EVOLUTION OF THIRD PARTY LOGISTICS AND ITS ROLE IN THE SUCCESS OF AN ORGANIZATION: A CONCEPTUAL PAPER

¹Mayank Ranka, ² Parth Thakkar, ³Tanishq Gupta

¹Student, ²Student, ³Student ¹School of Business Studies, Christ University, Bangalore, India ²School of Business Studies, Christ University, Bangalore, India ³School of Business Studies, Christ University, Bangalore, India

Abstract: This article is to study about how the logistics of a company impacts the overall efficiency of the company and moreover how do companies improve their supply chain. They make use of the option of outsourcing the logistics to a third party, transporter, or they can opt for 5PL which is a much wider option. The benefits of using 3PL and outsourcing is listed in the article, the company gets these benefits when they opt for outsourcing if they want to improve the efficiency of the supply chain or they fail at managing their supply chain. There is also a case study that discusses about use of the 3PL in the organization and how it showed improvement. It also explains the evolution of 3PL. This concept was not made directly but it evolved from other concepts

I. INTRODUCTION

There are various functions that a company carries out in order to establish it and grow. These functions include production, sales, marketing, logistics etc. Managing a supply chain is very difficult for an organization. It is one of the most important functions, because if an organization is not able to supply right goods, at the right time and right place then there would be no sales and the other functions of the organization are of no use. Organizations try to maximize the efficiency of each and every function including their supply chain. Some organizations such as Zara outsource this function and pass on the responsibility to another company that specializes in that particular field. E.g. - FedEx. Second Party Logistics - It is a smaller concept as compared to 3PL. Small firms uses this as they need help to transport goods from one place to another. When a particular firm wants to send goods from Jalandhar to Bangalore, they take help from a transporter that has no responsibility apart from delivering the goods to the destination.

II. LITERATURE REVIEW

The process which involves opting for a perfect 3PL partner is a complex. And this process has certain criteria and analysis of other options needs to be done. There are 6 steps through which a company can choose its third party logistics partner. If the company does not follow the following steps they might end up choosing a company which is not compatible with the services that they require and end up with increasing losses instead of increasing profit.

Stage 1- Set-up the decision hierarchy- Involves selecting the criteria or alternatives for comparison. This sets up the base for the entire process.

Stage 2 and 3 - Make pair wise comparison and convert the comparison into weights- This means to analyze the companies they need to be measured against each other. It is a kind of ranking that is given to each of the companies. The company that gets the highest rank among all of the companies has the highest chance of getting selected or that is the company that should be selected. Homogeneous factors are to be compared. If the nature of the third party logistics provider is best suited for the company they will be given the highest weight; be it 9 and the company which is not suited will be given lowest weight, be it 1.

Stage 4- How do the options or the alternatives perform under different situations- The performance of each and every service provider is measured under different situations. And the 3PL provider which performs the best is chosen.

Stage 5- This stage is all about combining stage 3 and stage 4 to reach at a cumulative score. This step is done so that both the aspects of measurements are fulfilled. The total score after combining comes in a figure which is further analyzed.

Stage 6- Sensitivity Analysis- It shows how the alternatives are prioritized. The final result is presented at the bottom of the graph sheet and shows the total percentage of one option being better than the other option.

III. EVOLUTION OF FIFTH PARTY LOGISTICS

From the late 1990s and the early 2000s enhancements in the logistics and supply chain system had seen a drastic change due to liberalization, privatization, globalization, the increasing use of technology. This drastic change greatly affected the businesses throughout the world in the 1990s. These changes also resulted in driving growth in customer expectations and demands in the world economy. These changes were clearly noted in the evolution of the third-party logistics.

During the 1950s and 1960s in the modern countries transportation and warehousing were outsourced. By the late 1970s companies understood the importance of cost reduction in the products through proper supply chain management, and started working on cost reduction and building long term relationship with service providers which resulted in the emergence of Third-Party Logistics (TPL / 3PL).

In the 2000s, the advent of internet and globalization led to a new generation of global sourcing, which introduced the advent of logistics service providers that provided fourth- and fifth-party logistics

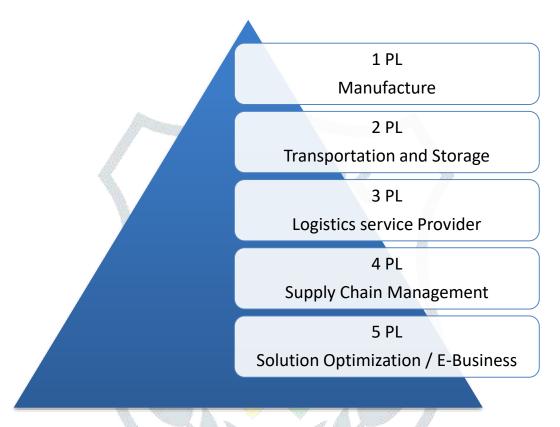


Figure 1 - Evolution of Logistics

3.1 First Party Logistics (1PL)

First party logistic is a model, where the firm or the manufacturer does not outsource logistics activities or any transportation to third party. But rather, the company's own department carries out all the relative functions. The supplier and the receiver are the two parties that get benefited from the first party logistic transactions.

3.2 Second Party Logistics (2PL)

The carrier specifically used for the mode of transaction such as rail, road, sea or air is involved in the Second party logistics. The main aim is to provide specialization in the transport area, basically taking goods from one place to another. Usually in the second party logistics which actually owns the means of transportation.

3.3 Third party logistics (3PL)

Third Party logistics helps the firm in managing the supply chain management, through outsourcing logistics of companies. Third Party logistics also involves 2PL but also involves additional services involved in the supply chain. It might include IT software, customs brokerage, terminal operations, warehousing and much more. When a firm is not able to manage logistics of its business efficiently they pass on this responsibility to another company. The company which is given the responsibility specializes in this particular sector and carries out the entire process on behalf of the main firm. This process and services include transportation, distribution, warehousing. This is done according to the convenience of the customers. It is the responsibility of the third party to distribute the products to all demand generating areas of the world on time.

3.3.1 Benefits of Third Party Logistics

1. Cost Efficient

Adopting the TPL reduces the cost the firm incurs on the logistics and advantages. With this reduction of cost in warehousing, distribution and transportation the profit of the firm increases. With this increase in the profit of the firm the firm has more chances of growing in terms of size and money.

2. Quality Supply Chain

The supply chain is better as the people working in the supply chain specialize in that particular field. They have more knowledge about the knowhow of the procedure and nuances involved. They seldom face roadblocks and they are the best in handling these roadblocks.

3. Focus

When a firm chooses to outsource some of the work to the 3PL firm, then the firm that outsources logistics can focus on its primary business which might be production of goods. Apart from efficient logistics then the fir will also have an efficient production or efficient primary activity.

4. Connectivity

The connectivity that 3PL companies provide is far better than the connectivity of the firm.

5. Expansion and growth

As the 3PL companies have better connectivity; they also provide a great scope for expansion. It eventually increases the sales as the product is delivered at the right place at the right time and at the right price.

Because of these benefits companies are increasingly adopting the 3PL.

Now almost all the fortune 500 companies which require 3PL have already implemented it, and if not they are moving in the direction of implementing it. For some companies 3PL acted as a boom in their business areas

3.4 Fourth Party Logistics (4PL)

In the fourth party logistics not only the supply chain but the entire management is also shifted to the third party. Usually the fourth party logistics don't have transport and warehouses; they are non-asset-based logistics. In other words, 4PL is the manager of 3PL.4PL acts as the head administrator for all the aspects in the supply chain of a company. 4PL helps the customer in determination of resources from his own organization and other 3PL providers to comprehensively benefit the clients supply chain. Transparency, Communication and trust are the key factors for 4PL providers to provide optimal solution to meet the customer's objectives.

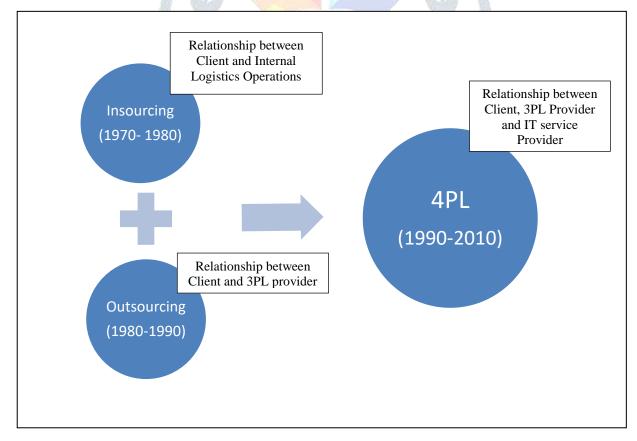


Figure 2 - How 4PL Emerged

3.4.1 Difference between 4PL and 3 PL.

1. Control

The main difference is the control the client gives to the third party. The control is maximized in the 4PL as compared to the 3PL. In 4PL the service provider has more control over the customers supply chain.

2. Consultancy Service

4PL provides the customer with higher level of consulting services as compared through 3PL in the supply chain and management process of the organization. It provides these through – Impartial feedback, Efficiency, Cost Strategies and neutral management.

3.5 Fifth Party Logistics (5PL)

A company opts for 5PL when the company wants to shift its supply chain to a supply network. 5PL manages the networks of supply chain with an extensive e-business focus across all logistic operations. 5PL uses an e-logistics network focusing on global operation. The main difference between 4PL and 5Pl is that 5PL provides an extensive focus on e-business solutions. 5PL are committed to achieve the minimum cost, through aggregation of 3PL demands into bulk volumes for negotiating more favorable rates with airlines and shipping companies.

5PL is the discipline that bridges the gap left between 3PL and 4PL providers. Where 4PLs attempt to provide supply-chain solutions with their own optimization software and the capabilities of 3PL resources, 5PLs use the buyers (first party's) existing technology and infrastructure to optimize the supply chain by transforming into a virtual organization.

IV. OUTSOURCING

Outsourcing is a cost cutting technique in which a company hires another company for performing its supporting services. These companies focus on their core business and let the other company for which its supporting services are their core services. This technique is being adopted in almost in all Industries. In other words, it lets the non-core activities done by some other companies which were traditionally being done by the company itself. It helps in cost cutting as the company for which the activity is its core activity will definitely perform better and, in a cost efficient manner.

4.1 Advantages of Outsourcing

1. Cost Cutting

Outsourcing helps in Cost Cutting as the company which has a core activity of doing something will do it in a cost-effective manner than any other company which doesn't have a it as its Core Activity. So this way company can cut its cost in labor costs, salaries, overhead equipment, and technology. For e.g. if a car manufacturing company produces a music system it will not be able to produce as cheap as any sound system manufacturing company.

2. Quality Product

A company which has a activity as its core will do it in best way rather than a company which has it as a non-core activity. So, if one wants to make a quality product then it's better to outsource it from someone who is good in that. For e.g. if a Refrigerator manufacturing company is just good at assembling than its better to get it outsourced from a company which is advanced and good in manufacturing the internal parts.

3. Focus on Self-Core Competency

One another benefit of using outsourcing is that the main company can focus on its core competency rather than breaking its head against some other subsidiary activity. For e.g. if a car manufacturing company produces a car and focuses only on car manufacturing will be able to manufacture good quality product.

4. Risk Management

It also reduces a lot a cost for the company which is outsourcing because if in case of not outsourcing then they would be setting up heavy plants and there will always be a risk of failing or not been able to produce good quality so leading to huge risk.

5. Staff Flexibility

Financial flexibility is another benefit that allows the business to scale up and down comfortably.

6. Competitive Edge

It helps in getting a competitive advantage to the company and increases productivity while managing in - house resources intelligently.

Understanding through some practical cases –

1. SLACK (American cloud-based collaborations tool)

Outsourced a Canadian design team Metalab for achieving success beta version of their product. They reached 15000 users within 2 weeks as they had outsourced the beta testing by metalab. So, they were able to reach get valuable feedback

2. WhatsApp

It needed to keep the operational cost low. For expansion it turned to Eastern Europe in attempt of searching tech talent. It outsourced most of its engineering staff offshore, as most of its staff was customer support and operations.

3. Klout

A startup which hires a custom-made development team.

4. Study tube (Online Education Platform)

Outsourced Engineering talent for its functioning as initially it was dependent on part time engineers which did not turn out to be successful.

v. CASE STUDY ON ZARA - PRACTICING 3PL AND OUTSOURCING

5.1 Introduction

Zara is a fashion chain brand established by a Spanish group Indotex owned by Amancio Ortega. Zara is a very well growing brand. Its core market is women in the age group of 24-35. In last two decades it has triple its profits and Stores. It's nowadays ranked third biggest retailer in the world. There 3000 designers' design 40,000 designs out of which 10,000 are manufactured. Zara is the pioneer in Agile Supply Chain. "The Cube" its huge automated distribution center is the heart of the company and its supply chain. It scouts the new fashion trends at social gatherings, clubs, etc. whenever a new design is seen its send to the designers at The Cube. These new items reach within 4-6 weeks. Because of rapidly changing designs people get confused online and thus are encouraged to come to their stores. Its clothing items are priced based on market demand, instead of cost of manufacturing. It spends a lot of its money in opening new stores rather than spending on ad Campaigns. At the end of 2017 Forbes estimated its sale to be \$18.98 billion. In 2018 Forbes has listed ZARA as the 46th most valuable brand in the world. The whole process of supply chain there can be divided into 4 major parts -

- 1. Product Organization and Design
- 2. Purchase and Production
- 3. Product Distribution
- 4. Sales and Feedback

5.2 Product Organization and Design

"Zara work to interpret the fashion instead of creating fashion." This means that Zara doesn't work to design new and innovative designs but it redesigns and reorganizes existing designs into new kind of products. These designs are taken from the sources like haut couture, prêt - porters, for example designs from something happening in streets, clubs, hotspots, etc. Its raw fabric is ordered long back before the production because of its long lead time. A lot of efficiency is put into this process as the fabric is ordered uncolored for the flexibility to change color depending on the trends.

Zara has a great balancing in its outsourced activities and in - house Activities. Like in case the heavy labor activities like sewing, coloring, etc. are outsourced to companies nearby to its headquarters. While the other activities like designing, prototyping, and computer aided fabric cuts are done by hand held units. Once the product is ready after production, it is sent to the stores. Also, for faster and efficient working bar codes are attached to every product which can pick 80,000 clothes at an error rate of 0.5%.

5.3 Purchase and Production

Purchase is important to organization as every single unit from marketing, sales, design, engineering, manufacturing, etc. passes through purchase department. Through supplier selection and product decision making purchase is changing from purely operational to much more strategic.

Strategic Procurement		Operational Procurement	
Goals: 1. 2. 3. 4. 5.	Right Place Right Quantity Right Quality Right Time Right Price Right Supply	Goals: 1. 2. 3.	Manage uninterrupted flow of materials and services Manage cost of operational activities Minimize inventory investment and lost
Activities		Activities	
1.	Developing procurement strategy and aligning it with the overall organizational strategy	1.	Preparing forecasts with quantities and delivery times required
2.	Assessing the supply market	2.	Collecting demands
3.	Gathering information, identifying suitable	3.	Controlling authorization issues
	suppliers	4.	Placing purchase orders
4.	Selecting supplier	5.	Follow-up purchase orders
5.	Negotiate company's supply contracts	6.	Communicate with suppliers
6.	Evaluating supplier	7.	Taking care of administration: delivery, tax and
7.	Management critical commodities	_	regulatory issues, invoices
8.	Managing relationships with critical suppliers		Monitoring the shipments
	and the rest of company	9.	Managing transaction with suppliers
9.	Monitoring procurement performance	10.	1 1
10	. Improving the procurement processes		Generate and forward material releases
	Developing an electronic procurement	12.	Provide suppliers performance feedback

(Zhelyazkov G. I., 2011)

Table 1 - Comparison between Strategic Procurement & Operational Procurement

Zara's main manufacturing is located in the northwestern Spain where company's headquarters and the cube are located. All the Raw materials are sent by the suppliers to the manufacturing center. Then the finished goods leave the CUBE and are sent to Zara's logistics hub in Zaragoza. From there goods are sent to different parts of world through Plane and Trucks. Production in Zara is kept minimal leaving extra capacity of products reserved for the manufacturing. The lots are kept small in size because larger lots can lead to increased inventory which may lead to huge amount of dead stock. The stores all around the world can used to decrease the lead time. Depending upon the two important factors of production - Complexity and Uncertainty products are divided into 4 categories –

	High Complexity	Low Complexity
	Fitness for purpose timeliness Example:	Timeliness / Flexibility Example:
High Uncertainty	Aerospace Shipbuilding	Cosmetics Textiles
	Key competences: 1. Product design 2. Construction	Key competences: 1. Time To Market 2. Supply flexibility 3. Product design
	Value for money Example: 1. Automotive 2. White goods	Price Example: 1. Simple components 2. Stationary
Low Uncertainty	Key Competences: 1. Product quality 2. Supply flexibility 3. Efficiency	Key Competences: 1. Manufacturing 2. Logistic productivity

(Zhelyazkov G. I., 2011, p. 11)

Table 2 - Types of Complexities and Uncertainty

Zara's outfits have lower complexity but higher uncertainty. Zara is reducing this uncertainty with smaller consignments, so there is less risk. Zara has a huge network of lead with a very fast lead delivery. It sends its products in different parts of the world in a couple of days. Some of the delivery estimates in some major countries are -

1. China - 48 hrs

378

- 2. Europe 24 hrs
- 3. Japan 72 hrs
- 4. U.S. 48 hrs

Fast fashion doesn't apply to the whole segment, same with Zara. So for example Zara has also some long lead time products like it manufactures some clothes like undergarments in china due to lesser cost but the lead time is higher whereas some good priced and trendy clothes are manufactured in Portugal and Spain with very less lead time.

Processing at the CUBE

- 1. The CUBE is ZARA's Global Distribution Center. It's a 5 million sq feet and highly automated which has a monorail to link 11 factories in a radius of 16 kms form The CUBE. It works with following steps -
- 2. Zara buys major quantities of little type of fabrics for garment designing, dyeing etc which is delivered by the fabric manufacturers to The CUBE within 5 working days of orders being placed through its Inbound logistics of trucks. It purchases its main supply from Italy, Spain, Greece and Germany.
- 3. All the raw materials pass through the CUBE.
- 4. Also all the finished goods reach The CUBE through those superfast Monorails to return finished products to The CUBE.
- 5. Then finally from The CUBE the finished goods are sent to its main logistics hub at Zaragoza.
- 6. Then from there finally the finished garments are sent different stores all around the world through plane and trucks.

The Processing is explained in the diagram below –

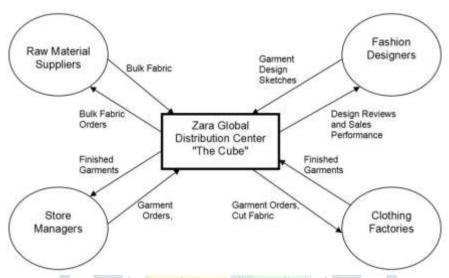


Figure 3 - Zara's Supply Chain

5.4 Zara v/s Competitors

- 1. Zara has a lot of advantages over its competitors in many fields. Some of them are -
- 2. Zara has 3000 designers which produces 40,000 designs every year. Out of which only 10,000 are manufactured whereas its competitors produces only 2000 4000 designs every year.
- 3. Zara has a pioneer in the Industry in Agile Supply chain Management, which is a advantage above many competitors.
- 4. Zara changes its designs every two weeks whereas its competitors do the same in 2-3 months.
- 5. Zara does not maintain a lot of excess inventory like other competitors as they produce fewer items because of its agile and fast supply chain it fulfills its demand quickly, so doesn't has to bear losses also.
- 6. Zara's customer visits their stores 17 times a year compared to 3/year for its competitors.
- 7. Zara has 12 inventory turnovers per year whereas its competitors have only around 3-4 per year.
- 8. Zara sells its 85% of stock at MRP while compared to the industry average selling of 60% of total products at MRP.
- 9. It has annually 10 % unsold stock which is much less than the industry @ 17% 20%.
- 10. Other competitors competes on the basis of cheap labor and low cost whereas Zara has Zara has employed 3000 workers in manufacturing @8 Euros/hr which is quite high compared to the average cost in Asia which is 0.4 Euros/hr.
- 11. No competitor can copy Zara's business model, which is mainly its supply chain. Any supply chain consists of its people, process and technology which can't be copied by anyone. For any competitor to copy its buying technology it has to learn mental models and operating procedures of Zara, which is not easy to do.

5.4 Production Distribution

Nowadays agile supply Chain Management is given much more importance to tackle fast and unpredictable demand. New businesses are considered to be competing on the basis of effective Supply Chain Management. The faster the Supply Chain Management the higher the market growth.

Zara is the world pioneer at fast Supply Chain Management with it's twice a week supply to its stores whereas the competing companies take 6-9 months. By this Zara wants to minimize the risk and keep the stores fresh as due to less products at store people come again & again to shop new designs. To manage supply chain correctly it considers a lot of variables like weather Condition, Shelf Life, Specific Customer requirements, sales forecast, etc. Its success factors are efficient Supply Chain, efficient organization Management, customer Orientation. Retailers take all possible consideration into notice. A classic example of it listening to its customers is when 9/11 act in New York it reacted and for a week all the colorful clothes in the stores were

replaced by Black and Dark color clothes. Another important success factor is that the smaller scale of production helps Zara to reduce its working capital requirements which in turn lead to reduce its short term loans.

5.5 Sales & Feedback

Zara gives a lot of importance to its customer preference and feedback, which helps it a lot to grow. It treats its customer very well which gives it some very loyal customers. It believes that if customer and company both treat each other nicely then they can have a long term partnership. In this direction it uses Shared Situation Awareness by Sull and Turnocni, In this its designers usually visits the stores to gather data on sales and inventory. Thus data is used to analyze their situation. This process has 3 major steps -

- 1. Observation of Raw Data'
- 2. Making Sense of Raw Data
- 3. Testing Hypothesis

Sales and Replenishment data is used by the store manager to analyze the situation and also he/she has the liberty to order products based on the analysis rather than keeping the items sent by the company. They are encouraged to analyze the data accurately because the accuracy is used as a measure in deciding their incentives. The qualitative data is gathered through various ways -

- 1. Customer Feedback Forms
- 2. A meeting after the store is closed among the store management team to discuss the major liked items and also the products which were tried and left.

These data are sent to the Zara's headquarters for analysis. Here data is analyzed by 3 different teams for men, women and children. Then the solution after the analysis is sent to the stores for implementation and then a follow up is done with the stores ensuring the solution of problems.

5.6 Implementation of Some Important Theories in ZARA

1. Consumer Driven Process

Consumer Driven Companies means customer focused companies. This is a very important theory because ultimately any company's main objective is to serve its customer well. Zara is a customer agile company. It maintains a close relation with its Customers and designers with the help of gathering information like sales, staff satisfactions and grievances, customer satisfaction and feedback, etc.

2. Retailer Power

Fashion Industry is a hell for traditional retailers, so retailers nowadays wishes to work with agile suppliers so that they don't have to carry excess inventory and suffer losses due to dead stocks. This thing is the strength position of a retailer in the market. Zara doesn't face any such problem because it owns its stores. Doing this avoids all e problem stated above.

3. Agility - Impacts of the supply chain

Dynamic and turbulent market and customer demand has introduced Agility. In the process of being more customers oriented the need of decreasing lead times and being flexible in fast fashion were introduced. Zara has assured full flexibility and agility due to designers, buyer experts and management in one place which helped them in developing an efficient Supply Chain.

VI. CONCLUSION

This study gives us information about the importance of Third party Logistics and outsourcing. They both have certain common benefits through which every organization tries to improve its performance. The evolution of Third Party Logistics also states the different components involved in Third Party Logistics which evolved bit by bit over the years. For this we have done in depth analysis of Zara's supply chain. The paper includes comparison in strategic procurement and operational procurement. Complexity and Uncertainty acts as two important factors of production. Because of these two factors companies choose to outsource their secondary function, it can be Logistics, Production etc. The paper also focuses on some important theories implemented by Zara and along with this the study also includes the advantage Zara has over its competitors due to its implementation of agile and efficient supply chain management. Choosing a third party logistics service provider for a company can be a complex process, the paper includes the literature review which mentions certain steps through which a company can choose their logistics service provider.

VII. REFERENCES

- [1]. BCR. (2014, June 17). BCR. Retrieved from https://bcr.com.au/2018/12/14/1pl-to-5pl-the-differences-between-a-3pl-logistics-provider-and-other-logistics-service-providers/
- [2]. Catay, B. (2007). Logistics Outsourcing and 3PL Selection: A Case Study in an Automotive Supply Chain. JSTOR, 26.
- [3]. Farahani, Reza; Rezapour, Shabnam; Kardar, Laleh;. Logistics Operations and Management: Concepts and Models. Elsevier.
- [4]. J.Housie, P., Tan, A., Sundarakani, B., & Koźlak, U. o. (2012). Determinants of fifth party logistics (5PL): Service providers for supply chain. JSTOR, 31.
- [5]. Matlack Leasing. (2018, January 16). Retrieved from https://www.matlackleasing.com/2018/01/3pl-4pl-5pl-logistic-services-whats-difference/
- [6]. mhugos. (2015, January 15). Retrieved from SCM Global: https://www.scmglobe.com/zara-clothing-company-supply-chain/
- [7]. NPFulfilment. (2014, September 29). Retrieved from https://www.npfulfilment.com/advantages-third-party-logistics/

- [8]. Ratings, C. (2018). Overview of the India Warehousing Industry. 14.
- [9]. Team, D. (2017, November 17). DAXX. Retrieved from https://www.daxx.com/blog/development-trends/outsourcing-success-stories
- [10]. Twin, A. (2019, June 25). Investopedia. Retrieved from https://www.investopedia.com/terms/o/outsourcing.asp
- [11]. Zhelyazkov, G. I. (2011). Agile Supply Chain: Zara's case study analysis. Semantic Scholar, 11.

