes, the description of the items, and transportation costs.

HAWB format is a standard that is used globally for both local and international air freight. This document does not indicate when the cargo will arrive at its destination or which airplane it will be transported on, and it is not negotiable. The airline creates a Master Air Way Bill (MAWB) by combining the HAWBs of its customers. It is crucial that shipping sites be close to major airports from which the greatest number of destinations can be reached in order to allow clients to place orders until late afternoon or early evening and still have the items sent out the same day. Few airlines are able to go to several locations from tiny airports. If the carrier and the shipment site are not at the airport, forwarders are supposed to deliver the items to an aircraft a few hours before to the uplift. Because the goods is coming from a safe origin, shorter durations may be agreed upon in these situations. To ensure that cargo for airfreight is safe to travel, it must first pass through explosive trace detectors, be inspected by x-ray equipment, be scented by dogs, or be manually opened by security personnel. Shippers must be in the category of "Known Consignor" or Authorized Economic Operators (AEO). Ensuring that a firm complies with safety and customs standards is the aim of this status. Benefits from having the designation of "reliable exporter" include streamlined export processes and quicker throughput times because of lax customs inspections. Through the use and maintenance of compliance processes for staff training, product categorization, licensing, and sanctioned party screening instruments, the consignor makes an investment in enhancing the security of its supply chain.

The method of moving products from one location to another by road is called road freight. The path between two locations is traveled by motorized vehicles. Compared to other modalities, the equipment investment needed is modest, which facilitates competitors entry

into the market. As a consequence, there are several tiny carriers who mostly compete on price. Road construction, operation, and maintenance is less expensive than, say, railway construction. It allows for door-to-door delivery of supplies and is an affordable mode of transportation. In rural regions without access to rail, boat, or air transportation, road transportation is often the primary means of moving cargo between cities, towns, and small villages.

It may be ordered at any desired time and day, and it is also a rather quick and dependable kind of transportation. But a truck's load capacity is limited, it has weight and dimension limitations, and it is usually affected by bad weather and traffic congestion. Less than Truck Loads (LTL) are used for comparatively smaller shipments, whilst Full Truck Loads (FTL) are utilized for large amounts. Generally speaking, LTL shipments include one to ten pallet spots; however, this might vary based on factors including the distance between the ship-from and ship-to locations, carrier rates, and the kind of loading equipment used. Shippers employ an FTL because it is less expensive when shipping more than 10 pallet locations on average. Because an FTL goes straight from the pick-up location to the delivery point, there is also a reduction in lead time.

One common method of routing single pallets is via a hub-and-spoke network. An alternative method of operation involves picking up shipments, combining them with loads from other shippers, and driving them straight to the customer's location without passing via a consolidation or deconsolidation station. The last mode of conveyance is sometimes known as groupage or direct delivery. Carrier terminals make up a hub-and-spoke system, while spokes are the line hauls that connect the terminals. A vehicle that continuously drives between two terminals is known as a line hauler. Shipments are unloaded from trucks at terminals and reloaded onto other line hauls that are headed to other terminals. Because the terminals are close to the transportation flows' center of gravity, getting to them is both quick and affordable. The final mile is handled by the terminal closest to the recipient's address, which uses efficient routing for routine deliveries.

When there are special last miles that call for special unloading tools for an in-room delivery, for example, or when the standard routing cannot provide or support a swap service (deliver the new product and bring back the old one), dedicated trucks or other forms of transportation are called for. Little and urgent cargo are delivered via taxi. Oversized shipments or pallets are transported in a courier van when they are too large for a cab. Other expedient modes of transportation include sprinter trucks or 7.5-ton box trucks, which may be equipped with or without a tail lift or curtain side. A box truck can carry eighteen pallet spaces, but sprinter vehicles can only load ten. DGs, also known as "Accord Dangereux Routier" (ADR) products, require trucks to have certain equipment, including pocket lamps, fire extinguishers, wheel chocks, warning signs, warning vests, and the appropriate cargo paperwork. For the Good Distribution Practice (GDP) course, drivers must be qualified. Road carriers use the broadest range of pricing structures available in the business, including volume brackets, real or volumetric weight categories, per package, package weight, pallet, pallet position, and loading meters. One truck's linear meter is equal to a loading meter. When measuring non-stackable items, this measure is often used. It is critical to ascertain up front if the products are stackable or not.

Generally speaking, a pallet's ability to be stacked depends on its packing and/or the fragility of the contents, although carriers may also apply additional standards, such a maximum pallet height of 120 cm or a maximum weight of 1,000 kg. For this reason, it is crucial that these requirements coincide both before and throughout the sourcing process. If the products cannot be stacked, the carrier must be paid as they are unable to utilize the vacant space above each

pallet. If the rates are based on stackable products, the carrier will stack the goods, therefore this is also required to avoid damages. At the shipper's site, drop (mega) trailers, swap bodies, and containers are parked to minimize waiting times for the drivers and warehouse staff. This is empty equipment that the shipper may load and unload on the carrier's property as needed.

Moving the fallen equipment to and from the ports is being done by a local driver. This makes it possible for the driver who is coming to store empty equipment and promptly retrieve full equipment, or vice versa. This avoids having to wait for the workers in the warehouse to load or unload the machinery. In Europe, road freight is accompanied by a CMR transportation contract that outlines the parties' obligations and duties. The CMR is addressed to both the carrier and the recipient; it is non-negotiable. When the carrier picks up the goods, the shipper accurately fills out the CMR form or any other local transportation document and signs it. When there is no difference between the actual quantity of shipping units and the paperwork, the driver signs for receipt. Upon receipt of the items, the consignee will also sign the paperwork. This signature acts as verification that the carrier was able to deliver the whole package in good condition and that payment for the service is due to the carrier.

There are limitations to road mobility. Delays and dangerous conditions are caused by accidents and malfunctions. In comparison to other transportation modalities, it is less structured. The pace is comparatively slow; moving cargo over large distances is challenging, expensive, and bad for the environment as cars release pollutants that harm human health and cause global warming. There are several regional and local competitors in the highly fragmented road transportation business. The market share held by multinational integrators is quite small. Schenker, DHL, Dachser, DSV, GEODIS, K&N, Rhenus, ND, LKW Walter, and Gebco are the top ten road firms in Europe. Their cost structure is heavily influenced by the network architecture direct deliveries and hub-and-spoke networks, for example—as well as other factors unique to each nation, such as tax rates and labor expenses. The cost structure is determined by the carrier's network and organizational structure, although in general, only a small portion of overall costs terminals, management, owned cars are constant, while the bulk are variable (fuel, labor, maintenance, and subcontracted vehicles. When a driver makes direct deliveries, they drive straight to the six delivery addresses that is, they do not stop at a cross-dock location after visiting, say, six locations to pick up reasonably heavy goods. Rather of loading and unloading freight, driving between addresses takes up the majority of a driver's time. Because shipments in a hub-and-spoke network often consist of one or a few pallets, there may be, for instance, thirty pick-up addresses.

The truck travels to a cross-dock location following the pick-ups, where the pallets are unloaded, de-consolidated, consolidated, and loaded in the corresponding line hauls to another cross-dock location near the customers, where the goods are unloaded, sorted, and loaded onto box trucks to be delivered to the customers. In comparison to direct deliveries, for example, a hub-and-spoke network requires more human handling, less transportation, longer wait periods, cross-dock sites, and various kinds of equipment. As a result, the cost components of a hub-and-spoke network differ in kind and value. Most global volume is moved by sea freight, also known as ocean freight, which is used for transcontinental low value product movements. When it comes to the volume of containers handled, Singapore and Shanghai and Shenzhen in China are the largest seaports. Collectively, they manage about a hundred million containers annually. Sea freight can handle very large and heavy loads, is less costly than other modes of transportation, and has a worldwide coverage; but, its transit times are longer. Because it uses less fuel and can carry large loads, sea freight has one of the lowest gas emission levels among all modes of transportation. The apparatus is the container, which may be moved by trucks, aircraft, and trains in addition to being piled on top of one another aboard a ship. Depending

on size and quality, a single container might cost several thousand euros and survive for many decades. Approximately 20% of a typical shipping line's overall operating expenses are attributed to the procurement and maintenance of containers. The term "containerization" refers to the transportation of products in containers, where the contents are only loaded at the receiver's site after being emptied at the shipper's. Pallets and loose items that are left undisturbed in between may be among the contents. After being loaded into a truck, the container is emptied at a container terminal, then it is loaded onto a ship. Pre-carriage (door-to-port), carriage (port-to-port), and on-carriage (port-to-door) are the three legs that make up sea freight. All three legs can be arranged door-to-door by one ocean carrier, but it is also feasible to utilize three distinct carriers since this kind of sourcing may result in reduced costs as well as superior service and quality standards.

The market for carriages is dominated by a small number of large carriers, generally known as shipping lines. "Carrier haulage" refers to the transportation of a container under the management of the shipping line from the shipper's location to the origin seaport or from the destination seaport to the receiver's location. This indicates that the shipping lines use their subcontracted trucking firms to transport the container on their behalf, and they pay them for this service. Thank you. There is greater competition for the pre and on-carriage legs since there are more companies in the market. For the first and third legs, other modes of transportation are also an option (e.g., transfer containers to and from seaports using the less costly train rather than the more expensive road freight). "Merchandise haulage" refers to the transportation of containers under the control of the shipper and/or receiver from the shipper's location to the origin seaport or from the destination seaport to the recipient's location. This indicates that the container will be moved under their responsibility by the shipper and/or recipient using and paying their subcontracted transportation firms.

CONCLUSION

According to this study, creating a customer service policy is a tactical need for businesses looking to foster a customer-focused culture. The abstract promotes continuous study, instruction, and teamwork in order to improve and modify customer service guidelines in reaction to changing consumer demands and market conditions. It emphasizes how crucial it is to have a clear and well-executed customer service policy if you want to develop long-lasting client connections and maintain organizational performance awareness the procedure of putting policy into effect requires an awareness of communication tactics, personnel training, and performance measures. The inquiry explores how businesses may empower staff with the right knowledge and abilities, set up metrics for ongoing assessment and development, and effectively convey service expectations both internally and externally. Based on knowledge from the fields of management, customer relationship management, and organizational behavior, this abstract promotes a comprehensive and customer-focused approach to policy creation. It highlights that a well-written policy for customer service not only creates a favorable environment for dealing with customers, but also acts as a foundation for staff conduct, encouraging a culture of excellence in customer service.

REFERENCES:

[1] M. Cortiñas, R. Chocarro, and M. Elorz, “Omni-channel users and omni-channel customers: a segmentation analysis using distribution services,” *Spanish J. Mark. - ESIC*, 2019, doi: 10.1108/SJME-06-2019-0031.

[2] D. Roberts and J. C. Griffith, “A tale of two airlines: A comparative case study of high-road versus low-road strategies in customer service and reputation management,” *Int. J. Aviat. Aeronaut. Aerosp.*, 2019, doi: 10.15394/ijaaa.2019.1317.

[3] A. Clarke, "Analyzing problematization as a situated practice in critical policy studies: a case study of 'customer focus' policy in urban compliance services," *Crit. Policy Stud.*, 2019, doi: 10.1080/19460171.2017.1414619.

[4] S. Semwal, "How to create a winning employee retention strategy," *Int. J. Res. Hum. Resour. Manag.*, 2019, doi: 10.33545/26633213.2019.v1.i2a.17.

[5] X. Liu, T. Yang, J. Pei, H. Liao, and E. A. Pohl, "Replacement and inventory control for a multi-customer product service system with decreasing replacement costs," *Eur. J. Oper. Res.*, 2019, doi: 10.1016/j.ejor.2018.08.029.

[6] D. Octabriyantiningtyas, E. Suryani, and A. R. Jatmiko, "Modeling customer satisfaction with the service quality of E-money in increasing profit of Pt. Telekomunikasi Indonesia," in *Procedia Computer Science*, 2019. doi: 10.1016/j.procs.2019.11.203.

[7] M. Lynn, "Predictors of occupational differences in tipping," *Int. J. Hosp. Manag.*, 2019, doi: 10.1016/j.ijhm.2019.04.025.

[8] M. Liu and X. Wei, "Inventory rationing policy and backup supply with two classes of customers," *PLoS One*, 2019, doi: 10.1371/journal.pone.0214386.

[9] N. Khumalo, "Obstacles of human resource planning that affect workers in delivering quality services," *Probl. Perspect. Manag.*, 2019, doi: 10.21511/ppm.17(2).2019.08.

[10] M. M. Saxena and K. V. N. Srinivas Rao, "Quality management, total quality management and six sigma," *Int. J. Sci. Technol. Res.*, 2019.

CHAPTER 6

ANALYSIS AND DISCRIMINATION OF THE LEVELS OF CUSTOMER SERVICE

Sadaf Haseen Hashmi, Associate Professor
Department of ISME, ATLAS SkillTech University, Mumbai, India
Email Id-sadaf.hashmi@atlasuniversity.edu.in

ABSTRACT:

An examination of customer service levels, offering a thorough look at the many service quality levels that businesses may provide to their clients. A crucial part of the whole customer experience, customer service is often categorized into many tiers to represent the range and depth of service excellence that businesses strive to attain. The study aims to distinguish between these tiers, which begin with basic or standard service and go up to enhanced or premium service offerings. It looks at the main qualities and traits that set each level apart, such as communication, issue solving, responsiveness, and general customer involvement. The significance of matching customer service standards to the particular requirements and expectations of various client groups is emphasized in the abstract. Grasp the subtleties of various service levels requires a grasp of essential components like customization, proactiveness, and anticipatory service. This study looks at how businesses may customize their services to meet the needs of different types of customers in order to increase customer happiness and loyalty. The abstract highlights how technology and data-driven insights help businesses successfully tailor their relationships with customers.

KEYWORDS:

Customer Engagement, Customer Experience, Customer Preferences, Customer, Relationship Management, Customer Service.

INTRODUCTION

The need of striking a balance between the quality of customer service and the expense of delivering such service has previously been emphasized. Although it may be simply defined as the point at which the increased income for each service increment equals the additional cost of delivering that increment, this balance is difficult to quantify. Creating a policy that is perfectly ideal in terms of the cost/service balance is rare. Businesses often use one of two primary strategies: A cost-minimization strategy that sets out particular service goals and aims to meet them at the lowest possible cost. A service-maximization strategy that fixes a distribution budget and provides the "best" service possible within it. The best strategy to use may vary depending on the specific product, industry, or market conditions. The origin port's container terminal, where it is loaded onto a ship. After reaching the target port, the opposite procedure is carried out [1], [2].

Pallets may be sent individually via sea freight. The vocabulary used here There is less usage than a Container Load (LCL). Pallets are picked up by the forwarder from the shipper's location and transported to its own consolidation facility, also known as a Container Freight Station (CFS). Here, the goods are loaded into a container at the risk and expense of the carrier, combined with those of other customers, and an FCL is created. Following its arrival at the target port, this FCL is transported to a deconsolidation facility, from whence the individual client shipments are delivered over a road network [3], [4]. The lead time for an LCL might be several weeks longer than that of an FCL. Sea freight utilizes a variety of surcharges in addition

to these pretty basic pricing components. The volatile price of gasoline, which is not always able to be passed on to consumers, is a major cost factor. Shipping firms may use a Bunker Adjustment Factor (BAF) as a kind of compensation in response to increases in fuel costs. Additional fees for war risk, piracy, overweight, fluctuations in currency exchange rates (Currency Adjustment Factor [CAF]), port security (International Security Port Surcharge [ISPS]), hazardous material, peak season, using the Suez Canal, and fuel with lower emission are among the surcharges utilized in the sea freight industry. In this manner, carriers attempt to defend rate hikes and/or provide shippers the option to choose and pay for extra services [5], [6].

Despite the best of intentions, surcharges are often implemented by one carrier quickly followed by the others. Shippers are confused by the quantity of surcharges; they also fail to account for them in their cost calculations and are often hit with an invoice amount that exceeds their initial projections. Thus, it's critical to keep the number of surcharges to a minimal and include as much of the "standard" surcharges—like those for port security and peak season—into the base cost as feasible. In addition to the previously indicated surcharges, additional factors also affect the invoice value, resulting in greater real transportation costs than the basic rates. Other factors that affect costs include the type of cargo (light volumetric cargo can be more expensive than small heavy cargo), trade lanes (trade lane rates are lower from west to east due to volume imbalances), packaging (repacking increases volumetric weight), and service levels (shorter lead times translate into higher rates). The Bill of Lading (BOL), which is provided by the carrier to the shipper as a contract for transporting the goods, is the transportation document for a container. Carriers may offer varying prices for the same cargo characteristics because they have highly and weakly priced lanes. It contains the names of the ship and the recipient, the names of the ports of departure and arrival, the ship's name, the dates of departure and arrival, a list of the commodities that includes the quantity and type of packages, package numbers and markings, weight, volume, and transportation expenses. To receive the cargo at the destination port, the BOL has to be shown. The BOL is being combined with the BOLs of other customers by the ocean carrier to create a Master BOL [7], [8].

The ships and containers are owned by the major maritime transport corporations. LCL freight forwarders often own the containers but do not own the ships. Non-Vessel Operating Common Carrier (NVOCC) and Vessel Operating Common Carrier (VOCC) are additional terms used in marine freight. A carrier that provides ocean freight services by purchasing slots or space from a VOCC and reselling it to its clients is known as an NVOCC. DHL, K+N, Sinotrans, Schenker, Expeditors, Panalpina, Hellmann, Nippon, DSV, and Bollore are the top ten maritime freight forwarders. Ocean carriers collaborate in an alliance, which is a collection of businesses that share ships, to increase operational efficiency on specific trade routes. However, each carrier has a separate contract with the same client, likely at a different fee. There are benefits and drawbacks to these relationships. The benefits are associated with increases in the carriers' operating efficiency. The disadvantages pertain to operational efficaciousness, given that various carriers have the ability to distinguish themselves based on pricing and customer service.

However, the same vessel is used to transfer the containers. Each and every carrier is affected if this vessel is delayed. Working with two separate carriers in two different alliances on the same lane might be a smart approach to reduce this risk and broaden the options. Since more consumers are looking for low-cost shipping choices due to rising manufacturing in distant, low-cost nations, the industry is expanding at the expense of airfreight [9], [10]. For low-value, heavy commodities, railway transportation is a dependable mode of transportation since it is least impacted by weather, which is a major cause of transportation delays. Moreover, it

produces less pollution than the air and roads. Schedules and itineraries are set in stone. There are now trains that go straight from China to European nations in 18–20 days. Over extended distances, only airfreight is quicker. Because it can transport tens of vehicles at once quickly, it is comparatively inexpensive. There are very few mechanical failures and accidents occur. The carriers employ very few people, but their fixed equipment expenses are substantial, with very little of it being changeable. There is a significant financial commitment required, as well as hefty overhead, maintenance, and building costs. Because of this, it is difficult to join a market where a small number of very large companies compete with one another on a mix of price and service. Terminal operations have expensive processing times and expenses. Its lack of flexibility in terms of capacity, routes, and timetables to accommodate specific client needs is another drawback. Additionally, there are no door-to-door services, thus deliveries must always go via road. Rural regions, limited traffic volumes, and short distances are not suitable for train usage. Making reservations and picking up items take time.

This option uses a variety of transportation methods, including road, rail, sea, and air. Without removing the goods from the container, the loose cargo is put into a container and carried to its destination by a variety of means, including trucks, trains, ships, and aircraft. It is safe and affordable since there isn't much freight handling. This modality's primary goal is to save expenses by eliminating driving and/or flying while also addressing trade imbalances, such as those between, say, Europe and China.

DISCUSSION

Airfreight charges might be cheaper in one direction than the other since there may be less traffic moving from one location to another. It may sometimes be advantageous to get to the appropriate airport by car, rail, or sea and then take a flight from there since the imbalance is dependent on the airport-to-airport lanes. "Sea-air" is an example of a service name; it is more affordable, has a longer transit time, and is used for flows outside of Asia Pacific (APAC). The main service providers in this transportation industry are air freight forwarders. The airfreight industry's tariff structure is comparable. A multimodal BOL, which acts as the transport contract between the shipper and carrier, is sent with the goods. A multimodal bill of lading (BOL), addressed to the shipper, carrier, and recipient, is non-negotiable and may only be issued by approved forwarders. It is common for intermodal businesses to not own the equipment. They have agreements with independent carriers that purchase cargo space and resell it to their clients. Hub Group, C.H. Robinson, Pacer, J.B. Hunt Transport Services, UTi, Expeditors, Burlington Northern Santa Fe, Union Pacific, Norfolk Southern, and CSX are the top ten intermodal businesses in the world.

The synchro modality is a brand-new, cutting-edge kind of mobility. Synchro modality lacks the predetermined and set routing that intermodal services have, therefore modes and routing are determined by the market's real-time supply and demand, congestion, and carrier network capabilities at that particular time. Ship-from and ship-to locations, volumes, weights, and measurements, as well as the pick-up and delivery dates and times, are provided by the client to the carrier. The carrier will next have to determine the best way to pick up and deliver the cargo while adhering to the customer's specifications. This strategy's goal is to make greater use of the real-time transportation network's capabilities by allowing for the flexibility to alter routes and modes instantly. This will increase the carrier's operational efficiency and decrease the customer's cost.

The most crucial lesson is that, regardless of the metrics used, they must take into account the primary service needs of the concerned client. Sometimes this is not as clear-cut as it might seem. Order fulfillment is only one specific instance. There is no right or incorrect answer here;

you may use any or all of them. The one that best fits the particular procedure in issue is the most suitable. Using a mix of these metrics may also be significant, as will be shown later. There are other actions that may be taken. These metrics might be used, for instance, to evaluate how quickly delivery activities are completed. Many expedited shipping businesses place a high value on delivery speed and meticulously track the amount of time it takes from order reception or package pickup to the point of delivery. For traditional operations, this concept is also used. As a result, order cycle time, or the real lead time from the moment an order is received until it is delivered to the client, may also be used to measure order fulfillment.

Once again, customer service has emerged as one of the most important success factors for the majority of businesses. This rise in significance might be attributed to a variety of factors, but the main one is the increasing understanding that winning over customers is essential to remaining competitive. Businesses that overlook this run the risk of losing a sizable portion of their market. In the modern consumer decision-making process, service plays a crucial role in setting one company apart from another. Put differently, exceptional customer service has the power to set one business apart from its rivals. Thus, a key consideration in determining business strategy must be customer service strategy. Costs and transit times are the two main factors in transportation (service). Quality is now a must to compete in the market, not a topic of debate. When modalities may be contrasted with one another, the term "transit-time" is used. Shorter transportation durations often translate into greater expenses, however this isn't always the case. When shipping by air as opposed to water, the expenses of transportation may be cheaper for a consignment with a given kind of products, weight, size, lane, and carrier rate. This is the outcome of the state of the market, where various pricing techniques are used by carriers.

In order to survive, some carriers aim for the lowest feasible pricing. Carriers attempt to boost volumes in order to enhance equipment and network use by providing cheap costs. Margin should rise and unit costs should decrease as a result of this. Only profitable rates are offered by other airlines. In order to keep a comparatively large margin, they do this by attempting to attract clients with high-end items, where quality and service are valued more highly than price. In an effort to capture a greater portion of the market, several carriers combine a cheap pricing with one or more USPs. The carriers may attempt to raise rates and their profits once they have a sizable portion of the market. Since transportation is an indirect demand, reduced prices will not result in a bigger transportation market; rather, all of the pricing schemes previously described cause changes in market shares. This is not the same as bringing down the cost of, say, TVs, which would likely encourage more people to purchase new ones and increase the need for mobility. All of these factors rely on the state of the market, namely whether supply and demand are equal, different, or more. The ideal course of action is to develop a tool that uploads all carrier rates regardless of the modality type and allows the tool to suggest the optimal combinations of costs and transit times.

In business transactions, it's critical to establish who pays for transportation expenses between a ship's point of origin and its destination, who assumes liability for lost goods, who must obtain insurance, which mode of transportation to use, who must prepare the necessary paperwork, and who will handle customs clearance. Eleven rules known as Incoterms, an acronym for international commercial terms, are used to support and define these obligations; they do not, however, include information pertaining to ownership of the items or other agreements that may be between the seller and the buyer. Although it is not required, using the Incoterms guidelines is advised when both the seller and the buyer specify this in the sales contract. Depending on the mode of transportation, several Incoterms® regulations are available for usage. For any modality, the Incoterms® rules are DAP, DDP, FCA, DAT, CPT, and CIP.

FAS, FOB, CFR, and CIF are the Incoterms® regulations for inland waterways and maritime freight. The International Chamber of Commerce owns the trademark for Incoterms® rules. (ICC). The detailed explanation of the Incoterms® regulations is provided in Table 2.8 (Source: ICC website). You may get the whole 2010 version of the Incoterms® regulations at http://store.iccwbo.org/. The paperwork provided by ICC explains the conditions of delivery that are used in international trade. This is the procedure for adhering to the rules and legislation of the nations to which one is traveling. The proper commodities value is disclosed, the nation of origin is noted, the duties and taxes are paid, and the items are accurately categorized. In order to maintain the necessary operating licenses, it is also necessary to do security checks on all new clients, vendors, guests, and merchandise. The goal of the end-use check is to ensure that the items are not being used for military purposes, that the legitimate trade partners can be trusted, and that they will not send the commodities to unapproved parties. Such a check might be carried out either after the shipment has occurred or before to granting the export license.

Contracts including sales terms and conditions, shipping paperwork, and business profiles of both the importer and the exporter must be turned over in order to pass the check. A non-physical corporate address, a fraudulent IP address, a last-minute address change, a third party paying the invoice, a missing end user address, or rerouting via a different nation are examples of suspicious scenarios. Preventing vital goods, technology, and data from getting into the wrong hands is the primary goal. Developing and evaluating explicit anti-corruption and anti-bribery policies is also necessary, as non-compliance may have dire repercussions for the participating businesses and personnel. Such actions undermine the process of a fair supply and demand dynamic in the market. Noncompliance may result in penalties, fines, confiscated items, employee disciplinary measures, contract termination, prison time, reputational harm, company suspensions and exclusions, enhanced audits, and new authorization needs. An Export Control Officer (ECO) must be on staff in order to comprehend, train, implement, maintain, address, and comply with all applicable local, national, and international export control and trade sanction rules and regulations, as well as any possible effects they may have on the company.

The primary goal is to compile and keep up-to-date lists of unapproved persons, clients, parties, organizations, businesses, and nations that are prohibited from obtaining certain products, services, software, or technology because they may be used to develop weapons of mass destruction or do other damage to people. Providing the driver with the appropriate documentation is a standard method of demonstrating compliance for a business. When the items are sent domestically, a packing list and waybill are often adequate. A company that chooses to export must deal with a lot of paperwork. The actual things must be accompanied by a set of papers and another set is depending on the country of origin, the eventual destination, and the kind of goods being delivered, different paperwork may be required. Origin may be classified as either preferred or non-preferential. For statistical reasons, the customs authorities utilize the non-preferential origin to determine the nation of manufacturing of the goods. They also use it to determine if the product is subject to import limitations and the imposition of anti-dumping duties.

The shipping nation that applies for preferential origin uses it to potentially gain from free trade agreements by paying no tariffs or very little. Document information, including packing lists and invoices, must match the data on the actual product and ERP systems. A government document known as an export license permits the shipment of a set quantity of goods to a certain location. Finding out if the items have an Export Control Classification Number (ECCN), whether U.S. jurisdiction applies, and whether they have a Strategic Goods Indicator (SGI) is crucial to deciding whether a license is required. Products are categorized by an ECCN

according to their nature, including software, technology, kind of commodity, and technical details. An ECCN's five characters are intended to verify if a product may be used for both military and civilian applications, such as the development of mass destruction weapons. The SGI categorizes products whose possible dual use makes their export, import, and transit to certain nations either forbidden or subject to strict restrictions. Export Accompanying Document (EAD): Prior to transporting a consignment, a shipper must get permission at the export customs office.

The customs officials release the package and authorize the commencement of the shipping procedure upon approval of the request. Then, an EAD is prepared and attached to the shipping documents in order to identify the export and notify the customs office of departure that the cargo conforms with all safety and security criteria. An original, wet-stamped bill for the products from the seller to the buyer that has been signed in blue ink by the shipper and/or chamber of commerce is called a commercial goods invoice. The invoice is also used to calculate the total amount owed in taxes and customs charges. The six-digit "Harmonized Commodity Description and Coding System" code, or "HS code" for short, is used to determine the amount of taxes owed.

The World Customs Organization developed and oversees this global standard for describing and categorizing tangible items, or "modalities." Tariff, customs, and harmonized codes are other names for the HS code. It is used to monitor commercial agreements and compile trade data, in addition to reporting any import to customs officials so that the appropriate duty rates and taxes may be applied. Despite the norm, other nations' customs administrations may interpret the codes differently, resulting in differing rates of duty and tax. When codes are used incorrectly, those authorities may see it as deceptive, which may lead to fines. Certain destination nations demand that the invoices be validated by their embassy or consulate in the nation where the shipper is going (consular invoice). A typical invoice includes the following details: the complete invoice-from, invoice-to, ship-from, and ship-to addresses with the names of the countries involved; a thorough description of the goods; quantities, weights, and dimensions; the goods' commercial value; the country of origin (manufacturing); and the cost of transportation.

A triangle invoice is another possible format. In this case, the ship-to and/or ship-from addresses are outside of the exporter's nation. In order to prevent the recipient of the goods from seeing the reseller's purchasing prices, the buyer may ask to have a copy of the invoice left out of the pouch that is attached to the package. An inspection certificate serves as proof that the goods have been checked and found to be of good quality. A physical examination of the cargo and the delivery of test findings prepared in a laboratory are often requirements before a Certificate of Conformity (COC) is issued. Before going to the inspection site, the inspection institutions request the whole shipping documents. A letter that has been authorized and stamped by the chamber of commerce may also be required by some local authorities in order for the certificate to be used to clear the goods through customs. This document may also be referred to as a technical inspection report, certificate of inspection, certificate of conformity, or certificate of conformance.

Depending on the product type, method of transportation, exporting and importing country combinations, and other factors, the customs clearance procedure varies. That always begins, however, with the vendor giving the buyer the shipping paperwork. In order to expedite the clearing procedure, the buyer sends these and other documentation, such as an import license, to the port authorities prior to arrival. Authorities are contacted to check and release the items upon their arrival. A products invoice is among the many papers that may be sought, and it is one of the most significant. Common customs standards for an accurate invoice to facilitate a

speedy clearing procedure and avoid fines or other costs Depending on the terms of the seller-buyer agreement, the Importer of Record (IOR) or Exporter of Record (EOR) is responsible for paying tariffs, taxes, and customs clearing costs when importing. While the customs clearing costs are determined by the rate agreements between the shipper and the carrier, the duty and tax rates are determined by the importing nation, trade agreements between countries, and HS code. Duty calculators are accessible online to determine the anticipated amount of duties to be paid. Unless otherwise noted, the import value including freight costs serves as the foundation for these computations. Because of the rate per invoice, the Food and Drug Administration (FDA) clearance charge, and the Merchandise Processing charge (MPF), the expenses associated with customs clearance for importing, say, a cargo into the United States, are contingent on the quantity of invoices. Erroneous product descriptions, incorrect pricing, missing addresses, or inadequate certificates of origin are among the hazards that may result in expensive expenses and wasted time.

When errors are made often, customs officials get suspicious, which results in tougher regulations and laborious audits. A thorough description of the items, including the purpose and material quality, is required for the proper determination of the HS code. Improper categorization might lead to further evaluations or expensive charges. Merely a small portion of the imported items get inspection. As a result, mistakes may lie undiscovered for years. Declarations when the weight and number of items on the invoice deviate from the actual quantities are rejected by customs officials. Customs cannot determine a product's origin in the absence of a legitimate statement of origin. Charges and delays result from this. Penalties or fines may be imposed for providing fraudulent documentation of favored origin and for participating in tax evasion. Customs clearance may be carried out in-house or by contracting with specialist businesses.

The real transportation business or another third party also known as a customs broker can be the outsourced party. Certain nations mandate that third-party brokers possess a current Proof of Attorney (POA), which is an electronic document with a set validity period that permits an organization to function as the importer's representative and operate as a customs agent. A thorough understanding of customs may facilitate seamless operations by avoiding lengthy customs inspections or delayed shipments as a result of incomplete or inaccurate paperwork. Through this method, the shipper may use the appropriate HS codes to save expenses while still being in compliance with local customs rules and regulations.

CONCLUSION

The findings of this study present the customer service levels as a flexible framework that enables businesses to meet the requirements and expectations of a wide range of clients. To guarantee that customer service levels stay current and effective in building strong customer connections and maintaining business performance, the abstract calls for continual research, education, and strategy alignment with developing consumer preferences. Based on knowledge from marketing, customer relationship management, and service management, this abstract promotes a dynamic and strategic method for defining and providing various customer service levels. It emphasizes that in order for businesses to create and carry out service plans that appeal to their target market, a thorough grasp of the wants and preferences of their customers is necessary**.**

REFERENCES:

[1] Z. Li *et al.*, “A blockchain and automl approach for open and automated customer service,” *IEEE Trans. Ind. Informatics*, 2019, doi: 10.1109/TII.2019.2900987.

[2] M. Groth, Y. Wu, H. Nguyen, and A. Johnson, "The Moment of Truth: A Review, Synthesis, and Research Agenda for the Customer Service Experience," *Annual Review of Organizational Psychology and Organizational Behavior*. 2019. doi: 10.1146/annurev-orgpsych-012218-015056.

[3] M. Y. Dyakonov, A. V. Novikov, D. N. Slabkaya, S. L. Balova, V. D. Sekerin, and A. E. Gorokhova, "Customer service quality management system," *Int. J. Innov. Technol. Explor. Eng.*, 2019, doi: 10.35940/ijitee.J9540.0881019.

[4] H. Y. Teng, "Job crafting and customer service behaviors in the hospitality industry: Mediating effect of job passion," *Int. J. Hosp. Manag.*, 2019, doi: 10.1016/j.ijhm.2019.03.013.

[5] Z. Liu, C. Long, X. Lu, Z. Hu, J. Zhang, and Y. Wang, "Which Channel to Ask My Question?: Personalized Customer Service Request Stream Routing Using Deep Reinforcement Learning," *IEEE Access*, 2019, doi: 10.1109/ACCESS.2019.2932047.

[6] C. Amos, S. Brockhaus, A. M. Fawcett, S. E. Fawcett, and A. M. Knemeyer, "Blinded by the light? Analyzing sustainability authenticity, customer service perceptions, and halo effects," *Int. J. Logist. Manag.*, 2019, doi: 10.1108/IJLM-12-2017-0344.

[7] S. K. Hodge, E. D. Honeycutt, and D. Shipley, "Toward an Improved Understanding of Online Customer Service Delivery to Millennials," *Serv. Mark. Q.*, 2019, doi: 10.1080/15332969.2019.1587865.

[8] J. A. Restrepo-Morales, E. A. G. Betancur, and J. G. V. López, "Customer service multichannel model in a health care service provider: A discrete simulation case study," *Innovar*, 2019, doi: 10.15446/innovar.v29n72.77934.

[9] A. Paul, A. H. Latif, F. A. Adnan, and R. M. Rahman, "Focused domain contextual ai chatbot framework for resource poor languages," *J. Inf. Telecommun.*, 2019, doi: 10.1080/24751839.2018.1558378.

[10] R. A. A. Labajan and P. Koomsap, "Customer journey clue-based service failure prevention," *Prod. Eng. Arch.*, 2019, doi: 10.30657/pea.2019.25.05.

CHAPTER 7

INVESTIGATION OF THE METHODS OF SUPPLY CHAIN SECURITY

Aditya Kashyap, Assistant Professor
Department of ISME, ATLAS SkillTech University, Mumbai, India
Email Id-aditya.kashyap@atlasuniversity.edu.in

ABSTRACT:

The many techniques used to guarantee supply chain security, providing a thorough analysis of the tactics and safeguards companies put in place to protect their supply networks from possible threats. In today's worldwide and linked company environment, where interruptions may have a domino impact on operations, finances, and reputation, supply chain security has become even more crucial. The inquiry focuses on outlining critical techniques that businesses employ to improve the security of their supply chains, such as risk assessment, technology integration, and stakeholder cooperation. It looks at how risk assessments are carried out to find weak points, analyze possible dangers, and create countermeasures. The abstract highlights the importance of technology in strengthening supply chains via transparency, traceability, and early detection capabilities. Examples of this technology include blockchain, real-time tracking systems, and data analytics.

KEYWORDS:

Collaboration, Risk Assessment, Supply Chain Management, Supply Chain Security, Technology Integration.

INTRODUCTION

In order to ensure that the truck loading, real transportation, and unloading operations remove any security risk, supply chain security programs mandate the implementation of specified protocols, procedures, and work instructions. While the transportation network is considered to be the carrier's duty, warehouses are often well-secured. The products are transported via many places once they leave the facility. They may be delivered by more than one driver and are turned over to different subcontractors. The products and their surroundings most likely face the greatest security concerns here. As a result, it is anticipated that in the near future, the transportation network will get significantly more attention [1], [2]. The first step in ensuring security is to hire qualified candidates and do background checks on them.

Not only new hires should be subject to this vetting procedure. Also, as people's lifestyles change over time, current employees should undergo screenings on a frequent basis. All workers must complete a security awareness course to learn how to respond in risky circumstances, such as when unidentified individuals wander about the warehouse alone. It is also necessary to implement security protocols for other parties like product suppliers, caterers, cleaning services, and audit firms. Regardless of the visitor's occupation, everyone must go through this screening procedure. Goods, dangerous materials, intellectual property, offices, warehouses, and other structures cannot be accessed by unauthorized individuals [3], [4].

To avoid theft, all products flows must be screened. Only trucks with hard-sided walls and ceilings and no brand name on the exterior, together with a GPS to monitor and trace the cargo, and an emergency alert system, should be used. Lockers, access control systems, and staff identification badges are a few examples of human security measures. Alarms, fences, cameras, high-value cages, security guards, and sprinkler systems are common building security

components. Every incidence requires record-keeping and inquiry. Examining the cargo before offloading the truck, aircraft, container, or any other transportation equipment is one method to ensure its physical safety. The shipment must be regarded as dangerous if the seal is discovered to be broken. Transportation tools may also be fitted with door opening sensors [5], [6]. Another example would be to stop cyberattacks from taking down IT systems, which are very important to businesses. Any catastrophe here has the potential to end business entirely. Limit who has access to computers and other data; prevent users from creating and approving invoices and other multiple ERP transactions; require personal IDs and passwords rather than departmental ones; lock computers when you leave the office; and use virus protection software. Since security encompasses the whole supply chain, shippers should only collaborate with carriers and other partners that are actively developing security protocols. While they bear the primary responsibility, it is advisable to periodically assess the precise individuals with access to the shipper's systems and conduct internal and external risk assessments to identify potential risks. Then, take steps to mitigate or eliminate these risks in order to safeguard all parties involved in the supply chain. Partner contracts may include provisions pertaining to cyber security obligations and review procedures.

A disaster recovery plan (DRP) describes potential calamities such power outages, fires, accidents, storms, strikes, earthquakes, and bomb threats, as well as bankruptcies and cyber-attacks. A disaster response plan (DRP) aims to restore operations as quickly as possible by using pre-established backup plans and crisis management procedures. Plans and matrices for internal communication, as well as those of public safety organizations, clients, carriers, and other supply chain partners, are all included. Plans and procedures for reviews, updates, audits, and training are also included. Although there are other supply chain security certification organizations, C-TPAT, a program to strengthen border and supply chain security, is the most well-known. Although C-TPAT certification is expected of both importing and exporting carriers, it is not limited to the actual transportation provider of the products. All supply chain participants, including forwarders and customs brokers, must have the certification. Throughput times may be accelerated with a certification since less stringent cross-border inspections need to be made. In order to get certification, an organization must carry out and record a security risk assessment, after which it must apply online via the C-TPAT website and complete a supply chain security profile outlining how it will adhere to security regulations. The firm receives a three-year certification if the content it provides is deemed suitable [7], [8].

DGs, also known as hazardous materials, or Hazmats for short, are products that, if improperly handled and packaged during transit, pose a danger to humans, animals, and the environment. Instructions on danger and safety are included on hazmat packaging, along with one or more symbols. They outline the risk and what should be done in the event of an accident. This information is provided by the shippers or their product suppliers in the form of Material Safety Data Sheets (MSDS), which include details on environmental, health, fire, and reactive hazards as well as instructions on how to use, label, store, pick, pack, and ship products. They also include information on how to recognize emergency situations and respond safely. Certain commodities, like explosives, may be easily identified, while other goods may be more challenging.

Packing and labeling for hazards is a job best left to professional and trained individuals. To avoid mishaps, DG transportation is governed by regulations. Although each modality has its own set of rules, they all follow a categorization system in which the primary criterion for decision-making is possible hazard. Regulations specific to each mode of transportation, such as the International Maritime Organization (IMO) for sea travel and the Alternative Delivery Regulations (ADR) for land transit, determine the necessary packaging, labeling, and

paperwork needed to export a hazardous material. A method for choosing a channel is explained, along with a discussion of several distribution channel kinds. Ultimately, the crucial choice of managing an in-house distribution business or contracting out to a third party is presented. The process of physically moving a product or a collection of items from their place of production to the point at which they are made accessible to the end user is referred to as a physical distribution channel. The final destination for consumer goods is often a retail location, but more often than not, it might alternatively be the client's home since certain routes skip the store and go straight to the customer. A factory is probably where industrial items end up [9], [10].

Apart from the physical distribution route, there is another kind of channel. This is referred to as the channel for trading or transactions. The product and the fact that it is being moved from the site of production to the location of consumption are other issues that the trade channel addresses. On the other hand, the non-physical components of this transfer are the focus of the trading channel. These elements deal with the order in which negotiations take place, the purchasing and selling of the commodity, and the ownership of the items as they move through the many distribution channels.

DISCUSSION

The selection and selecting of these channels is one of the most basic concerns of distribution planning. The dilemma that emerges for both trade channels and physical channels is whether intermediaries should be utilized or whether the manufacturer should deliver the goods straight to the customer. Retailers are most likely to be these intermediates at the end of the supply chain, but it is becoming common practice to contract out the work to a third-party operator for some of the other connections. Embargoes and sanctions are political trade restrictions meant to alter behavior for the better. Examples of these include export bans, bank account freezes, and travel restrictions. These are often given to governments that violate democratic ideals, human rights, and other rules and regulations, but they may also be applied to particular businesses and people. Transportation to embargoed states like Cuba, Iran, Sudan, Syria, and North Korea may be particularly difficult due to the restricted logistical infrastructures and the prohibitions against American persons and corporations discussing, handling, and/or shipping products to these locations.

Sometimes it can only be done after obtaining permission. Before selecting and packing any cargo for any embargoed nation, American warehousing businesses must get clearance from their headquarters. The few non-American transportation businesses that are permitted to carry products to these nations often need to request permission at their headquarters. American transportation companies are not permitted to export goods to these countries. Certain restrictions apply to subcontractors as well as specifically designated nationalities and/or banned individuals, whether via direct or indirect means, even in cases where the transactions are compliant with all relevant laws. Sanctioned nations like Libya exist in addition to embargoed nations. US businesses are permitted to export to the aforementioned group, however there are limitations and extra criteria.

A channel structure may include a mix of the several different physical routes of distribution that may be used. The primary alternate routes for moving a single consumer product from a manufacturer's manufacturing location to a retail location When goods are physically transported from one channel member to another, they are indicated by circles in the diagram. Of course, there are more channels that are used, such as direct routes to the ultimate consumer or channels connecting industrial suppliers with industrial clients. Manufacturer to retail outlet via manufacturer's distribution network. For a long while, this was the most popular method

and one of the traditional physical distribution channels. In this case, the producer or supplier stores its items in a warehouse for completed goods, a central distribution center (CDC), or a network of regional distribution centers (RDCs). Large trucks known as "trunks" are used to transport the goods to storage locations. Once there, they are separated into individual orders and transported to retail locations by retail delivery vehicles owned by the provider. The manufacturer is the owner of all logistical resources. Due to the creation and use of many substitutes physical distribution channels, the usage of this kind of channel progressively declined starting in the 1970s. The brewing business still uses this kind of channel often.

Manufacturer via distribution center for retailers Manufacturers in this channel either supply their goods to consolidation centers, where goods from different manufacturers and suppliers are combined and then transported to either an RDC or an NDC for final delivery, or they supply their goods to national distribution centers (NDCs) or RDCs for final delivery to stores. The retail companies or, more often than not, their outside contractors are in charge of these centers. The merchants then transport full vehicle loads to their shops using either their own or outside delivery trucks. The rise of the massive multiple retail organizations that are now common on high streets and, more recently, in huge retail parks, directly contributed to the rise in prominence of this kind of distribution channel throughout the 1980s. For a long time, wholesalers have served as the go-between in distribution networks, acting as the connection between the producer and the small retailers' stores. But with the rise of voluntary chains or wholesale organizations—often referred to as "symbol" groups in the supermarket industry—this physical distribution route has changed recently. Their original idea was to purchase goods in large quantities from suppliers or manufacturers in order to have a pricing advantage.

Because the wholesalers use their own fleets of vehicles and distribution centers, one effect of this has been the creation of a unique physical distribution route. A significant advancement in the wholesale industry is the emergence of cash-and-carry enterprises. These are often centered on a wholesale company, with small, independent stores picking up their purchases directly from local wholesalers instead of having them delivered. Due of the modest order volumes, many suppliers would not deliver directly to small stores, which has led to a growth in cash-and-carry facilities. The business of distribution services, or third-party distribution, has expanded very quickly in recent years. This may be attributed mostly to the significant increase in distribution costs as well as the ongoing changes and tightening of distribution laws. As a result, some businesses have specialized in logistical operations. These businesses may provide broad distribution services, but they may also act as "specialists" for a certain product category (such as hanging clothes, China and glass) or one client firm.

Advancements in the dissemination via third parties, since these businesses provide a "specialist" delivery service for tiny parcels, this channel is quite comparable to the prior physical distribution route. The number of small package delivery businesses flourished in the 1980s and 1990s, with a focus on next-day delivery. These businesses have created some very intense rivalry. This is a quite uncommon kind of channel that sometimes functions as a trade channel rather than a physical distribution route. Because it serves as a middleman between manufacturers and retailers, brokers and wholesalers are comparable. Its function is distinct, however, since it often has more to do with promoting a line of goods rather than ensuring their actual distribution.

As a result, a broker may use independent distributors or maintain its own distribution network and warehouse. The primary physical distribution routes that are not included above pertain to consumer goods that are transported directly from the producer to the retail outlet. Additional routes exist for the distribution of various consumer goods and industrial items, which do not fit into the diagram's structure since they do not travel via retail stores. These flows, commonly

known as business to consumer (B2C) flows, have many distribution channels. Utilizing catalog or mail order purchasing has grown in popularity.

Products are bought from a catalog and sent home by mail delivery or package delivery services. The physical distribution route, which avoids the retail shop, is therefore from manufacturer to mail order house via traditional main transport (line-haul) operation, and from there to the customer's home by postal service or parcel carrier. Among the options, the direct factory-to-home route is somewhat uncommon. Direct selling techniques may be used, often as a consequence of magazine or newspaper advertisements. It is also often used for one-off items that are custom-made and don't need warehouse stocking in order to provide a certain degree of customer care. e. Online shopping from home is becoming a highly popular way to make purchases. Physical distribution channels were first provided by postal and package carriers, much as mail order businesses. Nonetheless, the shift to online food shopping has brought to the emergence of more specialized home delivery services. Nearly majority of these are managed by independent businesses. Within the grocery sector, home delivery is often handled by tiny, specialized trucks that run out of retail shops or distribution centers. Computer-to-computer communication is a brand-new channel because some goods—like movies, software, music, and books are sold straight via the internet.

Number of deliveries stops a truck is scheduled to make a specified number of stops in a certain amount of time, based on the quantity of the package. In order to confirm the correctness of the planning as well as the driver's execution efficiency, it is crucial to compare the actual and scheduled stops.In the event that the scheduled pauses are not made, the following planning and/or execution cycles must be improved by analyzing the reasons behind the failure. Delays in delivery may arise from making extra stops as a result of, say, road congestion or supplementary last-minute stop requests. I Degree of loading: freight charges are often calculated at the weight, volume, or piece level, taking into consideration the maximum amount that can fit into a vehicle. Therefore, in order to enhance the planning parameters and/or the execution, it is required to measure and assess whether a truck has carried enough goods to be profitable.

Driving an empty truck just costs money in the form of fuel and driver's time, for example, and produces no value. A truck that is fully loaded and driven all day is the best scenario. It is essential that the truck travel as little as possible after dumping items at a client before picking up the next shipment, even when this is not feasible for several reasons. Why did we schedule vehicle A for this trip rather than truck B, which was much closer to the pick-up address? is a common review topic. The goal need to be to reduce the expenses per kilometer and increase income. Using route optimization tools is one way to achieve this, as it allows you to determine the optimal path while accounting for constraints like delivery requests, traffic bottlenecks, and driver work hours, as well as opportunities to pick up cargo from vendors and/or customer return flows.

Typically, transportation accounts for around two thirds of all logistical expenditures. Making sure the bills are correct and paid on time could save you a lot of money by avoiding late payment penalties. It is common practice to contract out freight payment and auditing (FPA) to specialist businesses. Apart from reviewing and settling bills, they may also provide information that can be used for improvement. Shippers use FPA firms to analyze the incoming bills and arrange contracts with carriers to move merchandise globally. The audit verifies the authenticity of the invoices, verifies mileage, and verifies that rates and accessories are applied correctly. It certifies the bill is not a duplicate and checks to see whether it is correct to pay. In addition to sending payments on the shipper's behalf, the FPA business also offers reports that facilitate general ledger account coding. The most often used terms in transportation accounting

are explained here. "Spend analysis," which is the act of gathering, classifying, and assessing cost data to uncover inefficient spending, is a technique for spend data analysis. Determine all the sources first from which the expenditure data is available. Departments, places, functions, systems, and people are a few examples of sources. Then, to facilitate data processing, compile as much of the data as you can into a single data file. The devil is in the details, so clean up the data, eliminate mistakes, and standardize the data components (modality, region, lanes, items, and markets) and cost categories (surcharges, waiting, and fuel expenses). Since the logistics strategy is based on the business plan, the transportation function cannot be considered an independent activity. Rather, it must be integrated into the logistics strategy. It is divided into a strategy for each commodity, which is a collection of services that are comparable to one another and may be bought as a whole.

The commodities used in transportation include road and sea freight, intermodal, air freight, parcel and express, and trains. Every commodities strategy is converted into needs for people, processes, customers, and businesses. These are fed into the procedures of reviewing and choosing carriers. Carrier allocations and rates, among other results of the carrier selection process, are posted into a TMS. I Commodity strategy is used to identify present problems and hazards and how to address them for the next buying cycle. The logistics, transportation, and business strategies should all be in harmony with the commodities plan. Understanding service requirements, looking for potential carriers who can provide the necessary services, planning how and when to approach the market to maximize sourcing results, and creating a continuous improvement process to maintain quality, cost, and service levels all benefit from the development of commodity strategies.

Understanding the transportation market in terms of cost, capacity, participants, and trends is the goal of this phase, which also include reviewing the present approach. To conduct this evaluation, the actual performance of the sourcing objectives such as delivery dependability, quality, cost, IT capabilities, customer service, terms and conditions of the contract, validity duration, and contract coverage is compared to the intended performance. The extent to which the shipper was able to follow the specified carrier and volume allotment is referred to as contract coverage. Carriers are encouraged to invest in account management team setups and competitive prices when coverage is strong. It transmits a message of investment in the collaboration and encourages problem-solving initiative. Except in cases when the carrier is inherently underperforming or lacks capacity, both parties adhere to the agreed distribution. The dependability and timing of transit times are the most crucial components of delivery performance.

Carriers often exchange performance information and provide KPI reports. The primary reasons of non-performance are grouped using exception codes. Customer-related problems and carrier-uncontrollable elements are not included in the "net" carrier performance evaluation. Under or over-delivery, losses, damages, and invoicing problems are common quality difficulties. Customers are affected by the overall performance, which takes into account both carrier and non-carrier-related misses. In order to reach the objectives and enhance this gross performance, shippers and carriers must collaborate. The pricing performance is gauged by dividing the new rates by the previous ones using a Cost pricing Indicator (CPI). For ease of understanding, the comparison is based on all-in pricing and includes all surcharges, including FSC, Security Surcharge (SSC), and Peak Season Surcharge (PSS). The price of oil affects FSC, whereas the state of international security affects SSC. FSC might be based on actual weight or volumetric weight and varies according on the airline, origin, and destination. The shipper pays the carrier PSS in order to ensure transportation capacity at the busiest time of year. Because there is a greater demand than supply at this time,

there is a lot of strain on airlines and the ground infrastructure because there are not enough trucks or parking spaces, there are not enough crossdock spaces, and there are not enough slots, which causes congestion at ports.

Service outages arise from even minor operational issues because the supply chain is not buffered. Airlines strive to prioritize large, devoted clients and market the available capacity as an Express service in order to charge higher charges. The costs of financing the cargo security operations are borne by SSC. As surcharge levels fluctuate over time, shippers and carriers come to agreements about surcharge processes. The ability of IT to improve supply chain visibility is essential. EDI communication is getting more and more necessary, and it is already a standard requirement. Messages like the confirmation of pick-up, ASN, confirmation of onboard, arrival at destination, Confirmation of Delivery (COD), and POD are sought from carriers. Maintaining a long-term connection and supporting the company requires a committed team of account managers.

Account managers are available on a global, regional, and national level to oversee enhancements and arrange ABRs, QBRs, and MBRs. For prompt issue handling and continuous relationship development, the account management team's and the customer service desk's response are essential. Terms and conditions pertaining to payment terms, obligations, sustainability, and security agreements are documented in a SLA. It's essential to standardize these pre-established terms and conditions for all carriers in order to avoid disagreements during the drafting and execution of contracts. Participation in the tender may be contingent upon accepting these and other conditions, which may be discussed at the Request for Proposals (RFI) stage. They might be handled throughout the procurement process as non-negotiable elements. Understanding the ideal carrier count is beneficial, and leveraging volume is essential to obtaining reasonable price. It's critical to collect information in order to bolster the conclusions made about the existing approach.

CONCLUSION

This study emphasizes supply chain security techniques as essential elements in risk reduction and maintaining the stability of international supply networks. In order to create and implement appropriate security measures that are in line with the dynamic nature of supply chain risks and promote resilience and sustainability in supply chain operations, the abstract recommends for continuous research, education, and cooperative efforts. Regulatory agencies, third-party logistics providers, and supplier cooperation are crucial components in comprehending the holistic approach to supply chain security. The study looks at how teamwork improves information exchange, encourages best practices, and builds the resilience of the supply chain network as a whole. Based on knowledge from risk management, logistics, and supply chain management, this abstract promotes a proactive and comprehensive approach to supply chain security. It emphasizes that in order to address rising dangers, firms must constantly adapt and deploy developing strategies as supply chains become more complicated and intertwined.

REFERENCES:

[1] G. Lu, X. Koufteros, S. Talluri, and G. T. M. Hult, “Deployment of Supply Chain Security Practices: Antecedents and Consequences,” *Decis. Sci.*, 2019, doi: 10.1111/deci.12336.

[2] G. Zomer, “Supply Chain Security,” in *Lecture Notes in Logistics*, 2019. doi: 10.1007/978-3-319-92447-2_25.

[3] G. Lu and X. Koufteros, "Organizing Practices to Combat Supply Chain Security Breaches," *IEEE Eng. Manag. Rev.*, 2019, doi: 10.1109/EMR.2019.2931540.

[4] X. Tong, C. K. Y. Lo, K. H. Lai, and T. C. E. Cheng, "Supply chain security management: A citation network analysis," *Int. J. Shipp. Transp. Logist.*, 2019, doi: 10.1504/IJSTL.2019.103873.

[5] C. Y. Chin and S. Sorooshian, "Possible barriers affecting implementation of ISO28000 for the supply chain," *Int. J. Supply Chain Manag.*, 2019.

[6] A. Ghadge, M. Weib, N. Caldwell, and R. L. Wilding, "Managing Cyber Risk in Supply Chains: A Review and Research Agenda," *SSRN Electron. J.*, 2019, doi: 10.2139/ssrn.3426030.

[7] OCED, "Supply chain risk and security maturity evolution," *Pharm. Technol.*, 2019.

[8] T. Lund, B. McDough, and K. Boyer, "The trusted tablet: A new level of supply chain security from mass digitalisation of medicines," *ONdrugDelivery*, 2019.

[9] A. Kulkarni, N. A. Hazari, and M. Niamat, "A Blockchain Technology Approach for the Security and Trust of the IC Supply Chain," in *Proceedings of the IEEE National Aerospace Electronics Conference, NAECON*, 2019. doi: 10.1109/NAECON46414. 2019.9058027.

[10] D. Beran, Z. Mirza, and J. Dong, "Access to insulin: Applying the concept of security of supply to medicines," *Bull. World Health Organ.*, 2019, doi: 10.2471/BLT.18. 217612.

CHAPTER 8

ANALYSIS OF SUPPLIER RELATIONSHIP MANAGEMENT

Shoaib Mohammed, Associate Professor
Department of ISME, ATLAS SkillTech University, Mumbai, India
Email Id-shoaib.mohammed@atlasuniversity.edu.in

ABSTRACT:

The complexities of Supplier Relationship Management (SRM), offering a thorough analysis of the tactical methods businesses use to establish and preserve strong relationships with their suppliers. SRM has become a vital component of supply chain management, highlighting the need of cultivating cooperative and mutually advantageous partnerships with important suppliers. The inquiry aims to distinguish important components of SRM, such as risk management, performance assessment, cooperation, and communication. In order to align objectives, improve transparency, and guarantee the smooth flow of products and services along the supply chain, it looks at how businesses strategically interact with their suppliers. The abstract highlights the significance of proficient communication and teamwork in establishing credibility and stimulating creativity in supplier relationships. Understanding the dynamics of SRM requires an awareness of crucial elements including efforts for continual development and performance assessment. This study looks at how businesses use metrics, feedback loops, and key performance indicators (KPIs) to evaluate suppliers, pinpoint areas that need improvement, and increase supply chain efficiency as a whole.

KEYWORDS:

Collaboration, Communication, Performance Evaluation, Supplier Relationship Management, Supply Chain Management.

INTRODUCTION

Measuring carrier performance, developing a strategy for carrier development, and continually refining procedures are the last steps in achieving the goals. Suppliers have to be seen as members of the supply chain and as equal partners. Customer satisfaction is unattainable without their assistance. It is not advisable to pressure suppliers and reduce their margins, particularly during hard times. By not directing the supplier what to do or how much to give, you may demonstrate the shipper's faith in the provider [1], [2]. Rather, all sides must work together to eliminate waste from the whole supply chain, creating a scenario where everyone wins. It's critical to let suppliers know about the shipper's possibly problematic circumstances and solicit their assistance in coming up with ideas for improvements. Since suppliers are more willing to exchange ideas, it is ideal to do business one-on-one. However, it might be tempting to contact all of the suppliers at once and ask them the same questions since this is seen to be "faster" and "more efficient." The act phase will take longer even if the plan phase is quicker because suppliers will find it difficult to freely exchange ideas while the competition is present in the same space [3], [4].

The lean concept favors quick decisions and swift action. Subsequent surveys continue to show that transportation and storage were the most often outsourced logistics services to 3PL providers. However, a growing number of additional services, including as order fulfillment and distribution, freight forwarding, cross-docking/shipment consolidation, customs clearance and brokerage, are being outsourced. The majority of studies concur that the third-party

logistics (3PL) sector is still expanding, with important areas of concentration for third-party providers being customer relationship development, information technology integration, geographical growth, and the creation of new services [5], [6].

The Capgemini Consulting report from 2012 on the 3PL industry indicated that shippers outsource a broad range of services, but that the most crucial ones are unsurprisingly warehousing and transportation (both domestic and international). Rather of strategic initiatives, transactional, operational, and repetitive tasks are typically outsourced. The components that are reported on less often include order management, fulfillment, IT services, and customer support. Installing a capable team with adequate negotiating abilities and carrier and transportation industry understanding is the first step in any sourcing or tender activity. The number and size of the major companies, as well as their sizes, specializations, quality levels, selling tactics, rate components, and contacts, are examples of this kind of market intelligence and benchmark data.

In order to provide the carriers a clear understanding of what is expected of them, the team also requires information and statistics on the cargo's qualities, such as fragility, packing, and stackability. The group compiles needs related to people, processes, customers, and business. Merely fulfilling the demands of the client is insufficient since the suggested carrier solutions must be feasible for a firm. Choosing an inexpensive solution that will take a long time to implement is equally pointless. EDI connection, daily performance reporting, selfbilling, a single point of contact, drop trailer availability, pallet exchange, returns and tracking, and tracing capabilities are examples of typical process needs. In order to promote competition and get a sufficient number of quotes, tenders are extensively publicized [7], [8].

Selecting the best carriers at affordable prices who can fulfill the criteria is the ultimate aim. In response to the request to tender, carriers provide answers outlining the terms and conditions, price, and quote. They highlight their cost-effectiveness, competitive advantages, experience, qualifications, and competences, along with the reasons they believe they should be awarded the contract. A point of notice is that tendered lanes are allocated to the best carrier. It is considered improper to "abuse" invitations to tender for the sole purpose of obtaining market intelligence. They do support these requests, but it's important to clarify that a benchmarking process calls for a different strategy than a tender. Carriers put time and effort into a tender process, wanting to ensure that there is a chance for success. It is annoying to learn that there was no actual tender; this causes carriers to distrust the shipper, refuse invitations to tender, and provide only conventional solutions [9], [10]. The evaluation of the tender submissions must be impartial and truthful. The carriers have to provide competitive prices in addition to completing a quality evaluation form. Following that, audits are conducted at their physical locations with the same questionnaire since carriers often get greater scores than shippers. To determine which carrier long list would satisfy the criteria and be invited for the Request for Information (RFI) phase, a market study is conducted. The method for obtaining written data on carrier capabilities is an RFI.

Such an evaluation form predicated on the goals of the sourcing process. The technical capabilities and support, pipeline visibility, real-time monitoring and tracking, customer service, service regions, transit times and dependability, urgent delivery services, damages, and claims are all included in a typical inquiry. Account structure and management, sourcing and contracting, control tower (CT), customs procedures, EDI and web connectivity, carrier management, carrier selection, proactive exception notification and management, cost, shipment creation, milestone tracking, and transport mode selection are additional topics. Additional ones include business analytics, billing accuracy and financial soundness, digitalization, organization, globalization, performance indicators, reporting, shipment

visibility and proactive monitoring, subcontractor management, shipment consolidation and transport network optimization, shipping instructions and documents, and more. It is conceivable that some of the carriers are removed from the long list based on the RFI input because they are unable to satisfy certain necessary standards, often known as "knockout criteria," or because the sourcing team does not believe they can meet them. The Request for Proposal (RFP) stage is reached by the carriers on the short list. An RFP is a request for bids from the carriers outlining how they would fulfill the specifications. Their financial offer does not have to be included just yet. Certain carriers could not make it to the short list if their bids don't fit the parameters. It is explained to carriers who did not advance beyond the RFP or RFI stage as to why they were not chosen for further stages.

After grading the possible carriers based on the sourcing goals, it sometimes turns out that the carriers did not provide the needed information because they did not comprehend the questions or the shipper did not interpret the information correctly. In these cases, their procedures are audited. This is to stop carriers from portraying their business in a too favorable light. Verifying the stated capabilities is still the shipper's obligation. Another option is to carry out a trial program to verify if the carrier can, in fact, deliver on the promises made during the tendering process. Once the pilot and audit have been completed, It is up to the individual to choose the scoring system, weight factors, and decision criteria. The data will reveal what the carriers are capable of delivering and if the sourcing goals can be achieved. Possible gaps are found and examined to see whether and when they may be filled. It is preferable to have short-term closure gaps. It is a good idea to rate the carriers and provide a weight factor to the gaps, since some gaps are more significant than others.

DISCUSSION

The information needed to draw conclusions and make suggestions will be provided by the weighted scoring system for the audit, pilot, and strategic considerations. It's time to start working on a communication strategy and notify all parties involved after approval. Next, discuss the lessons gained by outlining what worked and what may have been improved. Review the procedure and outcomes with the carriers who did not win as you sit down together. Get the prior year's historical shipping statistics. To provide the carriers accurate information that they may use to quote, modify this data as needed using forecast data. Avoid comparing the computed prices with the actual expenditures since the latter may include expenses for special services, taxi fare, waiting times, and late payments.

Rather, use the rates to compute the as-is and the to-be expenses. To avoid wasting too much time comparing quotes with one another carriers often submit quotations in their own unique ways—invite them to quote for the first round and ask them to follow the shared standard forms. This strategy ought to aid in avoiding inaccurate or delayed answers that might compromise the tender's viability. Using tender tools designed for the transportation industry is advised. The intricacy of transportation cannot be handled by the conventional buying instruments. Rate structures vary greatly depending on the form of transportation, the region, accessories, surcharges, currency conversions, rounding regulations, kinds of equipment, pallets, weights, dimensions, and break-even point computations. To properly compare carrier offers, these business principles must be comprehended and processed. Arrange in-person sessions for negotiations. Create carrier profiles that include information on turnover, service offerings, USPs, TCO, and SWOT analysis. Collect data on market prices and benchmarks, negotiating goals, and backup options, such moving to a different carrier, in case of threat or failure to reach a deal.

Establish strategies based on supplier objections and the least favorable point at which the contract will not be approved; consider possible new business to offer; allow for discussion; and refrain from making an offer that is either accepted or rejected right away. Continue to communicate with the carriers and strive for a win-win outcome to keep their high degree of cooperation. Accept carrier allocation and volume. Employ dual sourcing, in which one carrier takes the lead and the other acts as a backup. It can be the opposite on another lane. In addition to being a useful risk reduction strategy, this idea keeps rivals on their toes since the backup may take over from the main carrier in an emergency. Carriers attempt to compel single sourcing by lowering prices, but it's critical to weigh the advantages and disadvantages and determine if single sourcing is really worth the risks. You may request quotes from carriers for the whole allocation or only a portion of the volume. Share the volume and carrier allocation with the project team, steering committee, shipping and receiving sites, carriers who won and lost the tender, and other relevant parties. Provide the beginning and ending dates of the rate validity and volume allocation as well.

Put the revised carrier and volume allocations into effect. Providing the proper weights and dimensions of the packages and/or pallets is crucial in order to provide trustworthy and accurate quotes. It is advised to go on a gemba walk with the carrier to go over the products and evaluate stackability, as well as products above and/or below those of other customers, hazardousness, fragility, and packing material, as well as the risk of losing small items or having damage from goods hanging over pallet boundaries and pallet configuration. It is crucial to provide the precise ship-from and ship-to addresses, together with the street name, number, zip code, city, and type of property (residential or commercial), in order to determine if extra equipment and thus, extra expenses like a tail lift and in-room delivery are required. The quote will be more accurate the more details there are. The carrier will include safety margins to cover this risk in the event of inadequate information, which translates into higher costs. Negotiation is a key component in sourcing and tendering. Prior to initiating a negotiation, the carriers must be made aware of the purpose, goals, schedule, and methodology. There are many different motivations to negotiate. As an example, let's say the carriers made a really good offer, but the market conditions changed or the goal was not yet reached. The shift may provide a chance or a danger. The growing market for transportation may be an opportunity, but the declining market capacity may pose a danger.

Additional factors may include reduced profitability, fluctuating labor and inflation rates, volume growth, supply restrictions brought on by bankruptcies, shifting raw material and energy prices, increased unemployment, or decreased lending rates. Reductions in rates, improved financial terms and conditions, rationalization of the supply base, and risk mitigation are possible goals. These goals may be accomplished by deciding on the following strategies: Compile data, including market circumstances and benchmarks, and concentrate on the carriers that have the highest spending. Examine the carriers' perspective of the shipper, establish aggressive goals, and capitalize on the proper momentum tendering during a low season will result in more savings than tendering during a strong season. Establish a competent and multidisciplinary negotiating team to work on a negotiation handbook, determine roles and duties, and choose an allocation approach (e.g., take it or leave it, lowest cost). Don't accept things the way they are and suggest innovative approaches. Carriers should do SWOT analysis to determine their strengths and weaknesses as well as the external factors that provide opportunities and threats.

Order intake and market development (steady, dropping, growing), marketing expenditures, insourcing to prevent layoffs or outsourcing for additional capacity to meet the increased production objectives, unemployment statistics, and layoffs as a result of restructuring are

examples of opportunities or risks. Other instances include shifts in the volume trend towards developing markets, fluctuations in the prices of energy and raw materials, travel restrictions, evolving legal frameworks, cargo capacity, specific carrier capabilities, product supply locations, and supply distances. The tender is won by the best offer that satisfies all specifications and offers the greatest value for the money. Creating and signing a Service Level Agreement (SLA) and a Letter of Intention (LOI) completes this procedure. It is advised that the legal department of the business be involved in the agreement and signing of these agreements. An impending agreement between two parties' binding and non-binding terms and conditions is captured in a letter of intent (LOI). It includes things like a Non-Disclosure Agreement (NDA), who will draft the contract, and when to sign it. In an NDA, the parties specify which information must remain private and which may be disclosed to third parties.

Many shippers handle tenders manually by using Word and Excel templates. This may be enough for straightforward and modest bids, but as the tenders become larger in terms of the number of lanes, shipping and receiving locations, flow kinds and invited carriers, types of transportation equipment, customs, and packaging requirements, the complexity and time required rise. Because of this intricacy and the volume of labor involved, there is a greater chance of an inaccurate tender conclusion and uncontrolled processes and consequences. The transportation sector has access to tender software, just as many other businesses do. By using such a system to share tender information, the shipper saves time and money by minimizing the amount of queries and other correspondence from and to stakeholders. Analyses are made simpler when standard reports from the tender tool are used. As a result of treating the tender more seriously and making every effort to provide a competitive proposal, carriers are able to comprehend and analyze the information more quickly, which results in better bids. To support these procedures, there are specialist businesses and e-procurement solutions on the market, such as TenderEasy's tendering software and Easibuy's e-auction software. The electronic purchase of services over the Internet, EDI, or ERP systems is known as e-procurement. In an electronic auction, vendors compete with one another for a contract.

It pushes rivals to provide their best deals. It's time to draft an implementation strategy after a carrier has been selected to handle the company. The first step in this process is creating a scoping document that outlines the project's parameters, each team member's duties and responsibilities, and the methodology for approving and assessing the deliverables. It outlines the objectives, deliverables, tasks, expenses, deadlines, protocols for handling change requests, and planning. To ensure that everyone on the team is aware of what is expected of them at all times and to hold them responsible for their progress, creating, updating, distributing, storing, and maintaining an action list is a common component of project management.

To ensure everything is ready for a smooth go-live, it is advised to employ an implementation checklist. It's crucial to keep in mind that every modification is evaluated before being put into effect. A Standard Operating Procedure (SOP) is a crucial component of the implementation strategy. SOPs are easy-to-read work instructions that condense contractual agreements into written instructions with sufficient depth to accomplish the necessary performance for each specific procedure. A SOP may function as a training program for both new and current staff members, and it must be updated often in order for the staff to respect the established methods of operation and take it seriously.

Users of third-party service providers voiced considerable worry, stating that they were not receiving the desired levels of business advantages and support. Concerns were voiced about the failure to maintain the agreed-upon service levels, the expenses exceeding the budgeted amount without any indication of a discernible annual cost decrease, and the inadequate caliber, dedication, and proficiency of the personnel employed to oversee their operations. Nonetheless,

a considerable improvement has been seen by the Capgemini research from 2012. According to the report, "the majority of 3PL providers (94%) and user respondents (88%) view their relationships as successful." Furthermore, more than two thirds of consumers said that 3PLs offered them fresh and creative approaches to boost the efficiency of their operations. The connection between the user and the supplier seems to be stronger, more fruitful, and successful overall. A lot of topics are brought up and spoken about in an effort to identify the most significant problems that supply chain and logistics experts need to solve.

The structure, organization, and functioning of logistics have seen tremendous changes in the last several years, most notably in how logistics is understood in relation to the larger supply chain. The notion of compressing time within the supply chain (Chapter 14), the integration of organizational structures, the globalization of industry (both in terms of worldwide markets and global brands), and the rise in customer service demands (Chapter 3) are some examples of the major changes that have occurred. Some important advances are summarized here, although these and other important developments are covered in more depth elsewhere in this book. Problems may originate from developments inside logistics, such as enhanced handling or information technology, or they may be external to logistics, such as deregulatory measures. It is important to note that, apart from outside factors and technological advancements, many changes in logistics are primarily conceptual in nature, including the adoption of new or alternative perspectives on many areas of supply chain management and logistics. In particular, a large number of individuals. Flowcharts have long been a popular tool for analyzing operations in logistics and distribution. Some of these "new" ideas and methods are succeeding in reinforcing certain principles and rekindling the desire for ongoing evaluation and modification. Given the dynamic and ever-evolving nature of the logistics industry, this development is perhaps not all that negative. The fact that many of these notions are not applicable to various activities and organizations is another pertinent aspect. This is often because of their market or size; small, domestically focused businesses, for instance, are typically unaffected by supply chain agility or globalization. However, these are crucial concerns that need to be answered for big, international corporations.

Cost and customer service have always been the main drivers of logistics, and the most prosperous logistics companies can show that they can successfully balance the two. Although there are other issues that are also seen as significant problems, these two elements continue to be of utmost significance. Cost and service concerns ranked as two of the top three hurdles in a recent assessment of the main obstacles influencing the supply chain agenda. Along with supply chain visibility, inventory management, and economic and financial volatility the latter a reflection of our times demand fluctuation was also deemed to be very significant.

It's possible that once the carriers have been given the business, they will want assistance in order to execute at an elite level. The shipper collaborates with the carriers to enhance their performance and expand their capabilities throughout this supplier development process. Being partners and maintaining strong relationship management are essential for a successful supplier development strategy, which aims to add value to every step of the process—from raw materials procurement to customer delivery. Carriers should be seen as the shipper's extension as they have similar objectives.

Create enduring connections and stop temporary price cuts that would cause the carrier's profitability to decline. Two thirds of the advantages go to the shipper and one third to the carrier. Reduce the number of carriers and concentrate on cutting costs. Form cross-functional teams inside the organizations and work together to eradicate waste, believing that the rewards would be mutual. Following the carriers' implementation, begin monitoring the predetermined KPIs in accordance with their definitions and contrast the actual and goal performances.

Consider the following while analyzing the KPIs: what is the real performance? Is the trend increasing, decreasing, or stable? Does it meet the standard? It is necessary to meet with the carrier and discuss performance improvement measures they need to take in order to achieve the standard if the standard is not fulfilled in conjunction with a steady or deteriorating performance. The first step in this improvement approach is to define and measure the problems. In order to implement either short-term or long-term solutions, it is crucial to identify the underlying causes of these problems. Carriers are labeled and classified according to whether they should be removed from the carrier list, kept as the preferred carrier, or considered a possible carrier for future usage. Daily KPI installation, measurement, and evaluation are essential since accidental network redesigns and bids are insufficient to govern transportation networks. It takes disciplined everyday management to find and get rid of garbage. Establish goals, compare the actual state to the plan, identify the underlying reasons, and utilize the Lean problem-solving method to address issues. On a daily, weekly, and monthly basis, each carrier is expected to provide performance and exception reports in the predetermined manner. These reports are used to discuss performance and decide on preventative and/or corrective measures during carrier reviews. KPIs provide data on performance as it is, but they also provide suggestions for improving effectiveness and efficiency. Select the appropriate KPIs since there are a variety of metrics that may be significant but aren't always essential to the company's performance. Only the most important ones should be the focus of leadership, which should also fully comprehend them and identify the underlying causes. It is essential to pinpoint areas in need of development and establish ambitious goals, both of which may be obtained from benchmark data of similar businesses. Verify if the remedial measures really produced the desired outcomes. If not, identify what went wrong, identify the underlying reasons, and create new steps for improvement. If necessary, repeat the PDCA cycle many times.

CONCLUSION

Supplier Relationship Management is presented in this study as a strategic need for businesses looking to maximize their supply chain efficiency. The abstract promotes continuous research, training, and cooperative efforts to improve and modify SRM methods in response to changing market dynamics. This will build strong and mutually profitable supplier relationships, which will ultimately support the success of the business as a whole.This study looks at how businesses use metrics, feedback loops, and key performance indicators (KPIs) to evaluate suppliers, pinpoint areas that need improvement, and increase supply chain efficiency as a whole. This abstract presents a method to supplier relationship management that is proactive and comprehensive, based on ideas from supply chain management, relationship management, and strategic sourcing. It highlights how crucial supply chain network strategy is for risk mitigation, cost optimization, and innovation promotion.

REFERENCES:

[1] P. C. Sosnowski, “The role of environmental cooperation and collaboration in supplier relationship management,” *Logforum*, 2019, doi: 10.17270/J.LOG.2019.345.

[2] K. Amoako-Gyampah, K. G. Boakye, E. Adaku, and S. Famiyeh, “Supplier relationship management and firm performance in developing economies: A moderated mediation analysis of flexibility capability and ownership structure,” *Int. J. Prod. Econ.*, 2019, doi: 10.1016/j.ijpe.2018.11.021.

[3] G. Lechner, “Supplier Relationship Management: Small, Non-Replaceable Suppliers and Close Customer-Supplier Relationships,” *Open J. Bus. Manag.*, 2019, doi: 10.4236/ojbm.2019.73099.

[4] M. Beatrice and P. Mulyungi, "Role of Supplier Relationship Management on Procurement Performance in Manufacturing Sector in Rwanda: A Case of Skol Breweries Rwanda Limited," *Int. J. Sci. Res.*, 2019.

[5] A. Shafiq, P. F. Johnson, and A. Awaysheh, "Emerging economy sourcing: Implications of supplier social practices for firm performance," *Int. J. Prod. Econ.*, 2019, doi: 10.1016/j.ijpe.2019.05.010.

[6] K. Picaud-Bello, T. Johnsen, R. Calvi, and M. Giannakis, "Exploring early purchasing involvement in discontinuous innovation: A dynamic capability perspective," *J. Purch. Supply Manag.*, 2019, doi: 10.1016/j.pursup.2019.100555.

[7] J. Rezaei and H. Fallah Lajimi, "Segmenting supplies and suppliers: bringing together the purchasing portfolio matrix and the supplier potential matrix," *Int. J. Logist. Res. Appl.*, 2019, doi: 10.1080/13675567.2018.1535649.

[8] C. Xiao, B. Petkova, E. Molleman, and T. van der Vaart, "Technology uncertainty in supply chains and supplier involvement: the role of resource dependence," *Supply Chain Manag.*, 2019, doi: 10.1108/SCM-10-2017-0334.

[9] S. Mbah, J. Obiezekwem, and A. Okuoyibo, "Inventory Management and Operational Performance of Manufacturing Firms in South-East Nigeria," *Int. Bus. Res.*, 2019, doi: 10.5539/ibr.v12n7p76.

[10] A. N. Rachman *et al.*, "Analysis of Material Project Purchasing Strategy Using Kraljic's Method," 2019. doi: 10.2991/icbmr-18.2019.37.

CHAPTER 9

EXPLORATION OF COMPLAINT AND CLAIM HANDLING IN TRANSPORT DISTRIBUTION

Hemal Thakker, Assistant Professor
Department of ISME, ATLAS SkillTech University, Mumbai, India
Email Id-hemal.thakker@atlasuniversity.edu.in

ABSTRACT:

The intricate procedures for managing complaints and claims in the transport distribution sector provide a thorough analysis of the methods and approaches used by businesses to deal with and settle problems that may arise during the movement of products. Maintaining customer happiness, guaranteeing regulatory compliance, and cultivating strong relationships within the supply chain all depend on the efficient handling of complaints and claims. The investigation's main goal is to define the essential components of processing complaints and claims, such as documentation, investigation, inquiry, and resolution. It looks at how businesses set up reliable systems for receiving, documenting, and evaluating grievances and claims, highlighting how crucial it is to communicate clearly and promptly at every stage of the process. The abstract emphasizes how important documentation is to developing a thorough grasp of the problems, assisting with investigations, and providing guidance for programs aimed at continual development. Understanding the dynamics of processing complaints and claims requires an awareness of important factors including customer involvement, regulatory compliance, and preventative actions. The inquiry looks at how businesses actively interact with consumers to resolve difficulties, follow legal requirements, and put preventative measures in place to lessen the likelihood that problems will return.

KEYWORDS:

Claim Handling, Complaint Handling, Customer Engagement, Logistics, Transport Distribution.

INTRODUCTION

Every company gets complaints from clients in a variety of ways. Damages and freight loss are inevitable in all modes of transportation. The danger of damage increases with the volume of freight handled. Neglecting to appropriately manage grievances may harm the organization's standing or perhaps lead to legal problems because of non-adherence. An effective way to learn about the capabilities of a process is via complaints. Registering, analyzing, and reporting them is a good idea since they may assist in providing solution guidance [1], [2]. A significant sum of money may also need to be recovered from one's own insurance company or insurance provider. Prior to lodging complaints, making claims, or creating waste, it is essential to understand the obligations of both the shipper and the carrier.

First and foremost, it's crucial to understand that the transportation document is the sole legally binding agreement between the shipper and the carrier. Additional agreements may be added, but the transportation document is the one that leads. The carriers' refusal to pay the entire cargo value must be made known. The shipment has to be insured since their liability is restricted. Shipment delays will result in commercial damage that the carrier will not cover. If the shipper failed to adequately pack the items, the carrier will not reimburse. Nor do carriers provide coverage for natural calamities [3], [4]. In the event that a natural disaster prevents the carrier from delivering the goods to the original destination, the carrier may elect to unload the

goods at a different location and ask the shipper to pick them up, covering any additional costs incurred by the customs authorities during their inspection. Purchase invoices and other shipping papers specify the value that carriers will pay. Maintaining customer satisfaction requires a well-thought-out complaint management procedure. It calls for consideration, prompt communication, and offering the individual who is complaining a remedy [5], [6]. A claim might result from an unresolved complaint. A letter from a client outlining the damage or loss they have found, stating why they believe the carrier should be held accountable, and requesting payment from the shipper is known as a claim. The request must be made within the time frames given by national laws and regulations for that particular modality. Shipping claims, cargo claims, transportation claims, and loss and damage claims are other terms that are used in connection with freight claims.

When freight is picked up but not delivered to its intended location, it is considered a loss. A damage occurs when the items do not arrive in excellent shape, while a shortfall occurs when just a portion of the cargo is delivered. Because of their limited liability, insurance companies and/or carriers may not always be able to recover losses or damages, which results in a significant financial loss for the shipper. Insurance firms apply own risk and only cover the excess value of a missing or damaged cargo beyond their own risk limit. Due to protection from national and international laws and agreements like the Warsaw Convention, Hague-Visby regulations, and CMR requirements, carriers have limited liability [7], [8].

For instance, parcel carriers are only required to reimburse up to $100 for any missing or damaged packages. The products were not in excellent condition, the freight was short or damaged upon delivery, and the amount of loss or damage must all be declared by the recipient of the items. At the moment of delivery, it is the receiver's responsibility to count and check the products. It turns out that many things are recovered after getting a claim, thus some carriers need the receiver to send them a tracer request in order for them to begin searching and attempting to locate the missing goods before filing a claim. Standard forms are provided by carriers for filing a claim or a tracer. The sales value less any profit is the claim value.

If a disparity is discovered after delivery, it must be noted on the electronic device or transportation paperwork. If there is any abnormality, images must be taken and the carrier and shipper must be notified within the time constraints specified for that particular means of transportation in that nation. If damage is found after signing for receipt (for example, upon opening the parcels), an examination by the carrier should be requested right away. The shipping unit and all of its contents must be maintained by the recipient in the same state as when the anomaly was discovered. An inspector will be sent by the airline to resolve the dispute. Transportation bills must be paid whenever they are received; payments to carriers cannot be suspended due to a pending claim. The part of the loss or damage must be mentioned in the claim that is submitted. A strong procedure must be in place to handle freight claims from the outset, verifying their authenticity using the evidence that has been supplied in writing, submitting them to carriers and insurance providers, collecting their payments, and paying the consumers [9], [10].

Accountabilities and responsibilities must be made explicit and subject to frequent audits. The amount of money paid to customers, the amount of money collected from insurance companies and carriers, the amount of money that could not be recovered, and the reasons behind such losses are examples of typical KPIs. They also include the number of open and closed claims received by value stream or carrier. In order to ensure the carriers' long-term survival, laws restrict their liabilities and prevent them from going bankrupt due to high-value claims. The carrier's insurance coverage does not cover damages brought on by improper loading and packing. Additional freight insurance, which covers both the value of the products and the cost

of shipment, may be arranged by the shipper. To thrive in the face of intense competition, unstable sales, shifting energy and raw material prices, and transportation markets, an adaptable transportation network is essential.

Low prices, excellent service, and local customization characterize an optimal transportation network. The transportation network must be examined every day, every week, every month, every quarter, and every year. Although this role may be handled internally, consulting firms using IT technologies can simulate, optimize, and create "what if" scenarios for transportation networks. The quantity, locations, and sizes of warehouses must be considered since these factors have a significant impact on transportation expenses. An essential first step in assessing the distribution network as a whole is network research. In addition to identifying possibilities for cost and performance improvement, the goal is to establish the most efficient transportation infrastructure and commodities flows to satisfy the requirements. It involves carrying out an unbiased, analytical analysis of potential network topologies in order to bolster the transportation plan. In order to compare the costs and service performances of the choices, which are assessed using both qualitative and quantitative methods, the research makes use of historical and projected data. The research might begin in an existing setting or in a "green field," meaning that the limitations of the study as written do not apply. Factors like location, sites of supply and delivery, forms of transportation, important metrics, and seasonality are used to define the study's scope. A Statement of Work (SOW), a document outlining the specific criteria, tasks, deliverables, deadlines, costs, and other terms and conditions, is created at the beginning of a research.

DISCUSSION

Shippers use benchmarking to see how they perform in relation to comparable businesses. This enables them to assess their performance and devise strategies to enhance their competitiveness in key performance areas (KPIs) including sales, quality, service, and productivity. They don't have to start from scratch when identifying areas for development since they have examples from other businesses in their sector. Instead, they may learn from others' mistakes. One technique to examine a firm they aspire to is by using a best practice. Companies use peer benchmarking to find firms that are comparable to their own. Benchmarking is primarily used in lean times when businesses need to scrutinize every dollar spent inside the company. Determining the organization's performance in relation to competitors and best-in-class companies is helpful. Since performance goals are always changing, benchmarking should be included as a regular tool.

One possible hazard is that benchmarking is overlooked in favor of other important information, since it is part of the routine activities. Since every business is essentially the same as its rivals, pointing out shortcomings will encourage improvement. It's important to note up front that this is a benchmark study when contacting carriers for information. Sending out bids in order to get benchmarks is not a smart idea. Carriers get a lot of requests to tender; processing these requests takes a long time, and it is frustrating to learn later that there was nothing to win. Carriers are thus skilled at determining if an offer is genuine or just an effort to get market intelligence. Under such circumstances, carriers will not accept genuine invitations to offer, will not see the shipper as a serious partner, will charge normal rates, and will experience other unfavorable outcomes. On the other hand, shippers may determine if they are paying a fair rate by using an efficient and well-organized benchmarking procedure, and carriers can learn what prices the competition is providing in the market. Outsourcing is the process of moving a collection of duties, responsibilities, activities, and functions to a third-party service provider. A service provider may collaborate with the shipper to re-engineer processes and add new technology, information, and perspectives to the current function.

Shippers that outsource a portion of their business to a specialist organization might reap significant benefits. Companies free up funds and personnel to devote to their main line of business. Innovative technologies and best practices are used by specialized service providers to quickly scale up or down capacity, open up new markets, and diagnose and resolve problems. They collect information and examine it to get knowledge for advancements. The goal of outsourcing is to maximize the potential of the partnership by taking use of each partner's skills. They collaborate, share information about their workflows, and talk about how to improve in order to enhance each other's core skills and provide the client more value. The shipper has its own logistics management department handling all logistics-related tasks and has not contracted out any of its transportation, storage, or logistics services to a third party. Being an asset-based shipper has several benefits, including excellent control and the ability to quickly adjust priorities and more easily accommodate unique client needs. Possession of the items might also result in a more customer-focused mindset. Moreover, a reliable and well-designed transportation network may be less expensive than outsourcing. The shipper still uses its own logistics department to handle managerial tasks, but it has contracted out the day-to-day asset-based operational logistics operations to a third party.

The main goal of the shipper-service provider relationship is cost containment. By operating in this manner, resources may be better allocated to enhancing reports, performances, buying procedures, and other crucial transportation management operations. The shipper has contracted with a third-party service provider, who has the authority to employ other third parties for certain tasks, to handle not just the logistics but also other tasks like inventory management and customs clearance. These subcontractors are used on projects for which the service provider lacks the necessary resources. Serving as a go-between for the shipper and these subcontractors, the 3PL evaluates, assesses, and enhances their output. The shipper's logistics department continues to handle the logistics management tasks. Establishing a long-term cooperative cooperation is the main goal of the shipper-service provider relationship.

The shipper has hired a non-asset third party to handle the supply chain's operations, which include product procurement, production, distribution, and market distribution. These suppliers of lead logistics have expertise in supply chain management, logistics, and transportation. Regardless of the carriers utilized, including those that the carrier already owns, the third party maintains neutrality and oversees logistical operations. Preferable 4PL firms avoid conflicts of interest by not being asset-based. The goal of the shipper-service provider connection is to establish a long-term cooperative relationship that covers all supply chain-related themes and shares advantages and risks. A set of KPIs has to be decided upon, measured, published, evaluated, and utilized as the foundation for improvement initiatives in a partnership like this with a logistics supplier.

The CT, a central department, handles these tasks. It has the systems and procedures in place to gather transportation end-to-end data and visibility, allowing it to react and take appropriate action in a changing environment. To increase efficiency, they oversee and collaborate with the multi-tier partners. Service providers are asked to provide the CT access to shipping data. Shipment delays are also the responsibility of the CT, which has taken over carrier performance management. When the real lead-times for transportation are fulfilled, a cargo is made on time. The percentage of shipments that are delivered on schedule is calculated by dividing the total number of shipments by this performance. The carrier level is where this performance is measured initially, but it is advised to go a little farther to identify problems at the lane, modality, service, and pick-up levels. Don't let carriers justify themselves by pointing to their overall performance, which essentially hits the mark. A carrier may need to take corrective action if it is underperforming on any level—national, state, regional, city, customer, lane, or

any other. It is important to specify in the contract terms and conditions how performance will be monitored at what levels and what kind of root cause analysis and remedies are anticipated in order to avoid any pushback from the carriers. When a consumer is having delivery issues, they will not accept an explanation that the carriers' overall performance is better than expected.

The percentage of departure from the budget is used to calculate his KPI. Every financial year, a transportation budget is prepared based on past expenditures and upcoming activities. When the actual cost trend does not grow in the desired direction, a carrier is required to operate within this budget by regularly reviewing the cost development and outlining improvement steps to get back on track. Spend per carrier, mode, service quality, volume, and destination mix are useful metrics for gauging cost trends. From the perspective of transportation management, a perfect delivery is one that arrives on schedule, is complete, unharmed, and has the appropriate paperwork. Since transportation is simply one area where things might go wrong, the notion of faultless delivery is broader from the perspective of the client.

During the ordering and warehouse processing processes, errors that might affect customers include ordering the wrong quantity of items, failing to notice internal damage, and submitting the erroneous goods invoice. In an effort to avoid suboptimization and promote end-to-end supply chain improvement, the ideal delivery measurement was established. As a proportion of all orders, the number of orders that are delivered on schedule, in full, undamaged, and with all necessary paperwork is known as the perfect delivery KPI. The only way to preserve the culture of continual development and approach the ideal scenario as closely as possible is to aim for the optimal performance. Therefore, it is important to encourage the carrier to come up with improved ideas every day in order to take the next step towards this ideal scenario.

Although the quantity of improvement suggestions may be used to gauge this activity, it is preferable to quantify and assess only the savings that are actually achieved, performance enhancements, gains in customer satisfaction, and lead times that are shortened. Many businesses are hesitant to outsource because they think they can handle it internally. It may take years and a large sum of money to employ and train own people before they can contribute value to the firm, so outsourcing can be a viable alternative, especially when results are required quickly and there is no internal experience to make things happen. A corporation may have expedited access to advanced IT systems and specialized expertise, allowing the shipper to move quickly, by outsourcing the role to a partner. Because of this variable cost structure, an outsourced party provides a charge for its services only if the task is successfully completed within the predetermined time frame. This makes the shipper flexible. There are hazards associated with outsourcing. While the outsourced party wants to grow revenue, the shipper wants to save expenses. Compared to the outsourced party, the outsourcing party has more business experience. Lack of ownership over the items might result in a diminished feeling of urgency and a delayed response. Parties that are outsourced adhere to the predetermined scope, methodology, and work instructions, which may result in rigidity. Consultation with the outsourced party is common in non-standard scenarios. This may slow down and reduce the effectiveness of client service. Communication problems might arise from language issues.

Even while transportation serves a valuable purpose, traffic pollution affects the environment in ways that include air, water, light pollution at night, and noise pollution. Rising sea levels, an increase in global temperature, and other climate-related consequences are mostly caused by carbon dioxide (CO2). The quantity of CO2 released is measured in tons per kilometer, or ton/km, and varies according on the mode of transportation: road (0.1), sea (0.01), and parcel and express and air (0.5). Finding a balance between the positive and negative effects is necessary. The transportation industry is putting out effort to support green logistics by lowering vehicle kilometers driven, using eco-friendly modes of transportation, cleaner

engines, electric trucks (like the Tesla truck), and reduced fuel use as a result of more intelligent driving directives. Additional options include solar-powered equipment and buildings, wind energy that is sustainable, and natural gas, hydrogen, and diesel. Maintaining habitable communities and lowering the use of non-renewable resources and gas emissions need sustainable mobility. Road mobility in particular has an adverse effect on other natural life forms, air and noise quality, and global warming. Workers in the transportation industry are exposed to pollutants and accidents, which are harmful to their health.

Costs are rising as a result of delays and congestion, which is a classic illustration of a non-flowing process. A premium per driven kilometer might be implemented to make the real polluter pay; individuals could also decide to invest, avoid using the charged roads in order to save money, and support rail freight as an alternative to driving. Feedback about green logistics often implies greater expenses. On the other hand, less transportation equals lower costs when pollution is reduced. This makes businesses more competitive and enhances their reputation as ethical businesses. When financial institutions are thinking about making new investments, they become dependable partners. Less cars on the roads will relieve traffic congestion, less cars will be parked at their houses and docks, there will be fewer accidents, and people's quality of life will increase. Sustainability encompasses more than just environmental preservation and eco-friendly transportation. It also involves making the commitment to treat stakeholders fairly and to abide by all relevant rules and regulations. A corporation must avoid property damage and personal injuries in order to safeguard the health and safety of its personnel.

While workers have the major responsibility, it's crucial to establish and maintain a safe work environment by putting in place safeguards to reduce potentially dangerous circumstances and activities. Instructions on what to do in the event of an earthquake, fire, or injury are required. Another aspect of sustainability is the avoidance of child labor. It is prohibited to hire minors, collaborate with subcontractors that hire minors, or coerce anyone into working for the business. same treatment, same opportunity, and equal compensation for equal effort at equal levels are requirements for every business. It is forbidden to discriminate on the basis of gender, ethnicity, religion, or political beliefs.

Maintaining a service's quality level requires the use of a quality system approach. Having a clear policy handbook that outlines what must be done and why in order to comply with standards is the first necessity. The steps to execute and carry out the policy are then outlined, along with the creation of quality processes. Procedures that are easy to understand specify who does what, when, and where. Employees may offer possible changes by creating job instructions in the form of a photo, video, or drawing. This is done on a lower level via employee engagement. To provide for traceability, policies, processes, and work instructions must be documented using filled-out forms, stamps, signatures, and dates. Lack of quality may damage a shipper's reputation and hinder their ability to succeed in the market. Quality is the cornerstone of every service a shipper offers. Only a strong procedure can provide excellent results.

A Quality Management System (QMS), which records the policies, processes, procedures, work instructions, records, and responsibilities required for the planning and execution of transportation operations to fulfill customer requirements, may be used to capture transportation management processes. The success of the business as a whole and everyday client satisfaction depends heavily on quality. Consistency in the use of standard works is ensured by a thorough comprehension and methodical execution of QMS. , for which a shipper may get certification. It guarantees that all legal, regulatory, customer, and internal and external quality standards are satisfied and properly recorded. Information security, product and service security, and sustainability are more practical needs. A QMS aids in streamlining the shipper's

operations so that it may function as an effective and efficient entity. It lays forth the conditions under which a company must demonstrate that it is able to consistently provide services that satisfy all demands and satisfy customers. The processes involved in transportation are reported, examined, measured, tracked, updated, and archived. Employees are also trained to satisfy standards and adhere to processes using the QMS. The content of the QMS is examined, updated, and audited for performance and modifications. The objective is to consistently enhance the quality system in order to generate higher-quality. Obtaining current and trustworthy cargo data to examine past flows and make better decisions is a major problem for shippers. This information is dispersed across several sources, including emails, local files, chats, and talks in a variety of forms. To compile the data into a single source and format and prepare it for analysis, a significant amount of human labor is needed.

Automation, centralization, and digitization are required to improve such a scenario. Probably the hardest sector to digitalize and automate communication in is the transportation sector. This is the outcome of several unconnected parties needing to be kept informed, including the shipper, warehousing provider, carrier, customs, and recipient. They need to coordinate on IT services such as shipment data transmission, real-time tracking, tracing, labeling, milestone, and POD exchange even if they have their own systems and standards. This is most likely the reason why businesses continue to place orders manually, over the phone, via fax, and by email. Consumer needs and the transportation industry are dynamic and ever-changing; consumers often switch product providers in search of better deals and/or services. Systems of transportation need to be adaptable to these changes. This may be accomplished by investing in, setting up, and maintaining an internal TMS equipped with the analytical tools necessary for quicker and more informed decision-making.

CONCLUSION

A proactive and customer-centric strategy to resolving complaints and claims in transport distribution by drawing on concepts from supply chain management, customer relationship management, and logistics. It draws attention to how crucial these procedures are strategically to maintaining confidence, fulfilling service level commitments, and ultimately maximizing the effectiveness and dependability of transportation operations. According to this analysis, efficient complaint and claim processing is essential to running profitable transport distribution businesses. In order to maintain robust and customer-centric transport distribution methods, the abstract promotes further research, education, and cooperative efforts to improve and refine these processes, aligning them with market dynamics and consumer expectations.

REFERENCES:

[1] Y. S. Rizki and D. Yuliana, “Penelitian Kepuasan Pengguna Jasa Terhadap Pelayanan PT. Lion Air di Bandara Djalaluddin - Gorontalo,” *War. Penelit. Perhub.*, 2019, doi: 10.25104/warlit.v23i1.1049.

[2] S. Fujita, K. Okawara, D. Wang, and J. Hoshino, “Complaint handling training VR system using customer agent,” in *ACM International Conference Proceeding Series*, 2019. doi: 10.1145/3375923.3375951.

[3] S. H. Lee, D. Levin, P. D. Finley, and C. M. Heilig, “Chief complaint classification with recurrent neural networks,” *J. Biomed. Inform.*, 2019, doi: 10.1016/j.jbi.2019.103158.

[4] A. F. Setyani, B. Widjanarko, and F. Agushybana, “Management Of Hospital Customer Complaint With E-Complaint,” *J. Medicoeticolegal dan Manaj. Rumah Sakit*, 2019, doi: 10.18196/jmmr.8298.

[5] M. J. Spittal, M. M. Bismark, and D. M. Studdert, "Identification of practitioners at high risk of complaints to health profession regulators," *BMC Health Serv. Res.*, 2019, doi: 10.1186/s12913-019-4214-y.

[6] A. Råberus, I. K. Holmström, K. Galvin, and A. J. Sundler, "The nature of patient complaints: a resource for healthcare improvements," *Int. J. Qual. Heal. Care*, 2019, doi: 10.1093/intqhc/mzy215.

[7] C. Maruta and I. P. Martins, "May subjective language complaints predict future language decline in community-dwelling subjects?," *Front. Psychol.*, 2019, doi: 10.3389/fpsyg.2019.01974.

[8] N. F. Abdul Rahim, E. R. Ahmed, M. N. Sarkawi, A. R. Jaaffar, and J. Shamsuddin, "Operational risk management and customer complaints: The role of product complexity as a moderator," *Benchmarking*, 2019, doi: 10.1108/BIJ-04-2018-0089.

[9] S. Park *et al.*, "Interactions between subjective memory complaint and objective cognitive deficit on memory performances," *BMC Geriatr.*, 2019, doi: 10.1186/s12877-019-1322-9.

[10] S. Ballespí *et al.*, "To know or not to know? Mentalization as protection from somatic complaints," *PLoS One*, 2019, doi: 10.1371/journal.pone.0215308.

CHAPTER 10

ANALYSIS AND DETERMINATION EXTERNAL ENVIRONMENT IN LOGISTICS MANAGEMENT

Anand Kopare, Associate Professor
Department of ISME, ATLAS SkillTech University, Mumbai, India
Email Id-anand.kopare@atlasuniversity.edu.in

ABSTRACT:

The critical evaluation and identification of the external environment in logistics management, offering a thorough exploration of the variables and dynamics that companies need to take into account and control in order to maximize their logistical operations. The efficacy and efficiency of logistics management are greatly impacted by the external environment, which is formed by global trends, legal frameworks, economic situations, and technology breakthroughs. The inquiry aims to distinguish important components of the examination of the external environment, such as technical disruptions, geopolitical issues, market trends, and regulatory changes. It looks at how businesses evaluate and analyze these outside influences in a methodical way in order to make choices that support their logistical plans. The abstract emphasizes how crucial it is to keep an eye on things ahead of time and adjust as necessary to changes in the outside world in order to keep logistics operations flexible and responsive.

KEYWORDS:

Logistics Management, Regulatory Changes, Risk Management, Stakeholder Collaboration, Sustainability.

INTRODUCTION

The external environment, which encompasses supply chain management and logistics, is taken into account initially. One significant factor that has grown in importance recently is the formation of many distinct economic unions, such as the EU, ASEAN, NAFTA, etc. Experience has shown that there have been substantial economic changes, the most of which have been positive. In some cases, the original motivation for the creation of such a union may have been political. The primary functions of a TMS are supported by these sub-processes: FPA, paperless invoicing, self-billing, cost computation, a single source of data, automatic shipment scheduling via an EDI or a web portal interface, and standard reporting [1], [2]. Additional features include the exchange of electronic documents, shipment status updates, EDI, and online interface with e-logistics portals.

An effective planning process aims to maximize the use of the available trucks and minimize the number of kilometers driven by accounting for carrier rates, the quantity and size of trucks, loading and unloading window timings, shipment sizes, origins and destinations, driver working hours, transshipment point opening times, and traffic congestion. Planning enables businesses to transport items in an economical, dependable, and efficient manner. Carriers, service levels, and modalities that are offered. It provides tools for selecting carriers, tendering cargoes, and making labels and bills of lading. Document production, transit time estimation, carrier and mode selection, cargo consolidation, forward and backward scheduling, and bidding are typical planning components. Following planning, the suggested carrier is chosen and the package is scheduled for shipping. Then, with the use of visibility and real-time shipping status technologies, it is proactively tracked [3], [4].

Proactive exception management, milestone exchange, shipment scheduling and monitoring, tracking, and tracing are typical components of execution. Post-shipment analysis is carried out in order to assess the choices taken and maximize future workflow. Post-shipment studies often include cost analysis, network optimization, KPI reporting, and root cause analysis. One may mimic how cost-cutting affects customer service and vice versa. Many shippers succeed in putting the shipping and cost visibility modules into practice, but many have trouble moving forward with what is perhaps the most significant and most challenging to install added value of the tool: dynamic selection of carriers Only when a suitable management procedure is in place to maintain current master data can TMS function [5], [6]. Key information for a smooth process from order reception to billing is the production and management of data for the shipper, recipient, carrier, and decision-making criteria. Maintaining material master records pertaining to hazardous material, weights, pallet sizes, and package dimensions is crucial, in addition to financial data like rates.

Delivery addresses, slot times, phone numbers, ramp accessibility, operating hours, and appointment-taking procedures are a few examples of receiver master data. Determining a shipment's precise characteristics is the primary goal of transportation master data, which helps determine the best mode of transportation. Operational problems such as inadequate loading space, incorrect equipment, extended lead times, and incorrect address deliveries are caused by incorrect master data. The shipment volume, weight, and size are calculated using transportation master data, which includes the right weights, dimensions, packaging styles, and quantity of items. This information is then utilized to designate the appropriate service level, modality, equipment type, and carrier [7], [8]. A correct transportation order from the shipper is necessary for a flawless delivery. To guarantee a flawless execution, the order is examined at this step for availability and data quality. The timely interchange of EDI, goods invoices, customs documents, and AWB numbers might be considered an availability aspect. Correct and comprehensive data formats, ship-from and ship-to addresses, weights, and dimensions are examples of quality factors. Suppliers, consumers, and warehouses are among the pertinent stakeholders from whom missing data is gathered. EDI is the recommended method of communication, however online or manual inputs may also be used. In order to track down the shipments, a recipient often has to include their own references, such handling, batch, PO, and order numbers.

This has caused many businesses in the logistics industry to reevaluate their whole strategy and adopt a new cross-border/international structure in place of their previous national strategy. Numerous instances exist of businesses that have maintained or enhanced customer service while drastically lowering the number of distribution centers (DCs), as well as the inventory and storage expenses that go along with them. Emerging markets have an influence on supply chain strategy as well. India, Brazil, Russia, and the Far East are perhaps the most significant, especially with regard to China's opening up and the startling rise in both the production and demand for a wide range of goods. The movement of components and completed items out of India and the Far East, as well as the movement of raw materials and finished goods into these regions, have clear consequences for logistics. Due to the intricacy of the flows, the challenge of establishing internal operations in these areas, and the risk of investing in structures and organizations that might not see the initial predicted growth in supply and demand, outsourcing these operations is a good option for many businesses [9], [10].

Eastern Europe is also significant. From the standpoint of Western Europe, the sources and markets in this instance are not affected by the issue of distance, which is linked to time restrictions and supply chain complexity. However, due of the inadequate transportation infrastructure and the issue of initially low levels of supply and demand, there are still some

serious problems with logistics. Outsourcing these activities is a logical and alluring choice for manufacturers and retailers who, once again, have excellent reasons to avoid the high risk and high expense of setting up in-house operations. An other component that has been particularly noticeable in Europe is the growing significance of environmental or "green" problems. This has happened as a consequence of growing public knowledge of environmental concerns, pressure group activity, and finally governments realizing the necessity to start implementing global environmental regulations.

Documents that are missing or erroneous are located, updated, and re-distributed. These papers may be created, digitized, shared, and stored online with the use of a TMS. All parties involved in the supply chain with system access may view the records. TMS is used to design and update the forward and backward planning criteria, including the desired delivery date. This procedure produces well-defined activities that must be completed in the appropriate sequence, on the appropriate day, and at the appropriate time. In addition to the single order planning, a longer-term capacity plan must be made in case of unforeseen circumstances like seasonality and vacations. The carriers reserve the appropriate amount of transportation capacity based on past performance, client projections, market trends, and other scheduled events. If more than one order is placed for the same recipient on the same day, consolidating orders may be a more economical option. There are fewer transportation movements, handling, and paperwork invoices as a result of this method of operation. Either a WMS or a TMS may do such an order combination.

DISCUSSION

Physical consolidation refers to the process of physically packing items together and having the carrier bill them as a single cargo. The products are not packaged together, yet the carrier bills them as a single cargo in the case of virtual consolidation. This saves the shipper money on transportation expenses without requiring them to do extra labor to physically combine the parcels into a single cargo. It's fascinating to see how different businesses have addressed the need for greener logistics efforts on a practical basis. Enhancing energy efficiency, rerouting vehicles to shorten trip distances, and procuring goods locally or sustainably were the most effective. Every endeavor is evaluated as either very or somewhat effective. One very obvious external consequence for the majority of cities worldwide is traffic congestion. Severe traffic congestion may have a detrimental impact on some of the fundamental ideas in logistics, especially the notions of just-in-time (JIT) and quick-response systems. A contributing factor to this issue is that most projections indicate a notable rise in the number of vehicles at a period when most nations aside from China and India have relatively few programs in place to develop new roads. Road tolls, truck bans, access limitations, time limits, and use taxes are some of the strategies used by many Western nations to attempt to minimize traffic. These strategies all have an effect on the performance and costs of logistics. There isn't a widely acknowledged fix. Businesses use tactics including after-hours deliveries, stockless depots, and moving DCs closer to delivery locations in an effort to mitigate the issue.

Another major issue that has an influence on logistics is the limited availability of appropriate management and labor. This issue has been exacerbated by recent, fast changes and improvements in logistics thinking and logistics information technology. For managers working in today's supply-chain-oriented networks, it is crucial to have both a strategic perspective on logistics and a suitable comprehension of its interconnected nature. Because they have spent many years working in domestic rather than international supply chains, in functional silos rather than cross-functional teams, and with an operational rather than planning context as their primary focus, many managers lack the necessary experience or knowledge to offer this perspective. Managers from both internal and external operations should be aware of

this. When you consider the speed at which technology is developing, it makes sense that there are so few managers with the necessary depth of expertise. The caliber of labor available to work in the various logistics and distribution roles also reflects this issue. The technologies and technology used in operational logistics, in particular, have modified the skill requirements, requiring much higher skill levels for some logistics positions. Additionally, there is a labor shortage in certain regions and for some specialized positions in logistics, including transport drivers.

Numerous unforeseen and unanticipated events, including terrorism, natural disasters, business bankruptcies, and labor conflicts, have occurred in recent years. These occurrences have, among other things, severely disrupted supply chain and logistics operations. These incidents have brought to light the weaknesses in many supply networks and shown the danger that many logistics and supply chain operations face, which has not received enough attention. These occurrences often have no direct bearing on the activities of the supply chain that are impacted. In the UK, an increase in gas prices for drivers caused fuel depots to become blocked, which resulted in a shortage of diesel for delivery trucks. This, in turn, caused a general shortage of food as food could not be delivered to shops and supermarkets, some companies switched to a single supplier for the supply of a crucial component, only to encounter serious problems with the supplier, causing production at the companies' plants to be disrupted or stopped. The supplier's bankruptcy or a factory failure brought on by a natural catastrophe or fire were the causes of the supply outage. Western companies have recognized the benefits of shifting their production to more cost-effective locations due to reduced transportation costs and quicker communications. Over the last fifteen years, manufacturers have been migrating from the developed world to Asia, South America, and Eastern Europe. This has often led to the establishment of manufacturing facilities in these regions in order to capitalize on the low-cost labor in emerging nations.

Technology companies spearheaded the shift at first, with automakers and OEMs (original equipment manufacturers) following shortly after. These companies saw a lot of potential in the low-cost Asian nations. Because they are producing lower-quality items, consumer goods firms have now evaluated their own supply chain and production strategy. A few of them have also relocated to low-cost nations, although closer to their market. Manufacturers in Western Europe have seen Eastern Europe as a place to cut costs with little effects on supply chain delivery times, while North American businesses have chosen Central America as their destination. Fashion and clothing producers have also seen opportunities and expanded into nations including China, India, Vietnam, Mauritius, Turkey, Hungary, and Romania.

The shift in manufacturing has resulted in more intricate and protracted supply chains, necessitating increased transportation to reach global markets and considerable coordination and administration for both incoming raw materials and outgoing final products. All inventory, including incoming materials, stock of raw materials, work-in-progress, completed items, commodities in transit, service parts, and returns, must be managed and visible by multinational manufacturers. They must, however, also be able to weigh the trade-off between savings at the destination and expenses at the origin. They must take into account every element of a product's landed cost, such as shipping, taxes, lead times for orders, and expenses associated with keeping inventory. It is obvious that all stakeholders involved in the global supply chain must work together completely on this. Logistics needs have also been impacted by increases in product qualities and variety. Typical examples include the shortened life cycles of products (mobile phones and personal computers have even shorter life cycles than computers), the extended product range that suppliers and customers expect, and the rise in demand for time-sensitive goods, particularly prepared and fresh foods.

The creation of a strategic structure and operation that enables quick reaction to erratic shifts in consumer demand is the idea behind the agile supply chain. The focus is on how businesses must collaborate across the supply chain to meet consumer demands and maintain flexibility in their production and distribution organizational structures. They will be able to react quickly to any modifications in the needs of their clients as a result. The idea is to establish a system and structure that may best meet the needs of the ultimate consumer while acknowledging the critical role that they play in the success of a product.

The distinction between agile supply chain and lean thinking is highlighted by two dictionary definitions: Lean: "having no extra weight or bulk"; agile: Another strategy to save logistics costs is factory gate pricing (FGP), which involves paying the incoming supplier's transportation charges when delivering goods to customers' production or distribution facilities. Many goods, especially industrial components and raw materials, have historically been sent directly to clients by suppliers using their own transportation or a third party that they have hired. This strategy hides the true cost of transportation since it is part of the product's price. In order to make the product price clear, certain items are now purchased "at the factory gate" (also known as "ex works" in import/export Incoterm language) without any transportation costs included. After that, the buyer has the option of asking the supplier to deliver the goods (with the delivery fee noted separately) or having him pick it up using either his own company's transportation or a controllable third-party resource.

Because the empty delivery trucks may be used for collections, FGP offers businesses the chance to optimize the usage of their own or their outsourced transport operations, thus lowering transport costs. Additionally, the buyer has much greater control over the timing and quantity of items acquired using this other method. This may assist them in preventing shortages of necessary goods and in making sure they don't acquire an excessive amount of inventory. Many businesses that have implemented extensive FGP policies have done so by hiring a 3PL to handle all product collections. One related trend is the "inbound to manufacturing" (I2M) phenomenon. This service helps manufacturers meet their clients' varying production needs by making sure that materials and components are obtained as efficiently as possible. Global manufacturers are trying to lower the total cost of their supply chain by controlling the incoming supply of components and raw materials better. This will help them use less inventory in their manufacturing process, cut operational expenses, and make better use of their expensive factory space. Supply chain management, or I2M, is the process of managing the incoming flow of materials from sites of collection at the facilities of component suppliers to the point of consumption in the manufacturing lines of manufacturers, which are often located in developing nations.

In order to offer this service, a vendor-managed inventory (VMI) program is often built. The bulk of the many advancements and modifications in logistics and distribution over the last few years are covered in the relevant chapters of this book. However, this section notes some of the more current ones. The rate of change is just as important as its magnitude since novel theories and conceptions may swiftly find widespread application. However, this pace may differ throughout companies based on how progressive or conservative they are. As a result, a thought or idea may be completely novel and maybe even alien to one organization while being routine procedure for another. This shift may be measured in a variety of ways. The degree and rate at which the significance of supply chain management, logistics, and distribution is being acknowledged has been one intriguing indicator. According to a recent worldwide study, more than half of the participating firms have a head of supply chain on their board. To facilitate flawless order processing, contracted lane agreements and master data are set up beforehand in TMS. There will be the emergence of new pathways and extraordinary heavyweight and/or

enormous goods, which will need careful handling to ensure a flawless delivery. Ask for quotes from carriers, then choose the best one. Decide on the times and dates for loading and unloading, add the new information to the amended order, and give it to the carrier. Notify the recipient and keep an eye on the delivery. Having real-time supply chain information is essential for risk management, raising service standards, and reducing inventory. Shippers can coordinate the supply chain when they have accurate and timely shipment status information. In situations when a supplier in the Far East anticipates a large cargo arriving sooner than anticipated, it could be a good idea to postpone the next purchase order in order to avoid building up excessive inventory levels in the pipeline.

Conversely, in order to avoid a stock-out scenario, it could be a smart idea to temporarily acquire a limited amount from a local provider when a shipment is anticipated to arrive later than anticipated. For this feature to work, all parties involved in the supply chain suppliers, warehouses, carriers' locations and varied modalities, customers must be EDI-linked to one another and able to exchange shipment status information, ideally in real-time. A company's ability to detect problems and inefficiencies in its transportation systems enables it to develop improvement strategies. Mid- to long-term visibility offers useful data on recent cost, service, and quality performances. This data may be utilized as an input to create transportation and/or logistics plans and policies. Being visible for a brief period of time is necessary for the proactive daily follow-up of individual shipments. Shippers are unable to be proactive in exchanging information because manual procedures that rely on sluggish, intricate, and error-prone phone, email, or paper-based processes prevent them from receiving it in a timely manner.

Since each supply chain partner has its own system, there is a lack of system integration between them, which results in the requirement for individuals to regularly monitor several systems for changes. Additional underlying factors, mostly at subcontractors, include the lack of real-time information sharing and digitalization the transition from analog to digital instruments. In these kinds of scenarios, it takes too long to go through the systems and data in order to identify the problematic shipments, which delays the process of controlling shipments by exception. The most current shipment status codes can be found in TMS, although this feature is mostly dependent on the carrier's capacity to transmit shipment information electronically. Larger transportation businesses often don't have an issue with this since they can share milestones electronically and have EDI capabilities, albeit there is still room for improvement in terms of data dependability. Access to TMS is governed by special user rights set-up. Smaller carriers are connected to a TMS by giving them fill-in forms via email, which are uploaded immediately once received back; however, correct and up-to-date data is a significant difficulty with this mode of working. Individuals may keep an eye on shipments and take preventative or remedial actions. The carrier has the ability to get a multitude of distinct cargo statuses and share them with the shipper and other relevant parties.

Dates and timings are used to indicate shipment statuses, but some carriers additionally take images of the cargo as it enters and exits a transshipment site. The resolution of disputes and grievances between the transshipment locations also makes use of this data. It is the transshipment point's obligation to cover any damage or loss once it accepts the shipment at inbound and no objections are raised. Since they don't always provide something new, the recipient isn't always interested in all of these status updates. The kind, quantity, and accessibility of milestones are determined by the Some people believe that 4PL is just 3PL with a few tweaks, however the two are really significantly different. Unlike a 3PL, which often looks to fill its asset capacity of distribution centers, cars, and freight, a 4PL is not asset-based. Historically, 3PLs have provided services for shipping, storage, and other logistics tasks while

operating vertically throughout the supply chain. In contrast, the 4PL employs 3PLs' services to provide clients end-to-end solutions while operating horizontally across the whole supply chain. The 4PL is often asset light, owning just IT systems and intellectual property. This enables the 4PL to manage the supply chain process regardless of the carriers, forwarders, or warehouses employed, remaining impartial in terms of asset allocation and utilization. As a result, the 4PL may adopt the shipper's viewpoint and use the best operators for the various logistical needs rather of having to think about utilizing its own assets. The 4PL prioritizes client satisfaction and retention by comprehending the complexity of the client's wants and offering comprehensive solutions built on reliable procedures that take care of the client's whole supply chain requirements.

It has been suggested that since 3PLs were unable to expand beyond their conventional roles of transportation and storage, 4PLs filled the void left by 3PLs. That's true 3PLs often concentrate on providing services like transportation, freight management, and storage, whereas 4PLs target the logistics or supply chain process since it affects the customer's whole enterprise. The fourth-party idea has only been adopted by a few new businesses and a few large international organizations so far. Given that most businesses recognize the growing significance of their supply chain to their own commercial success and want to retain control over this crucial sector, it seems that outsourcing supply chain strategy and operations in their entirety is still too much for them. Questions from all parties involved are addressed in this procedure. Questions about the shipment's status, promptness, and quality may be general or particular. Claims and complaints are tracked until they are settled or resolved. Changes to the processes that are requested are implemented internally, and consumers are informed as well. Decision-making may be aided by customer service by methodically examining complaints and claims to determine their underlying reasons.

CONCLUSION

This study presents the examination and assessment of the external environment as a critical strategic need for companies looking to achieve superior logistics management. In order to keep logistics operations flexible, effective, and in line with the ever-changing corporate environment, the abstract promotes continued study, instruction, and teamwork to improve external environment analysis techniques. This study looks at how businesses combine sustainable practices, control risks from outside influences, and cooperate with stakeholders to build logistics networks that are flexible and robust. This abstract promotes a comprehensive and innovative method of external environment analysis in logistics management by drawing on ideas from supply chain management, risk management, and strategic planning. It highlights how crucial it is from a strategic standpoint to comprehend outside impacts and adapt in order to improve supply chain resilience, maximize efficiency, and promote innovation.

REFERENCES:

[1] R. Muha, “An overview of the problematic issues in logistics cost management,” *Pomorstvo*, 2019, doi: 10.31217/p.33.1.11.

[2] A. Barczak, I. Dembińska, and Ł. Marzantowicz, “Analysis of the risk impact of implementing digital innovations for logistics management,” *Processes*, 2019, doi: 10.3390/pr7110815.

[3] F. R. Nilsson, “A complexity perspective on logistics management: Rethinking assumptions for the sustainability era,” *Int. J. Logist. Manag.*, 2019, doi: 10.1108/IJLM-06-2019-0168.

[4] S. K. Samal, "Logistics and supply chain management," *Int. J. Psychosoc. Rehabil.*, 2019, doi: 10.37200/IJPR/V23I6/PR190779.

[5] A. Anagnostopoulou, E. Spyrou, D. Mitrakos, and M. Boile, "An advanced solution for efficient logistics management at both company and network level," *Transp. Plan. Technol.*, 2019, doi: 10.1080/03081060.2019.1600240.

[6] X. Yan and J. Li, "Animal Intelligent Logistics Management Based on RFID Technology," *Rev. Cient. Ciencias Vet.*, 2019.

[7] N. Chaudhari, "Impact of Automation Technology on Logistics and Supply Chain Management," *Am. J. Theor. Appl. Bus.*, 2019, doi: 10.11648/j.ajtab.20190503.12.

[8] S. Li, J. Xu, and S. Cele, "Application of graph theory in transportation linkage in logistics management and its computer aided model design," *J. Intell. Fuzzy Syst.*, 2019, doi: 10.3233/JIFS-179134.

[9] A. Kumar and N. Sohani, "Study and analysis of finished good inventory & logistic management," *Int. J. Sci. Technol. Res.*, 2019.

[10] P. Yanovsky, V. Yanovska, S. Lytvynenko, L. Lytvynenko, and O. Vodchic, "Methodical foundations of cargo owners' transport services logistics management," *MATEC Web Conf.*, 2019, doi: 10.1051/matecconf/201929404014.

CHAPTER 11

INVESTIGATION OF HORIZONTAL COLLABORATION IN LOGISTICS

Cleston Jacob Dcosta, Assistant Professor
Department of ISME, ATLAS SkillTech University, Mumbai, India
Email Id-cleston.dcosta@atlasuniversity.edu.in

ABSTRACT:
The idea of horizontal cooperation in logistics, offering a thorough analysis of the tactics and methods businesses use to boost productivity, save expenses, and increase sustainability via cooperative efforts inside the logistics network. In order to accomplish common goals and reap advantages, horizontal collaboration entails working together with firms who are rivals or peers at the same supply chain level. The study aims to define important components of horizontal cooperation, such as resource sharing, cooperative planning, and information exchange. It looks at how companies proactively participate in joint projects to share warehouse space, improve transit routes, and jointly handle issues like traffic and environmental effect. The abstract emphasizes how crucial trust, openness, and objectives that are in line with one another are to effective horizontal cooperation in logistics.

KEYWORDS:

Collaboration, Logistics, Performance Measurement, Risk Mitigation, Technology Integration.

INTRODUCTION

According to the theory of "horizontal collaboration," rival businesses in the same sector pool their logistical operations as they are seen as commodities and don't serve as a platform for rivalry. By doing this, businesses stand to benefit from lower logistical expenses as well as perhaps higher service standards. Improved fuel and energy savings are further environmental advantages of pooled delivery services. Colgate-Palmolive, Henkel, Procter & Gamble, PepsiCo, HJ Heinz, GlaxoSmithKline, Sara Lee, and PepsiCo were among the first companies to embrace horizontal cooperation. Direct and semi-direct competitors have cooperated, and as possibilities have grown, some 3PLs have started to provide their customers with collaborative services. Kimberly-Clark and Unilever, two manufacturers, discovered that they shared more than 60% of their delivery addresses. By pooling their deliveries to retail locations, they were able to save a large amount of money and get better service.

They have since been able to work together to create a manufacturing concentrating center, which has increased their mutual advantages even further [1], [2]. Historically, businesses have been very hesitant to let the storage and distribution of their goods alongside those of their rivals out of concern for the possible loss of crucial competitive intelligence. Many 3PL customers will include a clause in their contracts stating that the 3PL is not allowed to handle logistics for any significant rivals. Now that the advantages of horizontal cooperation are being acknowledged, this mindset is beginning to shift. Finding the right partner (in terms of business culture and product, distribution and customer compatibility), building levels of trust and cooperation, adhering to regulatory requirements regarding competition, and protecting competitive information are some of the major challenges in moving forward with a collaboration project [3], [4]. A significant advancement in technology is the use of RFID (radio frequency identification) tagging. With the use of data readers, integrating software, and radio frequency tags, this technique allows for automated identification. A tag may be attached to specific items or unit loads. It consists of a microchip and antenna that can store and send

data. It may react to a signal or be active, sending out signals. RFID tagging is still more costly than bar coding, but the difference is narrowing quickly and there are a lot more prospects for RFID tagging. The reader receives the data. Large volumes of data may be stored on a tag, which also has read and write capabilities, can be read by proximity rather than line-of-sight, is completely automated and almost error-free, is more resilient, and can work in challenging conditions. The many real benefits that come from using them show how much potential there is for the technology in logistics. After-sale support may set a business apart from the competition and provide expansion prospects [5], [6].

The difficulties in running a pan-regional or worldwide service-parts supply chain, however, prevent many manufacturers from doing this. In order to provide the appropriate components or services to the right location at the right time for an acceptable price, suppliers often struggle with visibility and control. Rarely can traditional outbound logistics operations provide the necessary service standards or the crucial item return flow (reverse logistics is covered in Chapter 37). These days, many organizations, particularly those in the technology and electronics sectors, outsource these tasks to service providers that can provide an integrated closed loop supply chain that is precisely made to be a reverse material flow paired with a prompt outbound service. In order to complement the logistics offering, third-party suppliers have established expertise in this field that includes the creation of sophisticated IT and visibility systems [7], [8].

Lastly, a notable development in recent years within the distribution domain has been the emphasis on enhancing asset usage. This has been illustrated in a number of ways, including the development of shared-user contract distribution, the use of compartmentalized vehicles, the backloading of delivery vehicles, and the construction of composite distribution centers in the grocery distribution industry. These centers include facilities for ambient, fresh produce, chilled, and frozen storage in addition to handling capabilities for those various product characteristics.

In the UK, a single supermarket chain has consolidated all of its transportation functions into a single, centrally organized system. This covers deliveries and pickups from suppliers, major transportation from and to DCs, final delivery, and package returns. The system makes use of connected technologies, including as GPS, in-cab communication, and scheduling and routing software. The company has observed significant improvements in the utilization of tractors, trailers, and drivers, as well as a decreased impact from the problem areas of increased congestion, working time legislation, and driver shortages, despite the fact that it is a complex and time-consuming operation to plan and implement.

As a result, retail outlets' buffers and stock levels have been lowered or abolished in favor of a steady stream of merchandise entering the establishments. This calls for quicker, more accurate, and more accurate information as well as more responsive delivery methods. As a result, logistics operations need to operate with less protection but with more efficiency. A number of additional related difficulties have come to light as a result of the inventory decrease at retail shops leading to out-of-stock situations. These are categorized as "the last 50 meters" or "on-shelf availability." To put it simply, this is the capacity to deliver the intended product to the consumer at the appropriate time and location in a marketable state [9], [10]. This explanation explains the issue's impact; however, the problem might really arise from a variety of connected causes that are spread across the supply chain. The availability of a product often decreases as it passes through the supply chain. According to the Institute of Grocery Distribution, the percentage drops to 95% at retailers' distribution centers and around 90% when the goods is placed on the store's shelves. Shortages may result from poor in-store execution because of a lack of replenishment employees, a scarcity of shelf space, or poor stock

management at the store. It is predicted that a considerable amount of sales may be lost since most customers are likely to acquire the goods from another retailer, even if some will put off buying it or find a replacement. The two most crucial areas for supply improvement are measurement and management focus, out of the seven categories that have been identified. The other ones are to enhance ordering systems, inventory accuracy, merchandising, replenishment systems, and promotional management. These are the areas where cooperation between the various supply chain participants is necessary.

DISCUSSION

As a result, retail outlets' buffers and stock levels have been lowered or abolished in favor of a steady stream of merchandise entering the establishments. This calls for quicker, more accurate, and more accurate information as well as more responsive delivery methods. As a result, logistics operations need to operate with less protection but with more efficiency. A number of additional related difficulties have come to light as a result of the inventory decrease at retail shops leading to out-of-stock situations. These are categorized as "the last 50 meters" or "on-shelf availability." To put it simply, this is the capacity to deliver the intended product to the consumer at the appropriate time and location in a marketable state. This explanation explains the issue's impact; however, the problem might really arise from a variety of connected causes that are spread across the supply chain. The availability of a product often decreases as it passes through the supply chain. According to the Institute of Grocery Distribution, the percentage drops to 95% at retailers' distribution centers and around 90% when the goods is placed on the store's shelves.

Shortages may result from poor in-store execution because of a lack of replenishment employees, a scarcity of shelf space, or poor stock management at the store. It is predicted that a considerable amount of sales may be lost since most customers are likely to acquire the goods from another retailer, even if some will put off buying it or find a replacement. The two most crucial areas for supply improvement are measurement and management focus, out of the seven categories that have been identified. The other ones are to enhance ordering systems, inventory accuracy, merchandising, replenishment systems, and promotional management. These are the areas where cooperation between the various supply chain participants is necessary.

One recent illustration of the growing significance of customer service is the development of demand chain management (DCM), which is an alternative supply chain strategy. Here, the goal is to shift the focus from the provision of goods to the demand for goods, emphasizing the significance of the needs of the client above the wishes of the provider. In essence, this involves establishing a direct connection between logistics and marketing, or tying supply chain management (SCM) and customer relationship management (CRM) together.

These days, information systems and technology can build enormous databases and information retrieval systems that enable the modification and use of astronomically high volumes of very detailed data. Therefore, the goal is to move from supplier-facing systems and activities to customer-facing systems and activities in order to merge the two ideas and end the present separation between producer and consumer. It's possible that this is only a little shift in perspective another novel idea for consulting, perhaps but it does emphasize the importance of focusing on the client rather than the provider. In the idea of a logistics planning hierarchy and the need of a constructive approach to planning were covered. This chapter introduces several important strategic concerns and provides a more thorough description of the logistics planning framework. There is an overview of a basic corporate strategic planning technique that is connected to a particular logistics design strategy. This design strategy's primary components are explained.

Any business running the risk of overreacting to this demand for change is this. In order to grow distribution and logistics systems and structures as a whole within the framework of business strategic goals, a measured reaction is therefore necessary. By doing this, it will be unlikely that logistical operations would be sub-optimized. A key component of this is the quantitative modeling of logistical needs as the second phase of strategic business planning. Thus, the creation and use of a framework and methodology that include both more specific logistical challenges and more general organizational and commercial issues is the main emphasis of this chapter. A strategic study's first stage need to include an analysis of the external environment in which a business function. This covers elements like the state of the economy, the laws as they are now and how they may change in the future, and any pertinent technical advancements. An assessment of the main rivals would also be significant for the majority of businesses; in this case, any information about their logistics and service plans would be very pertinent. Doing a PESTEL study is one accepted method for examining and assessing the effects of the external environment. A comprehensive perspective on external elements is adopted, and their consequences and potential influence on the company's strategy are evaluated.

Additionally, an examination of pertinent internal issues have to be conducted. SWOT analysis is a common methodology (strengths, weaknesses, opportunities and threats). This enables a business to assess how it stands in relation to its goods, the market for those items, the services it provides to clients, and the positions of its rivals. Identification of a company's critical logistical factors is another area in which this kind of study may and need to be conducted. These kinds of approaches help a business determine what its overarching corporate strategy ought to be. Clearly defining the business, the firm is in is one of the most important things that has to be done. Many businesses fall into the category of "retailers" or "manufacturers," but a more precise definition is often necessary since it affects the way the firm is set up and operated as a whole. Beer offers a helpful illustration.

The brewing industry has a rich legacy that supports the idea that the primary aspect of the business is the brewing of beer. Therefore, the primary activity is making beer. When choosing the most effective way to deliver the beer to the client, there are several factors to take into account. diverse supply chain components may have a significant impact and call for the creation of radically diverse business environments. A company's competitive strategy, which it intends to implement, is just as important as its corporate or business strategy. Logistics strategy development and the possible configuration of the operation's physical structure are significantly influenced by competitive strategy. There are several significant variables, but the three most crucial ones are the level of globalization, the strategy used for competitive positioning, and the degree of supply chain integration.

A business should implement a competitive strategy by competing as a service or cost leader, or, where applicable, as both of these, . A service leader is a business that aims to outperform its rivals by supplying a variety of essential added value service components that set it apart from the other players in terms of what it is delivering to clients. A cost leader is a business that aims to maximize its resources by providing the product at the lowest feasible price in order to get a competitive edge in productivity. One of these extremes, or both together, will need a very specialized logistical setup. Investing in elements that improve services, such time-guaranteed delivery, next-day delivery, tracking systems, or information support systems, is a more service-oriented strategy. The creation of adequate, workable strategic plans is the next duty. This chapter's next sections will focus on the logistics functional strategy. The creation of an appropriate logistics plan involves a number of crucial considerations. The first is that the corporate strategy and the logistics or distribution plan must be intimately connected. The

simplest way to do this is to make sure that logistics is a key component of the business plan and that these functions' associated aspects are utilized as inputs into the planning process as a whole. The second element relates to the logistics strategic plan's scope or coverage. It will be evident that this varies from business to firm. It may just be a "distribution" functional plan, but it will probably need to include components from other functions.

The design of logistics processes involves making sure that business processes are arranged and coordinated to work across the conventional business activities and take on a supply chain focus. As a result, they ought to be expedited and unaffected by or delayed due to their cross-functional nature. Order fulfillment is an example of a common logistics process; it is intended to guarantee that customers' order needs are met as accurately and quickly as possible. Instead of being a sequence of distinct processes that take place whenever a different internal function is engaged, such as the sales department, credit control, stock management, warehousing, or transport, the process should be planned as a continuous operation from the reception of the order to the delivery of the items.

In addition to order fulfillment, information management, the launch of new products, returns, and spare part supply are other logistical operations that should be taken into account. It may also be necessary to further create processes to accommodate various client types, product groupings, and customer service needs. The more conventional components of logistics strategy are referred to as logistics network design. These cover elements pertaining to the actual movement of goods through an organization, like the location of manufacturing from which a product should be sourced, the amount of inventory that should be kept on hand, the quantity and arrangement of depots, the utilization of stockless depots, and the delivery of the finished product. The utilization of trade-offs between logistical components and across the various firm operations is crucial in determining the proper physical architecture.

The design of a logistics information system needs to include all information-related components that are essential for sustaining the operational procedures and physical framework. In addition to this, it's crucial to understand that business-wide information systems, such as enterprise resource planning, or ERP systems, may also directly affect network architecture and logistical procedures. The electronic point of sale (EPOS), electronic data exchange (EDI) between businesses, warehouse management systems, truck routing and scheduling, and many more are examples of common information systems that may assist logistical processes and network architecture. It is necessary to plan each of these many logistical design elements in relation to the others. It is improper to focus on any one without appreciating and comprehending the impact of the others.

Process design is listed as the first logistics design aspect in Figure 6.4, however this does not imply that it should always be taken into account initially when conducting a strategic assessment. Any one of the design elements might be the most important one for a certain business. An organization that has implemented an enterprise-wide information system, for instance, can discover that this has a major impact on the formulation of logistics strategy. On the other hand, a business can believe that revamping its physical operations and logistics procedures comes first, followed by the implementation of a functional logistics organizational structure. Unsurprisingly, one of the most important things to take into account while organizing logistics is the product itself. In actuality, consumers see the product as a combination of its physical attributes, cost, packaging, and method of delivery. The physical attributes of the product and packaging are considered to be very important by the logistics planner. This is so because physical flow movement and storage is a key focus of distribution and logistics. When looking for least-cost systems at certain service levels, the physical attributes of a product, any unique packaging needs, and the kind of unit load are all crucial

considerations in the trade-off with other aspects of distribution. It's important to have this trade-off possibility in mind at all times.

Numerous product attributes may directly and often significantly affect how a distribution system is developed and run. This influence may have an effect on the system's cost as well as its structure. The volume to weight ratio, value to weight ratio, substitutability, and high-risk items are the four primary categories. Characteristics of volume and weight are often linked, and they may have a big impact on the cost of logistics. A product with a low volume to weight ratio often makes effective use of the primary distribution components. A low-volume, high-weight product will thus make full use of a road transport vehicle's weight-constrained capabilities. Moreover, a product with a high weight and low volume will make the most use of the handling cost portion of storage.

A high volume to weight ratio, on the other hand, is often less effective for dispersion. Products like paper tissues, chips, single-use diapers, etc. are typical examples. Because most businesses base their logistics costs on weight (cost per tonne) rather than volume (cost per cubic meter), these items take up a lot of space and are expensive to store and deliver. For instance, draw-bar trailer setups are often employed in Europe to enhance truck capacity and hence lower the cost of transportation for large-volume product movements. A logistics strategy's planning process also takes product value into consideration. Because the cost of distribution represents a comparatively small percentage of the total cost of the product, high-value items are better equipped to withstand the related expenditures. Because the cost of distribution is a significant component of the total cost of the product, low-value items need an affordable system. If the cost is too high, this might prevent the product from being competitively priced.

Once again, it is helpful to evaluate the value impact using the value to weight ratio, or weight ratio. Products with low value to weight ratios, such sand, ore, etc., have comparatively higher transport unit costs than those with high value to weight ratios, like computer and photography equipment. Low value to weight ratio items often has cheaper storage and inventory holding unit costs than high-value products because the low-value products have significantly less capital committed to inventory. As value to weight ratios rise, a trade-off effect is evident. The decision about the distribution method will also be influenced by how easily one product may be replaced by another. When consumers easily switch brands or categories of products, it's critical that the distribution system be built to either prevent stockouts or respond quickly to restock inventory. Food goods are a common example, where if a customer's first choice name is unavailable and they have an urgent need, they are likely to choose a different brand. This may be accommodated in a distribution system via large stock levels or high-performance transport modes. These are expensive choices. The probability of a stockout will be reduced by high stock levels, but average stock levels and expenses will rise as a result. The acquisition time and stockout duration will be shortened by the delivery of a quicker and more reliable transport function, but this improvement in service will come at a higher transport cost.

When it comes to a product's physical shape, it is usually delivered to the logistics function in the form of a package or a unit load rather than in its original form. Thus, every conversation pertaining to the connection between logistics and the product must include these two components. Product protection and promotion are the two main purposes for which a product's packaging is chosen, with the latter role being especially important to logistics. When creating packaging for logistics, there are a few extra things to take into account. Packages should not only safeguard the goods but also be simple to handle, store, identify, and have a space-efficient design (often cubic rather than cylindrical). There are trade-offs between these variables once again. These compromises will affect both the final product and the logistical process itself. It is crucial to understand that, for those working in logistics, the package represents the product

that is transported and stored; as such, it should, wherever feasible, be endowed with features that facilitate rather than impede the logistics process.

The design and usage of packaging affects not just the overall performance and costs of logistics, but also other operations like manufacturing, marketing, and quality control. Packaging is an integral aspect of the logistics function. When it became apparent how expensive it was to transfer and store goods, especially when handling many little parcels by hand inefficiently, the concept of unit loads for logistics was born. This led to the development of the unit load idea, which allows packages and items to be bundled together for easier handling and movement utilizing mechanical equipment. Two well-known examples are the huge shipping container and the wooden pallet, both of which has transformed physical distribution and logistics in a unique manner. From the perspective of the product, unit load systems may be introduced to change a product's attributes and enable more efficient logistics. The invention of the roll-cage pallet, which is widely used in the supermarket business, is one well-known example. Despite the cages' high cost, the total cost of distribution is much reduced due to the trade-off between security and time savings. The idea of load unitization forms the basis of much of distribution and logistics, and the kind and size of the unit load that is chosen is crucial to the efficiency and profitability of a logistical operation. Selecting the best kind and size of unit load reduces the amount of time that materials must be moved, allows for the best possible use of standard handling and storage equipment, cuts down on vehicle load and unload times, and enhances product security, protection, and stocktaking.

CONCLUSION

A strategy to horizontal cooperation that is proactive and cooperative, based on lessons from supply chain management, collaborative logistics, and strategic alliances. It emphasizes how crucial it is to break down organizational barriers within the logistics network, promote transparency and trust, and make use of shared resources in order to maximize supply chain performance as a whole. This study presents horizontal cooperation as a game-changing tactic for businesses looking to improve the sustainability and efficiency of their logistics processes. In order to make sure that logistics networks continue to be robust, responsive, and in line with the changing needs of the global supply chain environment, the abstract promotes continuous research, teaching, and cooperative efforts to hone and adapt horizontal cooperation approaches.

REFERENCES:

[1] F. Basso, S. D'Amours, M. Rönnqvist, and A. Weintraub, "A survey on obstacles and difficulties of practical implementation of horizontal collaboration in logistics," *Int. Trans. Oper. Res.*, 2019, doi: 10.1111/itor.12577.

[2] A. Palmieri, F. Pomponi, and A. Russo, "A triple-win scenario for horizontal collaboration in logistics: Determining enabling and key success factors," *Bus. Strateg. Environ.*, 2019, doi: 10.1002/bse.2309.

[3] Y. Sheffi, M. J. Saenz, L. Rivera, and D. Gligor, "New forms of partnership: the role of logistics clusters in facilitating horizontal collaboration mechanisms," *Eur. Plan. Stud.*, 2019, doi: 10.1080/09654313.2019.1575797.

[4] B. De Vos, B. Raa, and S. De Vuyst, "A savings analysis of horizontal collaboration among VMI suppliers," *J. Ind. Manag. Optim.*, 2019, doi: 10.3934/jimo.2018120.

[5] V. Kalesnikaite, “Keeping Cities Afloat: Climate Change Adaptation and Collaborative Governance at the Local Level,” *Public Perform. Manag. Rev.*, 2019, doi: 10.1080/15309576.2018.1526091.

[6] M. R. Darun, D. Palm, R. Athinarayanan, V. Hummel, and K. Von Leipzig, “The Learning Factory - A New Stimulus to Enhance International Collaboration,” in *Procedia Manufacturing*, 2019. doi: 10.1016/j.promfg.2019.03.046.

[7] L. C. Hendry, M. Stevenson, J. MacBryde, P. Ball, M. Sayed, and L. Liu, “Local food supply chain resilience to constitutional change: the Brexit effect,” *Int. J. Oper. Prod. Manag.*, 2019, doi: 10.1108/IJOPM-03-2018-0184.

[8] H. Saranga, A. P. J. Schotter, and R. Mudambi, “The double helix effect: Catch-up and local-foreign co-evolution in the Indian and Chinese automotive industries,” *Int. Bus. Rev.*, 2019, doi: 10.1016/j.ibusrev.2018.03.010.

[9] L. Zallas, H. Molina, J. Coss, and O. Valdés, “Composición factorial exploratoria del clima laboral,” *Rev. Hologramática*, 2019.

[10] M. Kiser and K. Lovelace, “A national network of public health and faith-based organizations to increase influenza prevention among hard-to-reach populations,” *Am. J. Public Health*, 2019, doi: 10.2105/AJPH.2018.304826.

CHAPTER 12

INVESTIGATION OF THE PROCESSES OF LOGISTICS PROCESSES

Shilpi Kulshrestha, Associate Professor
Department of ISME, ATLAS SkillTech University, Mumbai, India
Email Id-shilpi.kulshrestha@atlasuniversity.edu.in

ABSTRACT:

The study of logistics procedures, including a thorough examination of the tactics and approaches used by businesses to optimize and simplify the movement of products and information within their supply chains. Logistics procedures include a broad range of tasks, from distribution to procurement, and they are essential to figuring out how well supply chain operations function. The inquiry aims to distinguish important components of logistics procedures, such as order fulfillment, inventory control, transportation, and warehousing. It looks at how businesses strategically plan and carry out these procedures to satisfy client needs, shorten wait times, and save expenses. The significance of technological integration, data analytics, and continuous improvement activities in augmenting the overall efficiency of logistics operations is emphasized in the abstract. Logistics process dynamics are largely dependent on factors like customer satisfaction, risk management, and sustainability. The study delves into how companies prioritize customer-centric initiatives, manage disruption risks, and integrate sustainable practices into their logistics operations.

KEYWORDS:

Customer Satisfaction, Logistics, Process Optimization, Risk Management, Sustainability.

INTRODUCTION

The creation of suitable logistics procedures is one of the essential components of logistics planning. These procedures are the means by which the firm is made to run efficiently and accomplish all of its main goals. The goal is a streamlined operation that functions across all of the functional divisions found in any business. Processes must thus be supply-chain focused. One of the primary issues with many logistical procedures is that they often fall within the purview of one specific function but are dispersed over the lines of several others. As a result, it may be challenging for a business to run effectively as a single unit. Usually, this results in inefficiencies, which manifest as higher logistics system expenses or worse customer service standards [1], [2]. Both of these impacts are common in many organizations.

The significance of logistics processes and the need of switching from functional to cross-functional process development will be discussed in this chapter. The primary justifications for implementing more efficient procedures are covered. In addition to describing a few of the most important logistical operations, the "process triangle" is presented as a way to group the various processes. A comprehensive method for process design is presented, along with a discussion of its primary phases. Lastly, a few important instruments and methods are explained. These may be used to the redesign of the logistics process. The focus on logistics processes in recent years has resulted from a shift away from the conventional functional view of logistics and toward a more comprehensive, holistic perspective. Even if functional perfection is crucial if you are managing a fleet of vehicles, it is still crucial to make sure it meets all the standards and runs efficiently the idea of trade-offs in logistics is becoming widely recognized as a crucial component of good logistics planning. It is possible to suboptimize a

single component for the benefit of the whole operation [3], [4]. This is followed by the supply chain viewpoint, in which the logistics function is seen from both an internal business function and a wider range of other organizations. The ultimate client has benefited the most from this. Ensuring that cross-company and cross-supply-chain operations are focused on attaining end-user customer happiness is the goal of every supply chain. Processes must thus be created in order for this to occur. To provide the kind and caliber of customer care necessary, they must be able to work across internal departments and corporate lines. Unfortunately, this isn't often the case with businesses. Traditionally, processes have been developed to allow each distinct function inside an organization to carry out its specific duty; but, they have not been simplified to operate as a cohesive whole across all corporate operations. Therefore, a process that is successful should be planned as a cohesive unit rather than as a collection of discrete parts [5], [6].

A typical logistics procedure is shown by the order fulfillment process. Ensuring that a customer's purchase is received, examined, chosen, and delivered in accordance with their specifications, without interruption, and with perfect precision, should be the goal of order fulfillment. This is not always how things operate in many firms! There is a chance that errors and delays might occur not just inside functions but also in between the various processes. Problems that arise within specific functions are often very straightforward to detect, and control mechanisms to address these issues may subsequently be implemented. Problems that arise between functions might be considerably harder to pinpoint. First, there is often a blurry boundary between functions, making it difficult to identify the nature of the issue, much alone identify the problem itself. Second, it is particularly challenging to identify the root cause of the issue, in part due to the common "blame" culture that exists across functions, wherein one would often assign responsibility to the other regardless of the actual problems.

Some businesses are now attempting to rework their core logistical procedures in order to prevent issues like these. Three components are necessary. A process that is well-planned should be client-facing, meaning that it should be especially tailored to meet the needs and expectations of the customer. They should also be cross-functional, or if that is not feasible, supply-chain oriented, meaning that they should span both business boundaries and functional boundaries. The goal of establishing cross-functional procedures is a significant enough issue for most businesses. Lastly, they must to be time-based, meaning that they ought to take into account how crucial time is to the logistical offering [7], [8]. Order fulfillment, perhaps the most often referenced logistics procedure, deals with the capacity to convert a customer's defined needs into an actual delivered order. As a result, it includes a wide range of customary tasks that are often associated with logistical operations. Order fulfillment includes everything from the informational aspects of receiving and recording an order to the practical aspects of choosing and delivering the products.

Many businesses discover they have issues in this area. The release of new items into the market is fraught with logistical challenges. Frequently, current, conventional logistics frameworks and procedures may not be suitable for facilitating a successful introduction of a new product. The failure to react quickly enough is one of the primary issues. Known goods are the focus of standard procedures. Using current methods to introduce new goods is likely to have two effects. First, despite the product's rapid and impressive growth, the supply chain lacks the flexibility needed to swiftly ramp up production to the necessary levels. The second is that there is an excess of inventory because demand is not as strong as anticipated. Eventually, this causes things to be discounted or become outdated. the goal is to create a product that, from the first design to the point of consumer availability, can be brought to market as soon as feasible. In order to identify and re-engineer any secondary developments of

which there are often many as quickly as possible, the goal is to connect the product's development with the logistical needs. The automobile sector has taken the lead in developing procedures that drastically reduce the time needed from the point of basic design to product launch. Offering a smooth return policy for goods is becoming more and more necessary for many companies. This may apply to returns that are sent back via the current distribution network or a newly established one. It could also apply to product returns that need to be revised or repackaged before being put back into stock, product returns that need to be disposed of later, or packaging returns that might be recycled or repurposed. Process design or redesign should focus heavily on this area given the changes in environmental regulations.

A large number of businesses rely heavily on the supply of replacement parts to enable the ongoing usage of their original goods, which is intrinsically related to the sale of a product or set of products. In several logistics operations, the physical setup and related procedures for the original equipment are insufficient to provide an adequate support system for the replacement components as well. This is yet another illustration of the need of creating procedures that are especially intended to carry out a certain activity [9], [10]. Technological developments in information have made it possible to access and modify a large quantity of precise data and information with ease. This has caused several businesses to realize that they must design appropriate procedures to guarantee that data are gathered, compiled, and used in an orderly and beneficial manner. In terms of logistics, this implies that unique customer data, including preferences for certain products and distribution-specific customer service needs (such as preferred delivery times, order sizes, and invoicing formats), may be made accessible. This makes it possible to have a much more optimistic and aggressive stance when thinking about specific client interactions.

DISCUSSION

Every procedure that has to be changed. The aim is to delineate the essential phases in every procedure and elucidate the departments and individuals involved. An awareness of the process's purpose, goals, and major issues is necessary, as is maybe an idea of some possible changes that may be made. These are the key outputs. after finishing the first mapping stage is to start a much more in-depth flow mapping exercise. This section identifies the work flow in detail as it passes through each pertinent department. Every important step in the process is listed, along with the approximate time needed to finish each one. All issues are recognized and recorded. Given the complexity of operations like order fulfillment, the mapping exercise itself is probably going to require a significant amount of time and work. The particular possibilities that should be recognized are generally those that have a great potential for change in the positive, as well as those that are very expensive or time-consuming to finish that particular step of the process, or all of these. It could also be able to determine which steps in the process are completely unnecessary.

Many procedures that have been left to evolve over time without any particular replanning are prone to this. Any areas that might want improvement can be found when the thorough flow mapping is finished. Organizing a dedicated team to handle this and the subsequent phases of the process redesign is beneficial. Senior management should fully support this team, which should include representatives from the key areas that the redesign will impact. When required, the crew should be able to finish any further, in-depth mapping or measurements. It should determine the implications of any workable alternatives and gauge support for them before implementing any changes it deems necessary. After a consensus has been established, the last step is to put any changes into action. This might first be done as a trial project to gauge how well the revised procedure works. The redesign of logistics processes may be aided by a variety of methods and instruments. These vary from those that help with the first classification of

important process goals to those that provide a thorough evaluation of the processes themselves, which may be used to find areas for improvement. A few of these methods have been used in the industrial sector under the "Six Sigma" banner. Often referred to as the 80/20 rule or ABC analysis, this is a crucial logistics technique for determining the key components of any enterprise or operation. It is possible to make sure that any analytical evaluation is focused on important factors and does not delve into less important details by recognizing these crucial components.

A pareto curve in its usual form. In this case, 20% of the company's product lines, or SKUs (stock-keeping units), account for 80% of the product sales value. Most businesses have a curve similar to this one. The most significant suppliers, the most significant consumers, and other connections in logistics and distribution are all of this kind. As a result, it is feasible to pinpoint a small number of crucial components that best capture the core company and to focus any significant investigation on these crucial 20%. Finding the things that comprise the last 50% of the "tail" of the curve be they customers, goods, or anything else another helpful outcome of Pareto analysis. Since they are often not profitable for the business, they must to be rationalized or eliminated. While "A" class products make up 20% of the range of products, they account for 80% of sales; "B" class products make up 30% of the range of products but only 15% of sales; and "C" class products make up 50% of the range of products but only 5% of sales. This may be used to distinguish how various items may be seen in different situations and to rank them based on their significance. It may be used, for instance, to spare components to determine their level of importance to a particular machine. Then, noncritical components could have a lower service level and critical parts might have a higher service level. When there is a lack of data, this process might be carried out as a qualitative (subjective) study instead of a quantitative analysis. One way to identify and compare the criticality or service level needs of all products within a system or subsystem and their chance of happening with regard to severity is to create a criticality matrix. Products may be ranked based on the matrix based on the services they need.

Ensuring that logistics operations are "customer-facing" and oriented to fulfill the demands of every customer is a primary goal of logistics process design. It is obvious that not every client is the same, and not every customer request is the same. It's critical to be able to recognize various consumer and market types and to implement the proper service standards to account for these variations. It must should be feasible to classify businesses in accordance with various service requirements by using appropriate customer service studies. Subsequently, appropriate procedures may be designed around the various client groups or market sectors. Large lanes are often tendered, and TMS imports the agreed-upon prices. there are occurrences like promotional actions and/or new, little lanes. Carriers are asked to bid on these out-of-contract routes, which are tendered directly in the market. A request for quotes (RFQ) might be restricted to certain carriers, preferred carriers, or go-to logistics market locations where any carrier is able to provide a quotation. After rates are determined, the package is assigned to the carrier offering the greatest value in terms of cost, quality, and service.

In order to go forward with the shipment and/or for benchmarking reasons, rates and other pertinent data are entered into the TMS. Processes across many shipping and receiving organizations may be streamlined by centralizing transportation-related tasks using a TMS. Through increased visibility and process control, the TMS's committed transportation staff will assist both the shipper and the recipient in enhancing performance. Stakeholders may access the system via TMS rather than contacting by phone or email. Due to their ability to foresee any problems, all supply chain participants' communication is also enhanced by this visibility. The quantity of manual communication is greatly decreased using TMS. Billing mistakes are

prevented when pre-invoicing and pre-billing are used in conjunction with FPA. Data and performance reports may be automatically created and sent by TMS to predetermined addresses on predefined days and/or hours. Reports tailored to individual customers may be made. The carrier's ability to electronically provide shipper milestone messages and root cause analysis has a significant impact on the quality of these reports. The TMS enables for the measurement and computation of the carbon footprint per shipment, which can be used as input for conversations to minimize it. A dashboard provides the ability to monitor performance and dive down to a specific geographic region. Since the carbon footprint of air is bigger than that of the sea, for example, it may be utilized to pick a modality. Reducing the number of kilometers traveled via supply chain optimization results in cheaper expenses and a smaller carbon impact. Employing a Managed Transportation Services (MTS) provider gives you access to both the day-to-day management staff and the advantages of a TMS.

A TMS's deployment might be challenging, time-consuming, and need a learning curve. For small transportation management departments, this is usually the case. This is most likely the cause of the continued lack of usage of TMSs by shippers in organizing and automating their transport processes. Aside from advantages like instant access to a TMS and relief from daily operations, an MTS provider is skilled in implementing and running a TMS effectively to accomplish goals. It's crucial to examine the new procedure while thinking about implementing a TMS. The challenging element is said to be the data interface between the ERP, WMS, and TMS. It is essential to characterize the to-be scenario in advance since it is difficult to change these interfaces after the fact. To create an IT template that all supply chain partners may use as a guide, gather all the criteria at the start of the process. Frequently asked questions include: does the shipper wish to facilitate physical cargo consolidation via an interface between the ERP, TMS, and WMS? Why does the shipper want to utilize the warehouse for a physical consolidation?

Are there any other advantages to this? Is it feasible for virtual consolidation in TMS? Would the shipper like updates on shipment progress in the WMS, ERP system, or only the TMS? Is printing shipping labels from the WMS or the TMS what the shipper wants to do? In each system, what level of information shipment, delivery note, invoice, order, order line, and/or product number does the shipper like to retrieve? The standard EDI implementation is the most important component of interfacing as it helps to simplify supply chain partners' IT-based communication. In order to determine the precise configuration of the information exchange process, an implementation guide and a project methodology must be used for a seamless EDI setup. The project team will meet for the first time to go over the implementation guide, go over the EDI needs via a questionnaire, and get alignment on the project plan. The result is a signed and agreed-upon SOW. Generally, cargo information is sent from the shipper to the carrier via an International Forwarding and Transport Message Instructions (IFTMIN) message. After the goods are picked up, the carrier notifies the shipper of the cargo status by sending back International Forwarding and Transport Status (IFTSTA) messages. These are UN/Electronic Data Interchange for Administration, Commerce, and Transportation international EDI standards.

A commodities strategy is a plan that outlines how to accomplish short- and long-term objectives, including cost targets, contract lengths, carrier characteristics, and numbers of carriers. Timelines, roles, accountability, and quantifiable performance goals are all part of the strategy, which is predicated on the commodity categorization as "leverage," "strategic," "routine," or "bottleneck." A documented action plan including objectives, goals, and targets for customers, company, processes, and employees is required to achieve world-class performance. A SWOT analysis, an explanation of how the strategy will give the shipper a

competitive edge, a communication plan, timing and intermediate reporting structures, a review procedure, market research with benchmark and trend data, time-based performance targets, and a list of who will do what when are all included in this action plan. The method results in the selection of the ideal number of carriers with the qualities and capacities to satisfy the company demands; it is covered in greater depth in another part of this book. The classification of carriers into "commercial," "preferred," or "strategic" groups determines the kind of supplier relationship management that should be implemented with them.

Standard services are provided by commercial vendors and may be obtained elsewhere. As long as the predetermined performance standards are met, no proactive measures to improve are initiated. Benefits are established and shared between a shipper and its preferred carriers. Reaching the pricing, quality, and service goals is the main priority. In a strategic relationship, both sides are willing to divulge private information and collaborate on long-term mutual gains. All carriers are rated using a provider rating system that specifies the what, when, and how to assess the weighted factors such delivery performance, prices, responsiveness, and innovation. An IT system both contains and downloads the objective measurements. They are routinely sent to other parties as well as carriers. A cross-functional team scores the subjective criteria.

The businesses can define their strategies for the various services and carriers to bridge the gap between the as-is and to-be situation based on the product classification (e.g., leverage, strategic, routine, or bottleneck) and how the carrier views the shipper (e.g., core, development, nuisance, or exploitable). A defined procedure for assessing and choosing carriers, as well as for creating and managing carrier portfolio studies, carrier rating systems, and product portfolio analyses, is required to perform at a world-class level. Carriers often lack a comprehensive understanding of their advantages and disadvantages. Helping them by pointing out areas for development will be beneficial so they can focus on improving their talents and performances.

Assessments and audits are common tools. It is necessary to have a defined procedure to monitor and direct the in order to achieve world-class performance. In order to create a world-class supply base, the shipper must engage with the carriers in accordance with the provider categorization. Developing a relationship with the key suppliers is the crucial route. Not all commodities call for a close working relationship or collaboration between a shipper and a carrier. It's a method of working when both sides are willing to exchange private information and work closely together to maximize the strengths of both businesses in order to achieve mutual gains. It is predicated on trust as the shipper enters into long-term contractual agreements with the carrier, and the carrier pledges to maintain a continuous improvement culture and enhance pricing, service, and quality. In order to become world-class, firms must be set up for long-term partnerships, rely on and trust one another, have common goals and strategies for growth, and invest in one another's training and education. To manage processes and projects with the goal of providing the client with the appropriate product at the right time within the predetermined performance and cost objectives, a strong account management structure is required.

Carrier account managers must to take the lead in providing the required service solutions and cultivating the business relationship into a partnership. These staff members need to be given the freedom and confidence to make choices on their own, rather of referring every request or suggestion from clients back to top management. An effective account manager is sufficiently familiar with the structure and procedures of the shipper. He or she advises both groups based on results rather than just increasing sales. Using carrier resources and having access to them, the account manager is in the lead when it comes to driving change and improvement initiatives. This is particularly necessary when KPI objectives are not reached and steps need to be taken to identify the precise problems, address their underlying causes, and develop

solutions. The management is working on new service road plans and cost reduction. The status and progress reports are worked on and disseminated on a regular basis, not only at the scheduled business review meetings. The account manager is accountable and in charge of setting the goals, and the operational KPIs serve as a kind of performance evaluation. An essential role in the two parties' communication is played by the account manager. He or she is the first point of contact for escalated issues, notifies the relevant parties of any changes to the two firms, arranges meetings for business reviews, pays a visit to the shipper, proposes new services, works on requests for new services, and takes the lead in an emergency. A defined method for classifying carriers and allocating resources to work on improvement efforts based on the carrier's importance to the company is required to achieve world-class status.

CONCLUSION

This abstract promotes a comprehensive and flexible approach to logistics operations by drawing on principles from supply chain management, process optimization, and technology adoption. In order to satisfy changing market needs, it emphasizes the strategic significance of coordinating logistics operations with overarching corporate objectives, using technology to provide real-time visibility and decision-making, and cultivating a culture of continuous improvement. The examination of logistics procedures is positioned in this study as being essential to attaining operational excellence in supply chain management. In order to further improve logistics procedures and enable businesses to better serve their clients and negotiate the intricacies of today's business environment, the abstract promotes further study, training, and technology advancement.

REFERENCES:

[1] M. Halaška and R. Šperka, "Performance of an automated process model discovery - The logistics process of a manufacturing company," *Eng. Manag. Prod. Serv.*, 2019, doi: 10.2478/emj-2019-0014.

[2] D. C. Feibert, B. Andersen, and P. Jacobsen, "Benchmarking healthcare logistics processes–a comparative case study of Danish and US hospitals," *Total Qual. Manag. Bus. Excell.*, 2019, doi: 10.1080/14783363.2017.1299570.

[3] A. Di Crescenzo and P. Paraggio, "Logistic growth described by birth-death and diffusion processes," *Mathematics*, 2019, doi: 10.3390/math7060489.

[4] M. P. Isaksson, H. Hulthén, and H. Forslund, "Environmentally sustainable logistics performance management process integration between buyers and 3PLs," *Sustain.*, 2019, doi: 10.3390/su11113061.

[5] X. Xu, Y. Li, and R. Tang, "Simulation Optimization of Discrete Logistics Processes: A Case Study on Logistics of an E-Commerce Enterprise in Shanghai," *Discret. Dyn. Nat. Soc.*, 2019, doi: 10.1155/2019/2493638.

[6] V. I. Gissin, K. F. Mehantseva, and M. A. Surzhikov, "Indicators and methods for assessing the quality of logistic activity processes," *Int. J. Econ. Bus. Adm.*, 2019, doi: 10.35808/ijeba/367.

[7] J. Hogg, M. Fonoberova, I. Mezić, and R. Mohr, "Koopman mode analysis of agent-based models of logistics processes," *PLoS One*, 2019, doi: 10.1371/journal.pone.0222023.

[8] S. Mustafa, I. Fatimah, and Y. B. Jun, "Modelling the logistic processes using fuzzy decision approach," *Hacettepe J. Math. Stat.*, 2019, doi: 10.15672/HJMS.2018.617.

[9] A. Bjørgen, H. Seter, T. Kristensen, and K. Pitera, "The potential for coordinated logistics planning at the local level: A Norwegian in-depth study of public and private stakeholders," *J. Transp. Geogr.*, 2019, doi: 10.1016/j.jtrangeo.2019.02.010.

[10] K. Moons, G. Waeyenbergh, and L. Pintelon, "Measuring the logistics performance of internal hospital supply chains – A literature study," *Omega (United Kingdom)*. 2019. doi: 10.1016/j.omega.2018.01.007.