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THE IMPACT OF LOGISTICS IN MODERN SUPPLY CHAIN MANAGEMENT: ROLE OF INTERNATIONAL BUSINESS LAWS

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ABSTRACT

This research is an attempt to understand the relationship between logistics and supply chain management and how logistics impacts supply chain management. And this qualitative study was to explore how logistics helps to grow an organization. Also, in the light of international business laws what main key points to keep in mind while growing an organization or sustaining the place of the organization in the market. A key objective of this research is to explore and state that logistics plays important role in the development of an organization. The research model was tested with 201 participants (134 males and 60 females) from different sectors through an online and onsite survey. The survey consisted of different sections: Demographic information, and the perceived uncertainty scale. SPSS program was used to make a statistical analysis of the data.

Keywords: Supply chain management, logistics, business laws.

Jel Codes: M10, M16, M41.

1. INTRODUCTION

Trade is as old as the world. In the beginning, people are doing trade with the people near them, and then as time passes, they start doing trading with people living in near towns or villages as we see in the modern 21st century now the world becomes a global village and the people are buying from all over the world and our modern transport system helped us a lot to make it better and efficient and possible. The globalization process allows for the sale of similar items from various producers at varying prices. Because of the increasing supply on the market, there is fierce rivalry, due to which many businesses struggle to afloat for the long term. But, due to the advancement in IT, the flow of knowledge throughout the world became faster and easier, resulting in improved producer and consumer education. (Ballou, 2018)

The most important solution for businesses to remain on the market and compete the competitors is to keep decreasing product prices and enhancing product features regularly. As a result, the company's continued aggressive development is critical to its survival in both domestic and worldwide markets. In 2008, Hassini observed that "Creating and maintaining a competitive edge for a company is a complicated and long-term process that is heavily reliant on the firm's flexibility and ability to make rapid changes in their operations and do so faster than their competitors. Continuous process adjustment and improvement is the foundation for the company's functioning in today's conditions, as well as one of the main success elements. In this environment, it is necessary to employ contemporary management methods in all parts of the company's operations, particularly in supply chain management, to boost competitiveness." (Hassini, 2008)

Logistics is defined as, "A key component that provides management with overall operations expenses and improves the effectiveness of the company's commercial activities. Reduced lead-time provided

by seamless material movement from upstream to the downstream end of the supply chain may improve organizational competitiveness through collaboration among all supply chain actors paired with a responsive strategy.” This strategy will guarantee that end consumers get good value for their money while also reducing industry uncertainty (Hassini, 2008).

As it shows the importance of the supply chain it is also known as the backbone of the business and the supply chain starts from procurement to delivery. And fast logistic management plays an important role in the business. Nowadays the biggest example of logistics management is Amazon people are even getting delivery so fast and they are ruling the world in the e-commerce business. Most of the companies which are doing business whether locally or globally all need to make their supply chain so effective to sustain in the market. More than 40% of the business which is start-ups that cannot survive within the first five years of the business because of the supply chain or bad sourcing or sometimes because of the bad logistics system (Franke, Stockheim & König, 2005).

There are a lot of examples that companies are expanding internationally and they can survive internationally there are a lot of reasons that make them lose in the international market because in the market which they enter they didn't do enough research about the local laws and trade associations or about the way of doing business and about the trade agreement between the countries. It is also not hidden that there are different rules and regulations in business if we want to trade with another country or expand the business internationally there are different laws and protocols which the organization has to follow if they won't follow the protocols, they can't stand in the modern business world so it means the organizations have to come up with the strategy which can help them to find the effective supply chain and the best logistic system with fulfilling all the law that is required for international business (Basnet, Corner, Wisner and Tan, 2003).

New technologies and ideas have been widely implemented in industries as a result of the development of Industry 4.0. In delivering and connecting the sectors, logistics, and supply chain play a critical role. This could indicate the importance of logistics and supply chain innovation in supporting Industry 4.0 research (Franke et al., 2005). Logistics is critical to supply chain management. It is used to organize and coordinate the timely, safe, and effective transfer of items. Customers now include people from all around the world, not just your neighbors and local acquaintances (Wang, 2016). Logistics generates and improves the value that businesses provide by enhancing merchandise and assuring product availability. Businesses may either improve their logistical processes or hire specialists to deliver greater value (Giri & Sarker, 2017). Businesses that have properly structured logistics can respond to short-term requirements. Business owners can assure timely and safe shipping, storage, and delivery of their products to clients by hiring an experienced team of specialists. They may combine these services in a way that adds value to their offerings while also ensuring that their items arrive on time. While a smart marketing plan may "open many doors" and attract consumers, a dependable logistics service can assist your company in developing and maintaining a great public image. Meanwhile, disorganized logistics might result in client loss and lower revenue (Park, Cachon, Lai & Seshadri, 2015). For the economy, the successful growth of the logistics industry will help economies and countries become more competitive. The competition between countries throughout the world is growing increasingly severe as a result of the current strong global trend. As a result, logistics services have become a competitive advantage for the country. The function of logistics is becoming increasingly essential in integrating activities in the value chain, from providing, producing, circulating, and distributing to market expanding for economic activities, as the world economy continues to move toward globalization and regionalization. These ideas have a lot in common and may be used interchangeably in many instances. To get a product or service to the end consumer, the value chain operations include design, production, marketing, and support. Institutional assistance at all levels of the value chain is an activity in a value chain. From the input stage of raw materials, accessories, and so on, through the final product delivered to consumers, logistics plays a critical role in optimizing the flow of production and commerce (Reklitis, Sakas, Trivellas & Tsoufias, 2021). Thus, the following hypothesis is deduced:

H1: Logistics have a positive relationship with modern supply chain management.

Value creation is not only transnational in scope across an increasing number of sectors and industries; it is also organized and managed via global networks that connect operations across as well as inside

businesses and nations. Global Value Chains, or GVCs, are a term that is increasingly being used to describe these networks. Pascal Lamy, the former Director-General of the World Trade Organization (WTO), has stated that GVCs are establishing a "new world of trade" as the "face of the modern global economy." The United Nations Conference on Trade and Development (UNCTAD) lately focused its annual flagship publication, the World Investment Report, on GVCs (Lamy, 2013). Through international production networks of companies investing in productive assets throughout the world and exchanging inputs and outputs in cross-border value chains of varying degrees of complexity, global investment and trade are intimately linked. TNCs [transnational corporations] shape value chains (intra-firm or inter-firm, regional or global, and commonly referred to as Global Value Chains or GVCs) that account for roughly 80% of global trade (Lamy, 2013). It appears that the externalization of law and the 'legal' in VGC analysis to date stems from a view of capitalism as a profit-driven, mutually beneficial trade process taking place in (relatively) open markets. In this view, the role of law is primarily to provide market-facilitating institutions (such as property, contract, and the corporation) and rules to correct informational and other market asymmetries, rather than to serve as a tool and terrain for a struggle over the terms on which value is generated and distributed, or power is exercised in global production systems (Schaffer, Agusti & Dhooge, 2014). Thus, the following hypothesis is deduced:

H2: International Business Law is the moderator of Supply chain management and Logistics.

Overall, the research framework comprises the innovation capability of logistics, risks of supply chain management, and the role of international business laws in this regard. All three variables are interconnected with each other and supply chain management has positive impacts with slight betterment in international business laws and logistics.

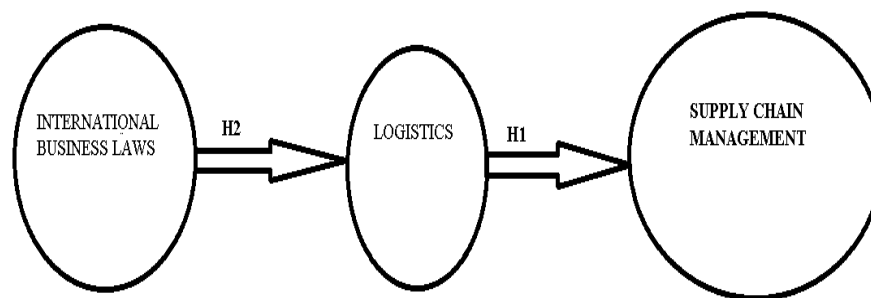


Figure 1: Research framework of hypothesis.

This research is an attempt to make the supply chain stronger by providing the best possible solution to fulfill international laws easily, to make the logistics more effective so that it can increase the efficiency of the supply chain, to minimize the effect of International Trade law on Supply chain negatively, and to understand the influence of logistics on global trade relations. In the context of the supply chain, logistics output refers to the expense, time, and difficulty of completing import and export operations. This research will help the private and public agencies that are affected by the logistic performance directly or indirectly. Furthermore, it is going to find the easiest and most convenient way for the companies to fulfill the international laws without affecting the efficiency of the logistic system (Carbone, Rouquet and Roussat, 2017).

The research framework of the study is based on one dependent variable and two independent variables to study the impact of logistic and international business laws on supply change management. Thus, the dependent variable is the supply change and the independent variables are the logistics and international business laws.

This research will use an inclusion questionnaire technique, as well as qualitative interviews and a survey within their businesses with executive leaders, HR managers, managers, and workers who are responsible for employee evaluation. This report's target demography is new enterprises and startups, which account for the majority of businesses in the country (Sun et al., 2021).

The descriptive technique of inquiry is used in this work. This study typically verifies the data's authenticity, and it also provides a more detailed explanation of the data examined. Descriptive

analysis is a research method that includes specific goals, dimensions, and components for a population. The descriptive-analytical approach is used to examine every demographic feature of this study in-depth, as well as to discover its causes and prospective consequences. The research strategy used in this study is a deductive reasoning approach that deals with the formulation of a theory-based hypothesis and the evaluation of that hypothesis using tests. This study also entails estimating and tracking the occurrence of a certain group and providing an objective picture of a scenario. (Malhotra, et al, 1996).

The method which is going to be used in this research is the quantitative method and this research is correlational. This research will be helpful to find the relation between logistics and modern supply chains and the impact of international laws. The descriptive method of investigation will be used in this. Convenient sampling will be used because of less time duration. The primary data will be collected through different organizations and secondary data from previous research (Reklitis, 2021).

The Population for this study will be those organizations that are working internationally and logistics companies. As for this research, the survey will be collected in different countries because of the difference in working styles and to gather diversified data. The data will be collected from surveys and previous research Studies. For the sampling of this research, data will be collected from organizations from different countries of different sizes who are in international business and logistic business. The data will be collected from senior managers, mid-level managers, and employees of those organizations. The number of respondents will be calculated based on the sampling formula and visiting the chamber of commerce later (Reklitis, 2021).

SPSS 22.0 version will be used to analyze the gathered data to find the standard deviation, reliability, and regression analysis. Regression square will help to test the hypotheses testing. Charts and tables will be used in this thesis to show the relation between the variables and to validate the data.

2. RESEARCH METHODOLOGY

Basic Research was conducted as it aimed to expand the existing base of knowledge related to supply chain management, logistics, and international business laws related to them. *Explanatory research* was done to explain the relationship between supply chain management, logistics, and international business laws. Deductive research was carried out because it works from the more general to the more specific. To have a clear picture of the hypothesis of a positive relationship between logistics, supply chain management, and international business laws deductive research is preferred in this thesis. This study can be applied to small and medium-sized organizations. To gather the samples, the questionnaire is made and asks different questions about international business law, supply chain management, and logistics. from different organizations and different employees (Reklitis, 2021).

The type of research is correlational, so the *quantitative method* is used. This is an attempt to find the relation between logistics and modern supply chain management and also to establish a relationship between international business law, supply chain management, and logistics. The purpose of the research is to make the supply chain stronger, make the logistics more effective, and minimize the effect of international trade law on the supply chain negatively. This Study uses the descriptive method of investigation. The reliability and validity of the data are so important. This research used is *primary*. Most of the interviews and feedback that have been conducted were walk-ins from a large range of organizations. *Experimental research* was used because we concluded by using different data collected from walk-in interviews and questionnaires (Ellram, 1991).

3. RESEARCH FINDINGS and RESULTS

This thesis attempts to explain the role of logistics in modern supply chain management and the role of international business laws and policies. This study examines the direct effect of logistic and international business laws on supply chain management. The data for this thesis was acquired from a sample of 201 participants. The sample was then analyzed through different analyses on SPSS 2.0 software.

A distribution's central tendency is an estimate of the "center" of a set of values. The most often used means of describing central tendency is the mean or average. From the analysis, it is obtained that the mean values relating to all 10 questions lie in the range of 4.06 to 4.48 indicating the tendency of

thoughts and perceptions of 201 respondents from strongly agree to agree. The spread of data around the central tendency is referred to as dispersion or measures of variability. The higher the standard deviation, the more variable is the data set. From the analysis, it is concluded that the standard deviation of all the questions lies in the range of 0.7-1.03 which is very small, indicating that the data set is clustered around its mean value.

This research is an attempt to indicate the importance of logistics in supply chain innovation and supporting industry and the role of international business laws. All the questions in the questionnaire were designed based on a positive item scale, that is, items with above-average answers are considered good responses or in the favor of the hypothesis. Q1 to Q6 are linked with hypothesis 1 that is: Logistics have a positive relationship with modern supply chain management. Hypothesis 2 states that "International Business Law is the moderator of Supply chain management and Logistics." Q7 to Q10 are all linked with this hypothesis, and these all must be true to prove the hypothesis. The hypotheses were tested using "one sample T-test analysis" because the questionnaire data is not correlated. The result of the T-test was in favor of both hypotheses. Meaning, that in a population sample, 95% of the people agree that "Logistics have a positive relationship with modern supply chain management" and "International Business Law is the moderator between Supply chain management and Logistics." (Ellram, 1991).

From the analysis (shown in Table 1), it is evaluated that the t-value was of minimum value that is 5.369 when the testing value was 4, proving the validity of the test value. Furthermore, 95% of the CI value indicates the least difference from the mean value or it concludes that it can variate from 0.1451-0.3136 from the mean value 95% out of 100% of sampling, which is still in the range of agreeable response values. The test was conducted on different values for test values for instance: 2 (showing disagreement), and the results rejected the value, shown in Table 2. Hence, Hypothesis 1 was accepted.

From the analysis it is evaluated that the t-value was of minimum value that is 5.161 when the testing value was 4, proving the validity of the test value. Furthermore, 95% of the CI value indicates the least difference from the mean value or it concludes that it can variate from 0.1467-0.3282 from the mean value 95% out of 100% of sampling, which is still in the range of agreeable response values. The test was conducted on different values for test values for instance 2 (showing disagreement), and the results rejected the value, shown in Table 4. Hence, Hypothesis 2 was also accepted.

Table 1: One sample T-test for Logistic, Test value=4

	Test Value = 4				
	t	df	Mean Difference	95% Confidence Interval of the Difference	
				Lower	Upper
Logistic	5.369	200	0.22939	0.1451	0.3136

Table 2: One sample T-test for Logistic, Test value=2

	Test Value = 2				
	t	df	Mean Difference	95% Confidence Interval of the Difference	
				Lower	Upper
Logistic	52.179	200	2.22939	2.1451	2.3136

Table 3: One sample T-test for intl. business laws, Test value=4

	Test Value = 4				
	t	df	Mean Difference	95% Confidence Interval of the Difference	
				Lower	Upper
Int Business Laws	5.161	200	0.23746	0.1467	0.3282

Table 4: One sample T-test for intl. business laws, Test value=2

	Test Value = 2				
	t	df	Mean Difference	95% Confidence Interval of the Difference	
				Lower	Upper
Int. Business Laws	48.625	200	2.23746	2.1467	2.3282

4. DISCUSSION AND CONCLUSION

This research aimed to describe the relationship between logistics and supply chain management. To set the narrative that organizations glorify when having stable supply chain management and logistics

supports supply chain management. Secondly, to put forward the points related to international business laws which help supply chain management and logistics and ultimately to flourish the organizations. Based on a quantitative analysis of supply chain management and logistics, it can be concluded that Supply chain management using logistics technologies helps to provide continuous high-quality customer service while lowering the cost of extracting raw materials, storing, delivering, and selling goods/services to end-users (Park et al., 2015)

The results indicate that working on supply chain management may help an organization to grow well. Analyzing effective logistics management is to maximize the company's competitiveness and profitability, as well as the complete network structure of supply chains, including the end-user. In this context, the integration and introduction of innovations into the supply chain and logistics activities should strive to increase the total productivity of all participants (Jenkins, 2022).

A reputable logistics service helps businesses build and maintain a positive public image. Meanwhile, a lack of organization in logistics might lead to customer loss and decreased income. The logistics industry's effective expansion will aid economies and countries in becoming more competitive. As a result of the current strong global trend, the rivalry between countries throughout the world is becoming increasingly fierce. As the world economy continues to move toward globalization and regionalization, the role of logistics is becoming increasingly important in integrating operations across the value chain, from providing, manufacturing, circulating, and distributing to market expansion for economic activities (Jenkins, 2022).

As far as international business laws are concerned, they act as moderators to strengthen the impact of logistics on supply chain management. Global investment and commerce are inextricably connected through worldwide production networks of corporations investing in productive assets throughout the world and exchanging inputs and outputs in cross-border value chains of varying degrees of complexity. Rather than serving as a tool and terrain for the struggle over the terms on which value is generated and distributed, or power is exercised in global production systems, the role of law is to provide market-facilitating institutions (such as property, contract, and corporation) and rules to correct informational and other market asymmetries (Ślaski, 2017).

Focusing on international regulatory compliance implementation and monitoring that includes supply chain transparency, anti-corruption, trade sanctions, bans, and embargoes, developing and implementing "Supplier Codes of Conduct", predetermining the organization's intellectual property agreement, outsourcing plans, and license agreements, and properly recording and maintaining them and to develop comprehensive compliance policies are most essential and impactful to implement effective logistic integration purposes and better supply chain management as well as to avoid any international issues related to global trade and supply chain (Ślaski, 2017).

The primary use of a mobile phone has evolved away from calling and toward a variety of unique capabilities such as internet access and multimedia messaging, among others. AT&T's image phone was introduced in 1970 but sales fell off in 1974 owing to low demand. The picture phone's time has not come, even in this age of internet-based mobile phones. The average smartphone user does not travel without their cell phone, and also that the mobile is kept nearby and readily accessible when they are at home. Developing marketing campaigns that incorporate this evidence and information is crucial for the cosmetics industry. Conventional marketing communication methods have been shown to fail to reach the intended target (Turrisi et al., 2013).

Research findings in this research can be summarized as:

- ✓ Effective supply chain management has both direct and indirect consequences that promote the efficient and smooth movement of information, commodities, and services from procurement through final delivery.
- ✓ Customer happiness has a beneficial impact on logistics service performance, such as satisfying client expectations or conducting flexible logistical operations. This finding demonstrates that a high degree of logistics service satisfaction enables logistics integration to maintain responsive and responsible operations to better cope with supply chain unpredictability.

✓ Understanding the requirements and desires of the customer as a primary decisional component, the supply chain to which the firm belongs will construct a complicated process of decisions and actions to serve these demands and, ultimately, secure the company's competitiveness (Franke, 2005).

Based on these conclusions, further include empirical research on the most recent supply chain business model developments, such as the sustainable and agile principles, which can give more immediate use for business practitioners while also creating the data needed to guide future attempts at design theory. To better understand future studies could focus on global chain management. After the consolidation and emergence of notions like global commodity chains and global value chains, we now consider global production networks to be a probable next stage in the evolution of the network-of-organizations concept (Carbone et al., 2017). Research has contributed to knowledge in supply chain management and logistics. Some strategies to achieve this include: Research helps to know the importance of stable supply chain management which helps the organization to grow as supply chain management. Supply works by coordinating the movement of procurement, suppliers, manufacturing facilities, retailers, distributors, and customers through the production, sales, and purchasing cycles. The supply chain needs active management since it is influenced by various elements beyond the company's control, such as gas costs and environmental conditions. When a corporation is acutely aware of these elements, it is better able to handle them. Inventories, manufacturing, distribution, sales, and vendor inventory are all carefully managed with effective supply chain management (Turrisi et al., 2013).

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