

E-Commerce Logistics- Impact, Challenges And Futuristic Scope

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Abstract- *With the progression of time, e-commerce sector has tremendously transformed in past couple of decades. The e-commerce revolution and rapid emergence of new technologies have significantly impacted the logistics and supply chain operations in the competitive marketplace. Therefore, e-commerce and logistics have taken the business strategies to another level for improving the efficiency and effective performance in the market. Clearly, e-commerce application in logistics has changed the way how traditional markets operate. Furthermore, e-commerce & logistics together have supported the large enterprises to widen their horizons by escalating their global sales network providing the consistent quality assurance with safe and sound online payment system while purchasing items online. In addition, modern communication tools like e-mails, online ordering system have also enhanced the decision making capabilities of whole supply chain management. However, there is still a breach between performance of e-commerce vendors/ logistics and consumer expectations. Although digital commerce has benefited the logistics performance in a number of ways but at the same time it is accompanied with some challenges such as managing the appropriate costs. This paper explores the impact of e-commerce on logistics and supply chain operations, supporting techniques and standards for e-commerce logistics. Electronic commerce coupled with recent technological advancements has majorly contributed in the extension of logistics market across the globe. In the present paper, a special emphasis is given on current risks and challenges while implementing the e-commerce in various logistics operations. Also, future directions and scope of e-commerce logistics are explained with some proposed solutions to successfully create new opportunities for effectual management.*

Keywords- E-commerce logistics, Supply Chain Management, Urban Logistics, Big Data Analytics, Internet of Things, Third Party Logistics, Electricity driven transport mediums

I. INTRODUCTION

Electronic commerce vendors need to maintain the balance between cost of the items purchased, services offered to the customers and product delivery at right time in order to

secure their place in today's highly spirited market scenarios. Presently, e-commerce is not only restricted to the traditional banking operations, instead it has now become a vital tool of modern logistics and many other industries. Moreover, e-commerce logistics implementation in supply chain management has also largely influenced the efficiency of material flow in different businesses. Business to Business (B2B) and Business to Consumer (B2C) transactions have also been changed due to large computer network, trading and other services. Digitised revolution and widespread usage of internet has further enacted like icing on the cake in the development of e-commerce logistics. Importance of logistics and e-commerce collectively can be well understood with the fact that several newly emerged e-commerce companies have failed and some are struggling for financial endurance due to negligence of logistics ^[1]. Subsequently, online shopping trends have also amplified than before and seeking more interest towards urban logistics. Such events have certainly impacted the e-commerce volumes. While examining the past events and evolution of implementing e-commerce in logistics and supply chain, a considerable development is seen. As in 1970s shopkeepers and suppliers were directly commuting without any middle man. Whereas in 1980s, retail distribution centres played a central role between domestic suppliers and shops. Similarly till 1990s increased global sourcing was observed exploiting the worldwide efficiency in the sector. On the other hand, in 2000, electronic commerce models established successfully in urban logistics, which is continuously benefiting the e-commerce logistics until now ^[2]. Just like every coin has two sides, in the same fashion with a number of advantages, e-commerce logistics is also accompanied with certain challenges like maintaining suitable costs, management, flexible product delivery and reverse logistics. Therefore, future strategies of e-commerce application in logistics require careful handling to get profitable outcomes.

II. IMPACT OF E-COMMERCE ON LOGISTICS AND SUPPLY CHAIN MANAGEMENT

E-commerce primarily refers to buying, trading or selling services and products over the internet which is mainly done by the businessmen or customers. Recent technologies

and the age of World Wide Web have resulted in dramatic decline of traditional retail centres. In contrast, online shopping trends have considerably increased. Logistics has now become the core entity of electronic commercial companies. Rapidly growing e-commerce businesses have shifted the paradigm of global logistics industries. Also, e-commerce logistics holds huge potential for improving production, retail and various service operations. One of the most beneficial impacts of e-commerce logistics is that it promotes a closer relationship between suppliers and consumers because of easiest communication modes like internet for product knowledge and transactions. Similarly, speedy widespread of e-commerce has swiftly enhanced the customer services. In short, modern logistics supply has narrowed the gaps between e-commerce enterprises and consumers. Therefore, leaving behind the conventional logistics operations, four different types of logistics functions may be considered in today's digitized era ^[3]:

- Online order placement on different e-fulfilment centres such as Flipkart, Amazon
- Centres for order sorting
- Product delivery
- Centred seamlessly integrated technology

Thus, e-shopping and efficient transport capabilities have become the key factors while making effective decisions for business processes. Besides, higher online sale rates are observed around the areas having high density population with greater sustainability expectations ^[4]. Likewise, cross border logistics arrangements and e-commerce operations have become a crucial & tricky component to distinguish local and international e-commerce markets. To meet such necessities appropriately in today's competitive market, manufacturers give much more emphasis on the customer prospective. In several companies for the purpose of improving the overall image of corporate sector, self built logistics and third party logistics are combined to strengthen the promotion activities and increase the customers. Subsequently for the completion of Business to Customer online transactions in e-commerce companies, a strengthened corporation is needed. E-commerce logistics is not only limited to the delivery of orders, instead it has evolved the logistics and supply chain from manufacturers directly to the stores or customer home ^[5]. Transportation and e-commerce logistics products are flourishing everyday supported with smart ideas and new concepts in the supply chain management. While discussing the channel management, Multi Channel retail is potentially replaced by the Omni Channel Retail which has led to a flawless customer experience about various services. All this has also made the much needed change in integrated processes and information system. Meanwhile, emerging trends of cloud computing,

social networks, mobile applications, big data analytics application, data mining, supplier choice and logistics information are highly affecting the e-commerce logistics and supply chain management. The main reason behind this is the changes in purchasing habits of consumers as they utilise social networking sites and other e-commerce shopping sites to purchase different items online saving their times. Therefore, with vast number of benefits and opportunities in e-commerce logistics, the challenges are now shifting towards proper synchronisation and standardization of business practices in order to achieve real time admittance and customer needs.

III. E-COMMERCE LOGISTICS- CHARACTERISTICS AND FUNCTIONS

E-commerce logistics characteristics are chiefly adapted from manufactured goods, order placing, stock management, warehousing and distribution up to their final delivery in order to maintain efficient functioning of e-commerce in logistics. There is utmost need to establish a consistent logistics system. Logistics implementation into e-commerce primarily focuses on dropping the risks involved in maintaining virtual relations between service providers and customers. Almost every logistic activity in e-commerce is surrounded by some or the other attributes of logistics ^[6]. The process that how of e-commerce logistics firms operate, it may be best explained with its functions in forward and reverse direction. Forward direction working involves the process of placing an online order, maintaining the transactions done with debit cards, credit cards, bank transfers or via COD (Cash On Delivery) and then delivering the item at different locations. Whereas, in reverse direction functioning, reverse logistics may be considered as a basic component where ruined shipments are sent back to the e-commerce companies which are later on replaced with proper materials. Therefore, for proper functioning of any e-commerce logistics company, it is very important to understand and retain the balance between basic characteristics of it because they build the basic foundation in the success of a company ^[7].

IV. DEFIANCE IN E-COMMERCE LOGISTICS PROPULSION

Although e-commerce and logistics duo has taken the advantage over traditional business practices but some of the poorly coordinated resources due to industry segmentation are still hindering the seamless path of e-commerce logistics. Moreover, in today's aggressive market scenarios, a number of new firms enter the market everyday thereby increasing the already existing gaps to maintain a sustainable productivity headed towards growth. One of the main challenges in e-

commerce logistics is sorting the large volume of delivery orders to distinct locations on time. Also, the interoperability at different levels in logistics supply chain may be challenging to manage. Above all, cost management emerges as the biggest challenge to get profitable outcome. One of the most definite reason is transportation of the goods internationally at different sites where reverse logistics further increases the burden of this sector affecting the economic growth of a company. Sometimes, warehouse capacity may also be below international standards to utilise effectively. In simple words, land scarcity may resist the dedicated repositories to establish standardized e-commerce activities. In recent practices, last mile e-commerce logistics is also noticed as a main challenge encountered in e-commerce logistics. Compared with offline business modes, companies may not be sufficiently able to handle the 24/7 availability to the consumers which is one of the supreme factor while planning potent logistics processes. Here, position of third party logistics in e-commerce companies may also come with certain shortcomings such as they may not satisfy the customer needs effectively. Consequently, they may also disclose the important information related to company's strategies which may drastically affect the competitive growth^[1].

V. FUTURE- SCOPE AND TECHNOLOGICAL CONSIDERATIONS IN E-COMMERCE LOGISTICS

In e-commerce logistics, trading, volume and management play equally important role. With the advent of recent technologies that may support the e-commerce, a number of new sources are there to support and upgrade e-commerce logistics. Application of big data analytics, internet of things and cloud computing may significantly affect the future perspective. Not only small scale industries, but giant enterprises may also build a smart network utilizing such technologies to formulate their intelligent environment accompanied with smart sensors, objects, architecture and vehicles. For example, they may use drones, electric trains as one of their transport mediums to achieve fastest package delivery. Subsequently, large computational aptitude may help in providing optimal solutions and assist in decision making to benefit the local and global business practices. Therefore, new customer expectations essentially need new solutions at each stage of supply chain management in e-commerce logistics to go with the high market needs. Big data application may become a powerful tool to operate and guide the future business strategies through carefully analysing the customer demands and forecasting the various events. Along with this future e-commerce market may include the combination of electronic hierarchies. In urban logistics, electrified distribution of various items may further enhance the transport to inner areas reducing the toxic combustion and increasing

the sustainable distribution. Clients in e-commerce are laying down new desires for the distribution of goods like shipment tracking throughout deliverance. For this reason, skilful management and open platforms for information exchange may supplementary facilitate the real-time visibility and tracking the entire activities with different stakeholders.

VI. CONCLUSION

Old age logistics operations are considerably transformed with the application of e-commerce in logistics system. But now, making a balance between customer needs and sophisticated ways of purchasing items, it is required to keep the whole logistics ecosystem upgraded with upcoming technologies. In order to reduce several risks due to reverse logistics, special care should be should be taken into consideration for protection, presentation and the cost management of packaging during transport and delivery of merchandise^[6]. Due to increased growth of urban logistics from past few decades, it is also essential to utilise the environment friendly transport sources. Assimilation of every contributor in supply chain through mutual initiatives may also powerfully lever the approaches to encounter challenges of e-commerce logistics in urban areas. Expansion of information and communication technologies can potentially break down the barriers that resist the e-commerce companies to grow. Big Data Analytics application and data mining techniques are creating a room for more improvements, opportunities and intelligent environment with new dimensions. To get fruitful outcomes, companies need to focus on solving various risks emerging due to third party logistics and policies should be carefully made to evade problems. Even though, big data analytics application in e-commerce may benefit the e-commerce logistics performance, but making strategies to circumvent the security related challenges related to it should also be considered to protect customer's privacy and security. At last, it is equally important to have knowledge about various government regulations to achieve a noteworthy and successful level in global marketplace avoiding any resistance to match the international customer requirements.

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