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ASSESSMENT OF E-MARKETPLACE IN INCREASING THE COST EFFICIENCY OF ROAD TRANSPORT INDUSTRY

Dasharathraj K Shetty¹, R K Raju², Nishu Ayedee³, Babita Singla⁴, Nithesh Naik⁵, S.Pavithra⁶

¹Department of Humanities and Management, Manipal Institute of Technology, Manipal Academy of Higher Education, Manipal, Karnataka, India

²Bangalore Institute of Management, Hulimavu, Bangalore, Karnataka, India

³Bharati Vidyapeeth (Deemed to be University), Institute of Management and Research, Paschim Vihar, New Delhi, India

⁴Chitkara Business School, Chitkara University, Punjab, India

⁵Department of Mechanical and Manufacturing Engineering, Manipal Institute of Technology, Manipal Academy of Higher Education, Manipal, Karnataka, India

⁶Bharathiar School of Management & Entrepreneur Development, Bharathiar University, Coimbatore, Tamil Nadu 641046

Email: nithesh.naik@manipal.edu⁵

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ABSTRACT

This article focuses on the e-marketplace and the Road Transport Industry in India, with the necessary references from the international market, including the history of the development of these two industries, as required. Once discussed individually in detail, the relationship between the two industries is discussed. The research discusses the e-marketplace industry in detail, while also explaining the relationship between e-commerce and e-marketplace. A detailed look is then made into the functions of the e-marketplace, its components, and types. Thereafter, the advantages and disadvantages of e-marketplace are also detailed. A quick look is also made into the reach and extent of the e-marketplace and its performance in India. The Road Transport Industry is discussed in detail after e-commerce, together with the challenges therein. The article discusses the Electronic Logistics Marketplace (ELM) in detail and the amalgamation of the e-

marketplace technologies with the Road Transport Industry/Logistics Industry. It discusses the benefits of technology implementation by the logistics industry, the available technologies, and how the ELMs are leveraging these technologies. Also discussed are the types, functionality, and benefits of ELMs and the challenges therein. Finally, the chapter discusses the performance of ELMs in India and the global factors influencing it.

1. Introduction

Businesses have to keep up with the times to grow in scale. This means adopting and implementing new methods that every other competition is adhering to. With the growth of the Internet, more and more businesses are trying to go digital and are participating in e-marketplaces. A recent study suggests that the principles of market and marketplace trading have not been changed by the rise of technology, the digital era, and the electronic environment they have built. The study argues that if at all, it has only changed the way society goes about trading while the principles stay the same. Technology does facilitate the market happenings and the businesses therein, but in no way is it the reason for the market to exist and function. Hence, online marketplaces must offer visible, tangible benefits over the traditional market for them to succeed. They must also encourage and support other firms facing difficulties from switching to technological means. Therefore, the study suggests that for the online marketplaces to succeed they must be as good as or better than the traditional markets. They must offer extra value for their customers through rich, complex, and complete services.

Ever since the beginning of the new millennium, the industry has shown signs of growth and studies have estimated quick growth within a decade. Now we are in the second decade of the century. It was predicted that the US firms would shift 42% of their online trading to e-marketplaces in five years, leading the trading revenues to exceed USD 3 trillion in 2006. For the European B2B e-marketplace, the same was expected to go beyond USD 2.8 trillion. It was also estimated that the B2B e-marketplaces, which accounted for just 3% of the global trade in 2000, would surge to 36% in five years (Jupiter Research, 2002). Not only that there were predictions of e-marketplaces churning revenues over USD 7.3 trillion in 2007. While not all the estimates were realized by the industry, the future seemed to be bright with many technological innovations taking place at an unprecedented rate. There were glitches initially, but most of the industry leaders and academic institutions projected a prosperous future. Another critical estimation made was that while the e-commerce numbers may keep varying with survey time and different calculations, a clear trend has been observed highlighting significant growth of B2B e-commerce over the B2C e-commerce, owing to the significant contributions of the e-marketplaces.

This paradigm shift is taking its time and happening slowly due to varied reasons. However, one of the most important reasons for the slow transition is the reluctance to trust digital technology by businesses. This reluctance is

keeping them away from enjoying the benefits of the e-marketplace business model. It is important initially to understand the e-marketplace environment. The traditional practices are never easy to shed and move on to a newer model without prior knowledge. Subsequently, many are struggling for the adoption of e-commerce technologies. Another reason for the reluctance comes from the fact that extending oneself into a new form of trading in the market comes at the vulnerability of exposing oneself to newer competition while having limited knowledge.

However, with the shift of customers from traditional means to the newer models, wherein service and transparency are flexible of cost, the firms are also being forced to shift to the e-environment to retain their customers. At the same time, many firms are shifting to the e-marketplace to expand their customer base, reach more customers from diverse geographies, thus adding to the competition in the market. As the firms realize more and more about the barriers as well as the benefits offered by the e-marketplace, they are bound to organize better, analyze deeper, and plan their moves more effectively. Only then, the firms would be able to realize the benefits of the e-marketplace in the logistics industry. Also, in cases wherein the firms' partner with established customers online, the benefits can be furthered and new relationships can be developed upon an understanding of the e-environment by both sides. [1]

2. Background

Rosemary Stockdale and Craig Standing, in their paper, 'Benefits and barriers of electronic marketplace participation: An SME perspective' define an e-marketplace as 'an inter-organizational information system that allows multiple buyers and sellers, and other stakeholders, to communicate and transact through a dynamic central market space, supported by additional services' [1]. They argue that despite electronic interventions, the characteristics of the marketplace have not altered, with the barter of goods for goods or money continuing to remain the driving force of human socialization (McMillan, 2002), as to the Agora of Ancient Greece. However, they agree that an increasingly electronic environment has helped in facilitating the transactions better and suggests that improved facilitation, advantageous offerings, and value-added benefits are core to the success of the e-marketplace and the encouragement of newer entrants.

According to the above definition, an e-marketplace is a platform where buyers, sellers, and stakeholders come together, communicate, choose, buy and complete a transaction with other additional services as a bonus along with the performed transaction. Hence, this doesn't just involve a B2C kind of a transaction wherein you go on to the e-marketplace website, browse through the catalog and buy what you require; for example, Amazon or Flipkart, B2B transactions can also happen here [7].

The E-marketplace is also known by different names, such as market space, electronic intermediary, web or virtual marketplace, market maker, exchange, and E-hub, with diverse definitions. For this study, we would stick to the definition of an e-marketplace as an Internet-based virtual marketplace,

bringing together an array of companies that undertake economic transactions. Private firms and industry collaborations were the first ones to launch E-marketplaces; for instance, a private e-marketplace is run by a collaboration of Cisco and Dell wherein they sell their products and services. Harley-Davidson also has a private e-marketplace set up designed to invite multiple vendors to bid. Industry consortia such as Covisint, an auto industry, led by GM, Ford, and Chrysler, and Exostar, an airline industry, led by Boeing, also have set up their e-marketplaces to derive its benefits. There also exist independent industry marketplaces like the ChemConnect. Owing to the independent nature, they maintain a neutral position in the virtual marketplace, biased towards neither the buyer nor the seller, thereby facilitating fair transactions on their sites. [2]

This definition gives an overview as to how this new form of business functions and is different from a traditional marketplace. Structurally though, an e-marketplace can be distinguished based on certain parameters. However, it is a complex process to effectively classify the B2B e-marketplaces. The supply chain may expect diverse and varied requirements and functionalities from the e-marketplace within a single market. Hence, as opposed to being market-driven, it may be driven either by functionality or by-products. Alternatively, as in other instances, it may be driven by the potential business benefits, exclusively. It may, therefore, not depend on the products that are involved. [3]

Another way of classifying the e-marketplaces further would be by segregating them into the two categories of vertical or horizontal. Those e-marketplaces that are specialized in a particular industry, for instance, automobile, electronics, computers, steel, chemicals, agriculture, etc., providing integrated services in a particular industry, may be classified as vertical e-marketplaces. These are unique to a particular industry. Examples of vertical e-marketplace category would be Paper Exchange, E-Steel, and PlasticNet.com. On the other hand, the horizontal e-marketplaces deal with transactions not limited to a particular industry. They deal with various kinds of cross-industry items. TradeOut.com is an example of a horizontal e-marketplace. They provide aggregator services of vendors and buyers, thereby helping the firms clear their surplus inventories more effectively. The examples include Vertical Net and MRO.com. [2]

Differences are found to be there in the elements of these different e-marketplace structures. These elemental differences play a critical role in defining the kind of e-marketplace business organizations are getting into. There are differences among the e-marketplaces, and they offer a wide variety of services. Still, three essential elements are identified in all the structures of the e-marketplace businesses. Those are: [1]

- Beginning of the marketplace — the owner and the operator of the marketplace
- Mechanisms of transaction offered by the marketplace
- Services and facilities provided to the participants above and beyond the regular offerings

While the above-mentioned are the different elements of the e-marketplace structure, discussed below are the various characteristics of an e-marketplace structure from an economic point of view:

- Reduction of cost at both the levels — information gathering cost of customers and communication cost of suppliers.
- Externalities of networking (Katz and Shapiro) — as more and more participants add to the network of an e-marketplace; the benefit factors increase for all the participants.
- The imposition of switching costs over the participant, which may be a significant amount considering the heavy investment required for integrating every firm on to the e-marketplace systems.
- The requirement of significant capital for joining the e-marketplace, in return of which, the firms can draw huge benefits through the economies of scale and scope.
- Huge uncertainties among the participants before joining the e-marketplace, which may continue to exist even after freezing the decision to join, due to the apparent lack of knowledge of the system and the learning curve that comes with its adoption.

The value proposition that the e-marketplace offers for both buyers and sellers is determined greatly by the several factors, discussed above. There are also various elements of the value propositions of the e-marketplace. These are discussed below:

- Increase in transparency at different stages of the e-marketplace transactions like pricing, quotations, cost, shipment tracking, billing, etc.
- Reduction in the cost of the search for customers, suppliers, as well as products.
- Reduction in time of administrative cycles, the time is taken for different approvals, and the internal transaction costs such as internal buying and selling.
- Secondary markets also appear for items such as overstocks, used goods, etc.
- Price competition is favored due to the increased number of suppliers for every service requested by the customers.
- Purchase power is aggregated in a certain product range.
- Auctions or dynamic pricing is introduced owing to the availability of multiple suppliers for every service request.
- Improvement in communication among the firms registered on a particular e-marketplace. [4]

3. Benefits of E-marketplaces

The E-marketplace is beneficial for businesses that are willing to broaden their horizon exponentially. Here, the ‘survival of the fittest’ phrase holds strong importance as it requires businesses to adapt easily and according to the scenario. With Information Technology (IT) taking over, organizations are gradually increasing their investment in data logistics. Hence, businesses also have to adopt these practices to gain an advantage and stay ahead of the

competition. It is also noteworthy that the advantages drawn by the participating logistics firms from the e-marketplace will be relative to their competency, capability, and effort made to keep abreast of the changing dynamics of the e-marketplace business landscape. Facilitated by Information Technology (IT), the online services are designed to provide access to the global market, change the methods of production and alter its cost, enhance communication, reduce the cost of the transaction, and stimulate competition. The use of e-marketplace by firms can be due to different reasons, one of the main being to lower the price of purchase for the purchasers or for them to reduce cost by making purchasing operations more efficient. For suppliers, the reason for joining the e-marketplace is to establish new markets for themselves and reduce the risks related to sales. The buyers obtain a threefold benefit by joining the e-marketplace. Firstly, they experience improved operations related to purchasing. For instance, by reducing the cost of search that keeps occurring steadily until the transaction has been completed, the firms offer improved services to the buyers at relatively lower costs. Secondly, a community of purchasers is established over time. The companies also tend to reduce the prices through detailed information about the suppliers and enhanced skills of negotiation. Hence, they tend to offer the best prices during the bidding. Thirdly, customers enjoy more integrated services for their demands from the firms as they are all using Information Systems (IS) to resolve issues. For instance, the firms readily provide services related to documentation, approvals, finances, account reporting, etc. Thus, the management of sales, as well as the customer, becomes more streamlined and the sharing of information becomes smooth. If the purchasing firms target to reduce the purchasing unit cost or improve the purchasing process, the benefits can converge into two. [2] To harness the abilities of the Internet to offer benefits to the users has become of priority for many industries today. It also comes from the fact that switching to Internet-based services has potentially produced savings above \$1 trillion worldwide from the annual expenditure of \$7 trillion. These spendings include the overall expenses on components, services, and supplies. At the same time, it has also been predicted by the industry analysts that the sales on B2B e-marketplace systems will grow ten times faster than those functioning for consumer-based revenues.

A report published by Forrester Research Group early this century indicates that by 2004, the B2B e-marketplace will account for 53% of the total online trades, which comes up to 8.6% of the worldwide overall sales of goods and services. This includes the process of auctioning, aggregations, bidding systems, and exchanges. Another study conducted by the Gartner Group predicts that the online trading industry will hit \$7 trillion by 2004, of which approximately 40% of the transactions will be made through various e-marketplaces. Similar predictions regarding the market share were made by the Forrester report too, which saw e-marketplaces capturing electronic supply chain share anywhere between 45% and 74% by 2004. These figures have already predicted a major shift from traditional trading to e-commerce, as the trading relationships move from one-to-one to many-to-many. Overall, there

were predictions of huge potential for the growth of B2B e-marketplaces. [3] These predictions were made a decade before – since then the e-marketplace has evolved to another level altogether. With digital technology becoming more compact, people can conduct business right out of a hand-held device like a tablet and an Internet connection. The advantages that Internet technology has brought to the table are monumental. A wide range of benefits may be expected from participating in an e-marketplace. The e-marketplace provides the purchasers with the opportunity to negotiate more aggressively as there are additional suppliers available. Moreover, aggregated purchasing opportunities and holding virtual auctions make the negotiation beneficial for the purchasers. Apart from this, there are advantages for the purchasers in terms of availability of the desired items, wide product range to choose from, streamlined and traceable delivery, and the likes. Also, purchasers can make simultaneous purchases with ease and convenience from single window access to all the parties available in the e-marketplace. Thus, this also helps suppliers with spot purchasing, inventory management, and surplus management. Suppliers also benefit in a way that they get a wide and new range of customers to expand their business into, at much lesser cost and with greater convenience [5, 9]. They receive exposure to new customers, their reach is widened, the efficiency of operations is improved, and they get the potential to increase their volume of transactions. At the same time, e-marketplaces also make it a level field for all types of suppliers to compete [3, 8]

The benefits are not just restricted to the buyers and sellers involved in the transactions. The logistics and supply chains that become a part of the whole transaction also create more need during deliveries. Employment is generated as a physical version of supplying logistics follows the Internet logistics that include website creation and management, catalog management, marketing, and more positions. It is also to be understood that few products are more suitable to be delivered through the e-environment than through the traditional marketplace. Hence, marketing strategies that help the e-marketplace and the distribution therein are also exclusive. It also works for the participatory firms to coordinate with international production and/ or marketing firms to digitize their corporation as well as their manufacturing and /or distribution into the supply chain system. That way they get the flexibility to allocate their resources, reduce the cost of production, speed up the time of delivery, and seize new business opportunities.

Another notable argument raised by academicians is that physically present logistics systems are not eliminated in any way despite the introduction of e-marketplaces. If at all, the importance of physical logistics systems has only increased. For instance, one of the major value propositions of the e-marketplaces is to organize and manage a complex portfolio of logistics service providers to cater to customer requirements. It must be noted that such management of the portfolio of physical logistics suppliers is imperative for the firms to deliver six-sigma quality of product delivery. For instance, the US-based General Electrics (GE) has shared the e-marketplace tender qualification to Shi-Lin Electrical Engineering Co. and Fortune Electric Co. Whenever GE

orders from either of these two companies, it expects them to deliver it at a six-sigma quality. Hence, in the mode of e-marketplace, the manufacturing and distribution capabilities of the firm have a positive impact on the effectiveness of the marketing strategies and practices of that particular firm. [6]

4. Barriers of E-marketplace

There are barriers to the E-marketplace as there are benefits. Barriers exist in this vertical mostly because of the gap in the knowledge about the E-marketplace. The benefits, thus, can be seen only in theory and not in practice yet, at least not completely. Many businesses are still ambiguous about getting on the 'electronic' bandwagon. Since knowledge about the functioning of traditional marketplaces is easily available, the same cannot be said about e-marketplaces. Moreover, earlier businesses have been functioning on a 'trust-based relationship' between two parties; they are not switching onto a platform where they do not find their own trusted parties to perform business. This trust issue is causing a hindrance for businesses from accepting e-marketplaces where they can find multiple suppliers of the same product on one platform.

Notably, not many firms can achieve the minimum level of expected adoption of e-marketplace technologies. Despite government-led programs to increase the adoption of e-environments, the lack of achievement in this regard raises concerns over the programs. There are several barriers to the adoption, the major ones being lack of relevant knowledge and the resource to implement adoption, the considerable lack of relevant skills among the business operators, the lack of trust in the Information Technology (IT) industry among the business operators, and the lack of readiness among the business operators in some industry sectors to adopt e-commerce. Another critical barrier to the adoption of e-marketplace technologies is the lack of recognition of the potential benefits of e-marketplace services among the firms. They fail to realize and acknowledge the long-term benefits of the improvement in operations that an e-marketplace brings in, and the benefits of investing appropriate efforts and cost in an organized manner. [10]

If lack of knowledge is one point under barriers to adopting e-marketplaces, the other point is that of trust. Businesses still do not trust e-marketplaces since they are unaware of the new technological advances. An open consultation was also launched on 'trust barriers for B2B e-marketplaces' by the Directorate General Enterprise to cater to related issues, the summary of the results of which are discussed herewith. The report confirms that trust is an important factor for the B2B e-marketplaces to function smoothly. The aforementioned consultation received high number of responses and the initiative received support from a large number of stakeholders relevant to the cause; be it the firms or the operators of the e-marketplace. Thereby, it is imperative to consider several codes of conducts in order to address the need for trust in B2B e-marketplaces. The European associations and US have come up with a number of codes of conduct and are actively promoting their development. The acknowledgment of the same further proves the importance of the codes of conduct, and thereby the trust in the B2B e-marketplace industry. [7, 8]

There are many trust issues that the participant firms, companies, operators and associations related to the B2B e-marketplace have expressed including security of data and transactions, confidentiality of information and clienteles, transparency of transactions and involved cost, clarity issues pertaining to the terms and conditions of the contracts, and ambiguity over the resolution of disputes. In order to raise the trust of the stakeholders of the B2B e-marketplace, several steps are being taken. Operators are ensuring that a lot of information regarding the issues of concern is made available on the concerned websites, except for online auctions, wherein the information is relatively limited. Arising out of low awareness level or difference in perspective, there is eminent trust gap, measures to address which are being taken up by the industry. [12]

5. E-commerce and SMEs

Rosemary and Craig Standing in their paper ‘Benefits and barriers of electronic marketplace participation: An SME perspective’ express that although the Small and Medium-sized Enterprises (SMEs) are not yet able to pipe out the expected benefits of e-commerce due to various reasons related to its adoption, yet it will be futile for them to ignore its rise. Rise of e-commerce, they conclude, is a significant threat to as it increases the competition and renders those firms vulnerable, which are not electronically enabled.

They identified multiple barriers that clog the growth of in the e-commerce marketplace, both internally externally. External barriers were explained as those, which are generally specific, and beyond the capability of the individual firms to overcome. These include the failure of the upcoming systems in understanding the needs of the SMEs, lack of common technology standards for the transactions that occur, and the e-competence within the industry sectors under which a particular SME operates. The internal barriers on the other hand are empirical and quantifiable, making it possible to calculate and address different business scenarios through strategic planning. These constitute the understanding of the e-environment for efficient action plan, integration of the supply chain to broaden the supplier base, financial restraints effecting infrastructural development, understanding of the social, cultural and economic complexity of global market, and finally the failure in identifying the benefits from e-commerce. [11]

Raising concern over many SMEs not even meeting the minimum levels of e-commerce adoption, they discuss several issues leading to the fall, such as the lack of common standards of transaction, failure to understand the Internet environment and its interactions, apprehensive understanding and sluggish action towards supply chain integration, and an intrinsic relationship-based market environment, which is apprehensive towards innovation and global trading. On the positive side, several advantages have been listed that can be gained by the entry of SMES into the e-commerce marketplace, both with respect to the consumer’s perspective other business. Besides, it will bring a wider market range, better partnership opportunities, administrative flexibility, ease of communication, round-the-clock access, personalized and improved

customer support, data and information update, lower transaction calls, and agility in the supply chain.

6. E-commerce Industry in India

E-commerce vs E-marketplace

Trading of products and/or services through a computer network, usually the Internet is termed as e-commerce. The trading may be of different types and nature, such as fund transfers, supplier chain management, storage or inventory management, data collection, electronic data interchange, mobile commerce, etc. Based on the interactions and flow of information across the stakeholders, e-commerce is classified into the following seven types: Business-to-Business (B2B), Business-to-Consumer (B2C), Consumer-to-Consumer (C2C), Consumer-to-Business (C2B), Business-to-Government (B2G), Government-to-Business (G2B), and Government-to-Citizen (G2C).

E-marketplace is a typical type of e-commerce. In the cases where e-commerce is run by a third party that enables the interaction, exchange, and flow of information, products and/or services between the buyer and seller online, it is termed as an e-marketplace. E-marketplaces are online platforms that help the buyer interact with its seller or vice versa directly, thus reducing the dependency on the intermediaries, among other benefits. Depending upon the classification of the e-commerce, the stakeholder combination might be as in B2B, B2C, C2C, etc. The online platform acts as a common retail base for the information/ads of the products by different retailers, as well as the other services that help facilitate the transaction and/or trade. Registration procedures are made mandatory for the participation of sellers and buyers in most cases, to place a wide range of classified ads or buy from a range of products and access related services, respectively. This is a clear difference from the B2C model where only the sellers were required to register to participate, while the buyers enjoyed free access to the marketplace. [13, 14]

Functions of the E-marketplace

As a facilitator, e-marketplace serves three major functions: matching of the buyer and seller, facilitating the transfer or exchange service, and providing an institutional framework. These functions are explained below (Figure. 1):

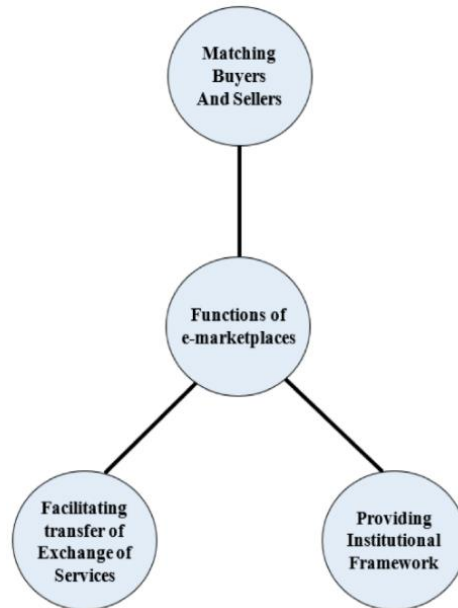


Figure 1. Functions of E-marketplace

- **Matching of buyers and sellers:** This is the aggregator feature of the e-marketplace. Available varieties of products and services are featured in the marketplace. The potential buyer is provided with all the information about the product or service to make the purchase of choice. The e-marketplace also facilitates the organizing services like bidding, bartering, price comparison and other sales-related services for smooth closure of the transaction.
- **Facilitating the transfer or exchange services:** Once the transaction or the intent of it has been confirmed from both the buyer's and seller's end, the e-marketplace facilitates for the logistic services. It may include services like delivery, transfer of information, goods and/or other digital services. This category also includes settlement services and provisions such as credit systems, rating services, etc.
- **Providing institutional framework:** Apart from the above, the e-marketplace also provides legal and regulatory frameworks for standard and smooth transactions to take place. This includes intellectual property protection, dispute settlement, export-import regulations, monitoring, etc. Other provisions include market-related information like government regulations, etc.

Components of E-marketplace

Various components form part of the e-marketplace. These are customers, sellers or suppliers, digital products, front-end services, back-end services, intermediary services, and infrastructure. While they sound familiar to the traditional marketplace, they differ slightly in the online world, as defined below (Figure. 2):

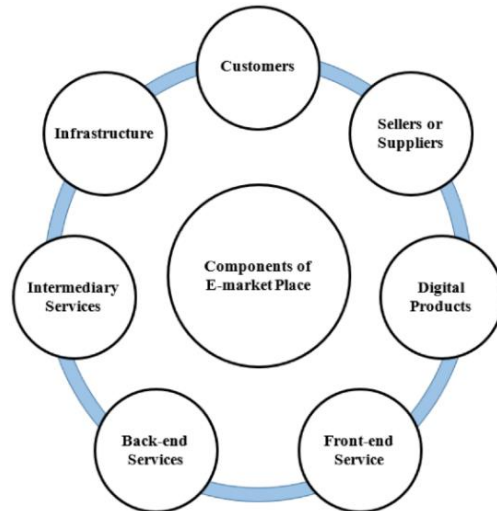


Figure 2. Components of E-marketplace

- **Customers:** It refers to the customers who come online and access the e-marketplace to search and trade for products and services. Activities undertaken by them may include searching for information on products and services, making product comparisons, placing orders, etc.
- **Sellers or Suppliers:** It refers to the individuals or entities who sell their products and services through the online medium in the e-marketplace.
- **Digital Products:** It refers to the products and services that are transferred into the digital format across the e-market platform for the buyers to transact.
- **Front-end Services:** It refers to the services that the buyers directly come across, like platform for interactions, shopping cart, search engine provision, payment gateway, etc.
- **Back-end Services:** It refers to the services on the provider's end, like management of inventory, shipping of goods, processing of the payment, etc.
- **Intermediary Services:** It refers to third party or affiliate support that helps the seller and buyer interact, and facilitates transaction, for instance the payment gateways, etc.
- **Infrastructure:** It refers to all the technological support and environment that an e-marketplace requires and uses to enable trade, like hardware, software, network systems, etc.

An important feature on an e-marketplace is its online store, the digital front. It is usually a website owned by a single entity. It acts as the common ground for all the exchanges of products and services to take place. These digital fronts offer multiple supports to the buyers, such as search engines for product search, provision of, provision of services like e-cart maintenance for easy management of product orders, maintenance of payment gateways and/or inclusion of e-auction facilities. [15]

Types of E-marketplace

Based on ownership of the e-marketplace, these electronic market places are mainly classified into three types [16]. These are (Figure. 3):

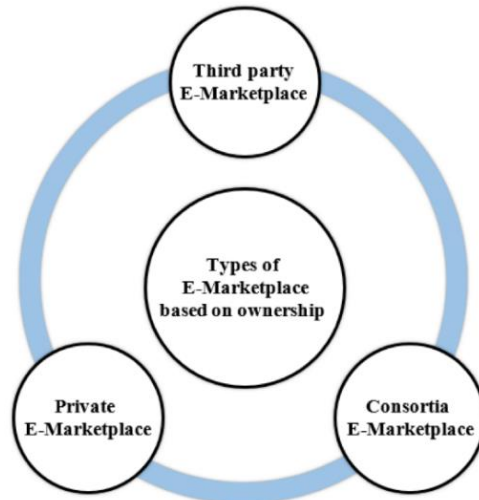


Figure 3. Classification of E-marketplace based on ownership

- Third-Party E-marketplace:** The online trading platforms that facilitate the interaction of the sellers and buyers are often run by third-party entities that do not have any direct possession of either the goods or the services. They run the e-marketplace by providing intermediary services and infrastructure. Such marketplaces are termed as Third-Party E-marketplaces. These marketplaces, thus, allow the suppliers to sell any kind of product or services, subject to their agreement to the terms and conditions set by the third party running the marketplace. Involvement of the third party makes sure that there is no monopoly over the sale of the products as no preference is usually given to the gains of the buyers or the sellers. The dependency of revenue generation is largely on the fees collected from its users.

Consortia E-marketplace: Many a time leading industrialists come together to establish an extensive network of distributors and suppliers online. The intent is to make the trading processes like procurement, etc., easier and smoother. The administration of the same is given to an independent organization, to avoid bias, of which the top executives from the involved companies are members. Such a system is referred to as Consortia E-marketplace. These market places are mainly buyer-driven and their revenue generation is similar to that of the Third-Party E-marketplace.
- Private E-marketplace:** This type of e-marketplace is set up by individual companies to integrate their own suppliers and buyers and bring them together on the same platform. The idea is to manage a single company supply chain, which links the organization with its trading partners. Such an e-marketplace, like in the automobile industry, is highly efficient for managing synchronized production processes. Higher level of privacy, and reduction in time and cost required for trade of goods and services are the major benefits of this type of e-marketplace. Sale of goods and services provided by the company is the key revenue source.

Based on the ownership structure and industry of focus, there are four types of e-marketplace, as discussed below (Figure. 4)

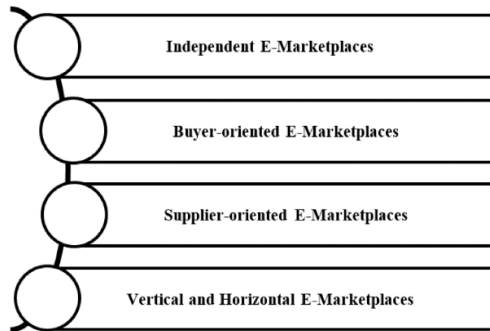


Figure 4. Classification of E-marketplace based on ownership

- *Independent E-marketplaces:* These are usually B2B online platforms owned and operated by a third party with the aim to attract large number of online buyers, sellers and suppliers. Participation is usually subject to some form of registration payment, post that a wide variety of services is available for the members like classified ads, e-catalogues, etc. Typically, the ratio of buyers and sellers is balanced in this type of an e-marketplace. Manufacturing processes or the services provided are in most cases, independent of the third party, as it remains restricted to infrastructural and intermediary support. Generation of revenue is based on several techniques like improving and expanding functionality, widening the scope of the business domain, etc. In addition, in some cases, non-marketing models are adopted to improve the efficiency, and thus the revenue. Key examples of this type of e-marketplace are Alibaba.com, BT Trading Places, eBay, Enron and Tejari.com.
- *Buyer-oriented E-marketplace:* Improved efficiency of the sales channel and an easier procurement channel for the organization are key to this type of e-marketplace, oriented mostly towards the B2B transactions. Usually setup by capitalists or high-ranking industries, and run by a group or an organization of buyers, it works by advertising the requirements to a large pool of suppliers. The pricing in this e-marketplace is based on the bidding system, and usually the lowest bidder bags the tender. The benefit of this marketplace is for the buyers for whom the information search cost is reduced and they also get exposed to a larger base of suppliers, leading to reduced price owing to increased competition. The number of suppliers thus, generally remains greater than the buyers. An example of this type is Exostar.
- *Supplier-oriented E-marketplace:* A large number of suppliers come together and setup this kind of e-marketplace, the key idea being leveraging of Internet and improving the sales channel, thus expanding businesses. The same supplier setup is accessed by both the usual customers and business buyers. This type of e-marketplace is generally run and used by independent electronic component manufactures, their aim being the reduction of inventory cost, improvement of the efficiency of their sales channel, and establishment of stronger relations with their regular customers. A few of the organizations who use such channels for sale of their products and services are IBM, Dell, CISCO, etc.
- *Vertical and Horizontal E-marketplace:* Vertical e-marketplaces are the ones that operate within the same industry, facilitating the exchange of

products and services within the various layers of an industry. The information thus flows vertically, which improves the operating efficiency, inventory management and decreases the number of supply chains. Typically, these market places also provide the platform for the buyer and the seller to trade, but only within an industry. Examples of such e-marketplaces are Automobile industry, Aeronautical industry, etc., to name a few. Horizontal, on the other hand, serves similar services, but across industries. Lower pricing of products and services, and the establishment of an efficient link between various industries are the two key aims of this type of marketplace. A major example of this type is Orderzone.com.

Based on the features and services provided by the e-marketplace, there are two different types [18] (Figure. 5):

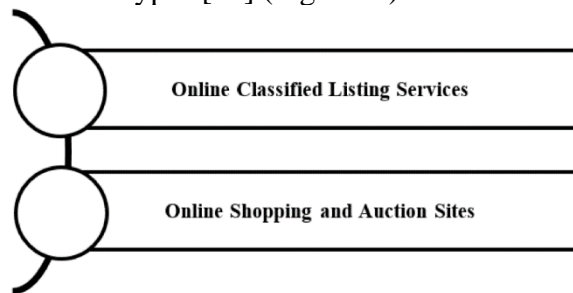


Figure 5. Classification of E-marketplace- Features and Services

- **Online-Classified Listing Services:** This type of e-marketplace is simple, provides basic services and usually does not have an inbuilt facility of payment. The services provided include display of product information, advertisements of the product, etc. Gum-tree and Trading Post are a couple of examples of this type of marketplace.
- **Online Shopping and Auction Sites:** This type of e-marketplace is highly accepted by various industries owing to its better services. The integrated services include payment gateways, inventory management, shopping carts, etc. Its user-friendly services ensure that it has a better customer base. The major examples of this type of marketplace include eBay, Amazon, etc. Figure. 6 shows the summary of the classification of E-marketplaces based on various criteria.

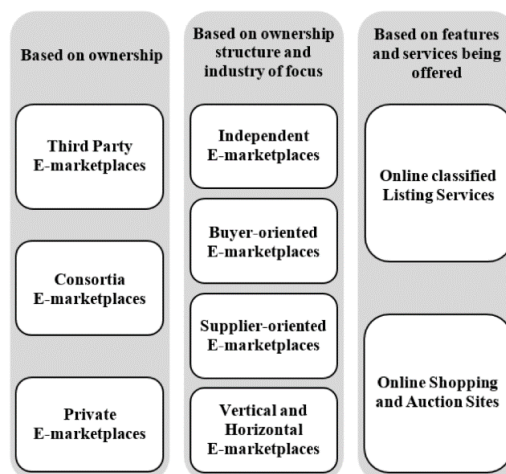


Figure 6. Summary of classification of E-marketplace

Advantages of an E-marketplace

There are many advantages of an e-marketplace, in general, either for the buyer, or for the sellers. Below are a few (Figure. 7):

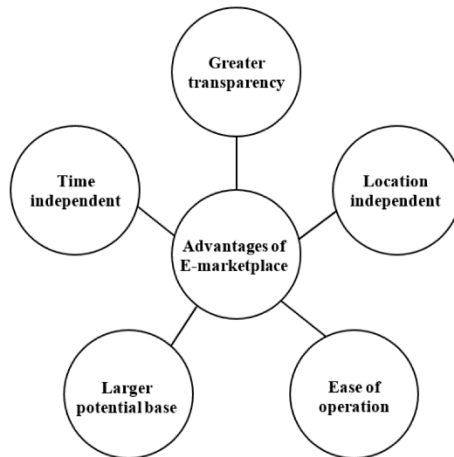


Figure 7. Advantages of an E-marketplace

- Larger potential suppliers and sellers base for each buyer, and vice versa.
- Greater transparency, reduced ambiguity and asymmetry of information between the buyers and suppliers.
- Location is not a limitation; does not require the buyer or the seller to be at the same location.
- Application of the concepts of Dynamic Pricing and Online Auctions is easier to apply.
- Time-constraints or office hours across different time zones are not a problem anymore, as these function round-the-clock.

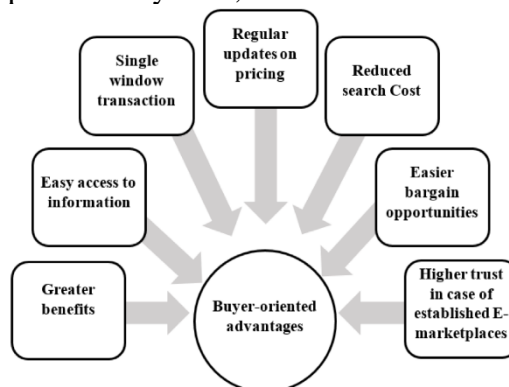


Figure 8 Buyer-oriented Advantages of an E-marketplace.

The buyer-oriented advantages include (Figure. 8):

- Greater benefits for buyers, owing to higher level of competition among the sellers in terms of pricing, quality of services, etc.
- Buyers get easy access to the information regarding products and services.
- Single window information source makes comparisons convenient and time saving, overruling the need to go to individual suppliers.
- Updated information on price and availability helps the buyer crack the best deal.

- Reduction in the cost of information search for buyers.
- Buyers have easier bargain opportunity against the fixed price model due to the availability of the dynamic pricing feature.
- In case of established e-marketplaces, the sense of trust is higher, as the deals take place between registered members.

The seller-oriented advantages include (Figure. 9):

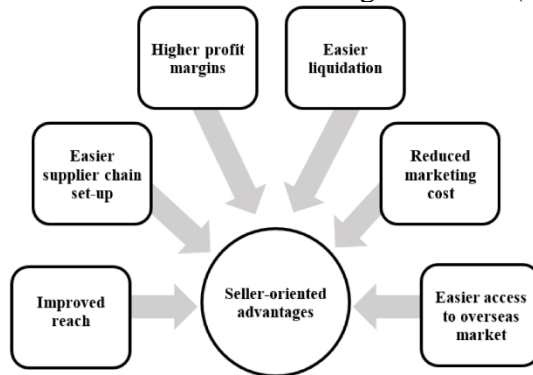


Figure 9. Seller-oriented Advantages of E-marketplace

- Improves the reach of the sellers into the market.
- Setting up of the supplier chain is easier, with minimum involvement of intermediaries.
- Higher profit margins for the sellers as they save on the commission fees of the intermediaries.
- Liquidation of large quantities becomes easier for the seller.
- Reduced marketing costs in comparison to traditional sales channels.
- Overseas opportunities by looping into international e-marketplaces, which otherwise remain ignored and untapped.

Disadvantages of E-marketplace

E-marketplaces come with their own share of disadvantages, some of which are mentioned below (Figure. 10):

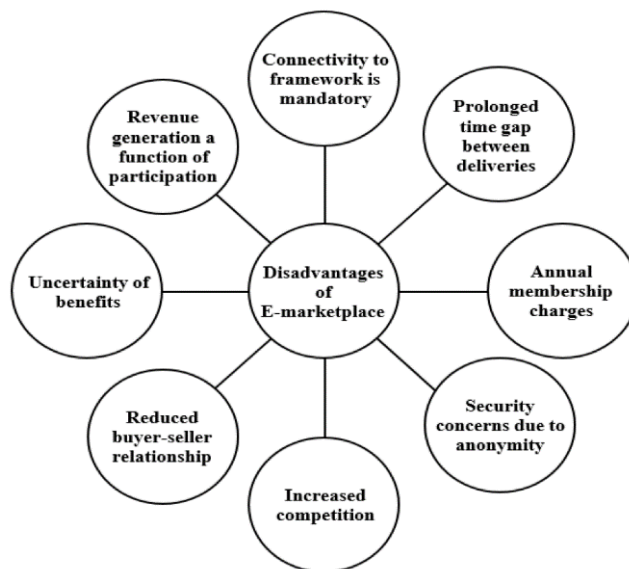


Figure 10. Disadvantages of an E-Marketplace

- Unlike the conventional markets, both the buyer and the seller need to be connected to the communication framework.
- The time gap between the deliveries of services might sometimes prolong, which is not the case with the conventional markets.
- An annual membership fee is required to be paid by both the buyer and the seller, in most cases, to join and continue as members of the e-marketplace.
- Anonymity of the buyer and the seller leads to greater possibilities of fraud and rising security concerns.
- Increased competition and reduction in the important buyer-to-seller relationship renders great uncertainty over the benefits for the suppliers.
- Revenue generation is highly a function of the number and the level of participation of the buyers and sellers.

Reach and extent of an E-marketplace

Adoption of E-marketplaces is extensive and a number of industries alike is tapping its possibilities. [19, 20] The industries where e-marketplaces are currently present with prominence are listed below:

- Bolts Manufacturing and Supply Industry
- Brass Manufacturing and Supply Industry
- Bulk Drugs Manufacturing and Supply Industry
- Cables Manufacturing and Supply Industry
- Computer Manufacturing and Supply Industry
- Control Equipment Manufacturing and Supply Industry
- Conveyors Belts Manufacturing and Supply Industry
- Cutting Machines Manufacturing and Supply Industry
- Door Manufacturing and Supply Industry
- Dehydrated Fruits and Vegetables Distribution Industry
- Equipment Manufacturing and Supply Industry
- Fasteners Manufacturing and Supply Industry
- Filling Machines Manufacturing and Supply Industry
- Flanges Manufacturing and Supply Industry
- Fabrics Manufacturing and Supply Industry
- Filters Manufacturing and Supply Industry
- Garment Manufacturing and Supply Industry
- Glass Manufacturing and Supply Industry
- Generators Manufacturing and Supply Industry
- Gifts Manufacturing and Supply Industry
- Lamination Technology Manufacturing and Supply Industry
- Lights Manufacturing and Supply Industry
- Material Handling Industry
- Measuring Instruments Manufacturing and Supply Industry
- Men Apparel Manufacturing and Supply Industry
- Motors Manufacturing and Supply Industry
- Oil Manufacturing and Supply Industry
- Pharmaceuticals Manufacturing and Supply Industry

- Pipe Fitting Manufacturing and Supply Industry
- Plates Manufacturing and Supply Industry
- PVC Manufacturing and Supply Industry
- Pipes Manufacturing and Supply Industry
- Pumps Manufacturing and Supply Industry
- Rice Manufacturing and Supply Industry
- Sarees Manufacturing and Supply Industry
- Seals Manufacturing and Supply Industry
- Sealing Machines Manufacturing and Supply Industry
- Sheet Manufacturing and Supply Industry
- Shirt Manufacturing and Supply Industry
- Software Manufacturing and Supply Industry
- Spices Manufacturing and Supply Industry
- Stainless Steel Manufacturing and Supply Industry
- Steel Manufacturing and Supply Industry
- Testing Equipment Manufacturing and Supply Industry
- Tiles Manufacturing and Supply Industry
- Transformers Manufacturing and Supply Industry
- T-Shirts Manufacturing and Supply Industry
- Valves Manufacturing and Supply Industry
- Water Treatment Plants Manufacturing and Supply Industry
- Workshops and Plants Manufacturing and Supply Industry

Logistics Industry in India

According to Kumar [29], as mentioned in his research work titled, ‘End to End Electronic Logistics Marketplace: The Next Big Opportunity India’, economic development would now happen on four pillars, which are strong infrastructure, robust policy framework, efficient logistics and manufacturing for the future. Further assistance came through increasing private sector and foreign investment. Policies like Make in India and Skill India are further helping in aligning the resources for higher manufacturing outcomes. He also suggests that with the demographic potential that the country possesses, the logistics sector is also set for accelerated growth in the coming year, corresponding to increasing GDP. As the prime focus of the government continues to be the infrastructure, there is forecast of increasing investment in the logistics sector.

Integrated Supply Chain Model

According to Kumar, logistics is ‘that part of the supply chain process that plans, implements, and controls the efficient, forward, and reverse flow and storage of goods, services, and related information between the point of origin and the point of consumption in order to meet customer requirement.’ It helps in reaching the right product, at the right place, at right time, and in the right condition, thus, being an essential and fundamental need of the industry and market alike. Branch of study like Supply Chain Management is dedicated towards helping students understand the essentials of the industry. [29] Figure. 11 shows the entire integrated supply chain model. It suggests how supply

chain management is the seamless integration of logistics, purchasing, procuring, operations and planning.

According to a study by Kumar, the logistics industry is currently contributing as much as 13% of the National GDP, valued at USD 300 Billion, expected to grow at a CAGR of 12.17 from 2015, touted to reach USD 462 billion by 2020. Thus, the industry is set to offer impeccable growth, both through capital investment and technological adoption. Several other factors are expected to have an impact on the industry such as GST, DFC/Diamond Quadrilaterals, increased outsourcing of logistics, and e-commerce-driven growth in consumption. As per Kumar, consumption-driven sectors are up for growth with an increase in per capita disposable income, including the e-commerce sectors. Growth is also forecast in non-traditional outsourcing of logistics, including smaller parts of processes such as order processing, packaging, kitting, etc. [19]



Figure 11. Integrated Supply Chain Management Challenges in Logistics

There are three prime challenges for the logistics industry, as discussed by Kumar. These are fragmentation of the industry, lack of/limited real-time visibility or tracking mechanism, and fluctuating prices. Marred by a conservative thought process and reluctant to adopt new technologies, the industry is expected to make drastic changes and revamp.

Problems are faced by the logistics at various levels. On further categorization, the following problems are identified:

- For Shippers - Unavailability of appropriate fleet(s), unpredictable pricing, load tracking and bill tracing issues, timely and assured delivery.
- For Fleet Owners - Finding return load, offering assurance and reliability to shippers, incentivizing brokers, lack of information on regulatory compliance.
- For Fleet and Shipment Aggregators - Sourcing reliable information from carriers/shippers, updating fleet data and lane information management system, broker incentives, scalable software and automated operational management.

Kumar mentions that these problems can influence the overall cost, leading to unpredictable costs as high as 34.19%. Hence, he argues that logistics being the backbone of global trade needs to harness technology to its fullest potential to bring about a disruption that helps it deal with the issues faced by the industry. He mentions that the rise of e-commerce has brought about a change in the way the logistics industry was perceived to function. It has drawn emphasis on improving efficiency through shorter delivery time and online tracking systems. This has also helped in several start-ups harnessing this potential as a business opportunity. [29]

Transport in India

The top six sectors that form the transport sector in India are Roadways, Railways, Civil Aviation, Ports and Shipping, Urban Transport and Transport Development in the Northeast.

The State of National Transport Industry

A report by the National Transport Development Policy Committee (NTDPC), Government of India (GOI), published in 2014, clearly states that the transport network of the country is evidently experiencing 'severe pressure'. It urges for a radical structural revamp and expansion of the network capacity, with a coherent, reconstructed investment strategy, in order to cater to the rising demands of the 21st century. Emphasizing over the rate of economic growth in India and the expected growth in the coming two decades, covering the time span between the 12th Five Year Plan and the 15th Five Year Plan, the report highlights that strategic, coherent and timely transport investment is the answer to the rising demands of the growing Indian economy. The report exhorts the government for infrastructural investments, it being key to the growth prospects of the country and the planning processes. [20, 21]

The report criticizes the current scenario of the Indian transport as being project-centric and siloic in nature, lacking an overarching system cutting across different elements of transport. It recommends the development of a well-articulated system that takes into account all the modes of transport, geographical considerations and arrives to an integrated visualization of thorough connectivity of the country. This includes building a robust human resource block as well as setting up of institutes that constantly vigil and analyse the growth and maintenance of the sector as a cross-functional unit within the umbrella system.

Stark deterioration has been noticed in the share of the railways ever since 1951, when it used to take load of 89 percent of the total freight traffic; as of 2007, it only accounts for 30 percent of it all.

A key important development that is taking place now needs special mention:

- Dedicated Freight Corridors (DFCs), which have been envisaged to augment rail freight transportation capacity, particularly on the eastern and western corridors. The existing trunk routes of Howrah-Delhi on the Eastern Corridor and Mumbai-Delhi on the Western Corridor are currently saturated with line capacity utilization varying between 115 per cent and 150 per cent.

Supply Chain and Logistics

Several academicians have discussed economic perspectives of the e-

marketplaces. At the same time, many articles have attributed the development of e-marketplaces as the key force driving the fast-paced growth of the supply chain enabled by the Internet[5]. It has been noted that as the e-marketplaces continue to take shape in different industries, they support various functions, such as facilitating trade of goods and services, catering to different stakeholders from a single window, and thereby reducing the various costs of transactions and operations that otherwise come along with the supply chain industry. Therefore, as the physical extents of the e-marketplace continue to grow, subsequently several other stakeholders expand their scope, and ultimately the efficiency of the supply chain enabled with the Internet increases. For instance, as the e-marketplace gives access to newer geographical areas, the vendors and customers accordingly expand; the functions related to the marketplace thereby expand; the product designs, the adherent marketing and customer relationship management also expand their scope accordingly. [23, 24]

Furthermore, it is argued that different types of e-marketplaces are necessary for different types of relationships between the buyers and the suppliers. It was found through an empirical study in the UK that the motivational factors for the sellers to shift to e-marketplace included: to hold a defensive strategy against the rivals who have already established themselves in the e-marketplace; to use the services as a single point access to a multitude of customers; to contact and communicate with them; and to perceptively reduce the cost of processing of orders. When it comes to the buyers, the main motivation for them to use the services of the e-marketplace included reduction in purchase-related costs and time; convenience in comparing the products from a range of suppliers; and being able to access the numerous suppliers from a single window. [5]

Notably, it has also been found by various academicians that by means of the adoption of the e-marketplace services, the relationship between the buyer and the supplier has deepened and strengthened, owing to the transparency, clarity and smooth nature of communication between the two. Depending upon the individual owners, operators or market makers, i.e. Internet exchanges, the functions of e-marketplaces may vary. However, when built upon an infrastructure of shared Internet, the e-marketplaces may serve as a platform for diverse purposes. A few of them are discussed below:

- To enable transactions of core commerce that are used to streamline and automate the overall requisition-to-payment process online. This includes the processes of procurement, management of customers, and selling.
- To enable a network of collaboration for various processes such as product design, planning of supply chain, optimization of processes and fulfilment plans.
- To ensure industry-wide exchange of information by means of a single-window aggregation, classification, and distribution on form of catalogues, digital or otherwise.
- To create an environment where trade actions may take place in real-time, such as sourcing, negotiations, auctions, etc.
- To create a community over the Internet for publishing and sharing news,

events, and related information across the industry.

While studying three companies and their adoption of Internet technologies towards the end of the last decade, several observations were made. It was observed with evidence that there is some sort of integration within their operation in the supply chain systems. However, there was a significant difference in the level of adoption by the companies. There were basic adoptions of technology in all the three cases. Websites were developed by all three in order to carry out advertisements about the services provided by them. Nevertheless, on a higher level, only one of the three had a system of communication set up to communicate with the customers. While one had a mid-cost-range ERP system implemented, the other two had installed in-house bespoke systems specific to their requirements. All the three companies did participate in the e-auction in order to attract new businesses, but considered the process inappropriate for ETO companies. Overall, the following three major barriers to the integration of fully integrated systems were inferred:

- lack of awareness among the senior management
- business risks and information security risks
- intensity of skills

Kaplan & Norton (2000) have summarized the impact of information technology integration in the procurement sector. They envision that informational technology has enabled the organisations to integrate the processes of supply chain, production and delivery. This integration helps the process to be triggered by the customers, in form of their orders, unlike the traditional method where it is triggered by the product plans and pushed into the value chain. Such an integration from the customer's order to the supplier of raw materials, leads to the realization of improved processes, higher quality output, faster response time, and hence, improved cost. Thereby, there is a clear-cut change in the procurement practices in the market with strong signals towards the intention to integrate business with e-marketplaces. [8]

Various companies wish to leverage the supply chain process in order to improve their performance. However, to achieve this, they emphasize on nurturing their relationships with the various stakeholders including the suppliers, the distributors and/or the customers. Consequently, they have shown movement towards the development of long-term pro-relationship policies and partnership growths. Such a remarkable change in the approach is based on the simple premise of co-operation. The belief in the philosophy of co-operation leads to multi-staged integration of processes with the supply chain firms. This, in turn, greatly increases the efficiency across the network. [24]

Globalized trade is complex. The lead times are extended, the risk of business is higher, and the integration of technology in the supply chain requires support on the information systems and technology front. Growing Internet and technologies have the potential to develop a set up wherein closer links are formed with the customers, suppliers and third-party vendors, such as the logistics firms. This is done through real-time information sharing through inter-connected ERP systems, website-based EDI, online portals, and order

processing systems connected to the Internet. However, in practice, the motivation of the integration of supply chain is drowned by factors such as industry rivalry, deficiency of information technology, unaligned processes, and redundant internal legacies of the organizations. Therefore, despite the promises offered by the technologies, and the success stories of technologies revamping the supply chain management in several organizations, the conversion of intent to practice is relatively low. (9)

In another study by Van Hoek (2001), it is observed that many a time the technology is integrated to the supply chain in a virtual manner. The integration is applied in operations and in small segments. There is no strategic level involvement or integration. Thus, there is a need to have a more holistic approach through an expanded perspective involving many companies as trading partners. In case of organizations where the IT projects were proposed and implemented by specific functional departments, it was found that the managers did not generally have the access to the data that would provide a broader perspective to the supply chain management. It has been demonstrated by Fawett and Magnan (2002) that to begin with such integrated data output, the companies will have to start with setting up their integrated supply chain structures, which is not the case with many organizations yet. It is also required for greater integration development that more and more supply chain partners share common objectives and mind-sets. More of them need to recognize and realize the need for pitifully agreed processes and technologies to be deployed. Common problems need to be suggested mutually agreed solutions rather than being fixed individually. While a few studies do suggest that the integration is on an increase, the findings of Bagchi and Skjoett-Larsen (2002) suggest that the external supply chain integration has been generally uneven and/or usually absent. [9]

E-commerce and the logistics industry

According to the Associated Chambers of Commerce and Industry of India (ASSOCHAM India), as published in their report for National Summit — Logistics India 2016, the freight transport market of India is expected to show a stark growth by 2020, by growing at a CAGR of 13.35%, one of the factors pointed out as the key driver of this being the growth of e-commerce.

Logistics support functions are bound to come under immense pressure with the strong expanse of e-commerce, adjudges PwC India, in its study published in 2014, *Evolution of e-commerce in India — Creating the bricks behind the clicks* ("Evolution of e-commerce in India Creating the bricks behind the clicks", 2014). The crux of competition between the firms has shifted away from sales volume alone. Competitive edge has become a function of the ability of the firms to consistently deliver onto the ever-shortening delivery timelines. The related factors affecting the competition include delivering with predictability, delivering at a negligible or zero delivery charges, delivering direct-to-home, providing tracking services, and offering return logistics services, all aimed at making the buying experience superior for the buyers. With the simultaneous, significant and exponential growth of e-commerce, the complexities of the logistics support and distribution channel turn grave. The

firms, the key players, are aware of the challenges and there does exist unanimity towards the need for sufficient capital investment, breaking traditional barriers of distribution and overhauling the entire infrastructure. India spends 14.4 of its GDP, which is almost double of what the other developing countries spend, on logistics and transportation. An impressive growth of e-commerce in the logistics industry is witnessed, which has opened up many opportunities for the industry to expand and grow. As the information technologies continue to innovate further, e-commerce continues to boom, triggering the companies to move on to the e-businesses by means of websites, and by integrating Internet services and various digital software.

There are various factors that pose as barriers to the adoption of the e-commerce, making it difficult to move from the traditional business models to the e-commerce ways of doing them. The move from traditional to e-commerce brings with itself several advantages and disadvantages. A major concern of the industry is to transform the customer from being a traditional customer to an e-commerce customer. This sets up demands for both the seller and the buyer to overcome the barriers and mutually move to the e-commerce trading practices. This section will also discuss the various barriers to the adoption of the e-commerce practices by the logistics industry, and the benefits of moving onto the e-commerce set up.

The logistics industry and Internet technologies are ideal partners. Consumers often face the problem of making payments for services without having to experience or see them. The Internet provides the customers with an access to information regarding all types of services provided by the logistics service providers through a single window. It also gives the customers access to a greater variety of services being offered by different providers together with in-depth information sharing, something that was not the case in the traditional logistics industry. Once satisfied with the services being offered at price compared with other providers, there is also the possibility to make the booking immediately. Moreover, all this information sharing and booking facilities are provided at a relatively lower cost, thus enabling the service providers to make larger profit gains on production, distribution and other processes. Traditional processes like printed communication, manned call-centres and information booths also become slowly redundant, saving cost of operations for the service providers. Despite all these eliminations, the Internet facilities only promises to strengthen the relationship between the customers, the market intermediaries, the suppliers, and the service providers.

Hence, it may be concluded that the driving force behind the aforementioned change is the technological developments taking place in the field of the logistics industry and the electronic systems. The integration of both has brought about efficiency gains and improved customer services. Technology, thus, has become an integral part of the business activities, strategically involved as a tool to increase an organization's competitiveness. A logistics organization well integrated with information technology promises to make significant improvements in its operations by the use of advanced software and communication tools. These software and tools help in expanding the scope of

operations and enable the organizations to take precise decisions using databases, modelling, etc. For instance, by using decision support tools, a manager's job gets efficiently assisted. At the same time, by use of technology, large-scale orders are made faster, better, and at a cheaper rate.

Another significant addition to the cycle of information technology, e-marketplace and consumer behaviour is the introduction of smart phones. In recent years, the development of smart phones can be touted as the most significant technological development of its time, having considerable impact on the e-commerce industry. Customers now expect real-time tracking and status update with a single tap of their fingers on their smart phones. They are on the top of their product even when on the move. Integration with technologies such as GPS tracking and the possibilities of customer relationships have gone up several notches. Moreover, with smart phones bringing social dimensions closer, creating a geo-social media, the customers expect higher level of customization of the services based on the preferences and location fed in previously in the database.

'As an extremely information-intensive industry, tourism is undergoing rapid and radical modern changes. Wide ranges of opportunities are discovered on daily basis with information and communication technology. Now information technology is being used for a variety of functions in the tourism industry, ranging from an internal organization role to external communication between different parts of the industry. The continuous development of information technology has profound implications for the whole tourism industry. Today, a wide range of tourism sectors is taking advantage of the information superhighway. Technology facilitates the speed and efficiency with which information of the tourism industry is processed, stored, retrieved, distributed and otherwise manipulated. Information technology can reduce costs of information handling, increase speed of information transfer and retrieval and increase customer involvement in the control of transactions. It has flexibility of product specifications and greater reliability of information transferred. The advancement of the Internet has deeply affected the way tourism and travel intermediaries perform their business. The development of vertical portals like has redefined the travel business. This has led to the formation of various last-minute online travel portals, which effectively organize and distribute distressed tourism inventories to the clients. Tourism suppliers like British Airways have started applying e-commerce applications thereby allowing their customers to directly access the reservations systems. Hence, a customer is able to make a flight search, go through the various options available, and finally take a purchase decision.

The Internet has made it possible for customers to access high quality information within a short time. In addition, it has made service expectations as consumers expect to be served 24 hrs / 365 days. Nowadays, customers expect to be served at all times rather than the office hours of the tourism providers. Thus, it has been seen that the travel and tourism industry has revolutionized their travel plans and strategies with the help of improved information technology solutions. They are resorting to customer-focused travel solutions

and are aiming to provide a one-stop solution for all travel-related services through information technology. Travel and tourism providers need to work in collaboration with each other to provide a one-point platform to all their clients. Hence, they must embrace newly developed and effective information technology solutions to run travel operations smoothly and efficiently. At the same time, the prime focus should be on providing excellent customer service. For all these, the only answer is to embrace the best and updated information technology. The advent and application of mobile technologies have further affected the tourism and travel industry. This has been possible due to the development in e-commerce. It is now possible for customers to view and choose various travel and tourism options by surfing the Internet through their mobile phones. Short messaging services also provide a lot of information as the booking confirmation can simply be presented to the airline or the hotel to enjoy the service. The emergence of new and high-tech mobile phones has again stirred a revolution in mobile technology. This is especially helpful as these phones allow a user to access the Internet and book services online. Hence, one can also book tour packages and other travel-related services through the mobile. Travel industry-related organizations place high importance on having flights and hotel both as an independent product on their website. The advantage of having flights and hotels makes the travel website one-stop destination for key travel needs.

The increasing penetration and easy accessibility of the Internet and smartphones has led to new ways of conducting business. An interesting example is that of the tourist industry which is effectively using new Internet-based models in both the B2B and B2C space. Increasingly, customers are taking the online route to make their travel bookings, prompting B2C e-commerce development in the tourism industry. [26, 27] China has witnessed rapid development of its tourism industry in line with its economic development, which has motivated several travel service providers to take the online route to receive orders and remain competitive. However, while some research has been conducted on the B2B e-commerce model in the travel industry in China, the B2C space in the sector remains largely unexplored. This paper attempts to fill the research gap and shed some light on the B2C e-commerce development in China from three perspectives: consumer, travel agent and travel service provider. Further, it also suggests measures that the B2C players can undertake to benefit from e-commerce. Our findings show that B2C e-commerce will largely depend on change in customer attitudes in China. The findings will find use by travel organizations to better understand the current B2C e-commerce scenario in China and thus, create their strategies accordingly.

Benefits of technology implementation by the logistics industry

Implementation of technology brings about several gains to the industry, pertaining to operational efficiency, competitive advantages, responsiveness, compliance and analytics. Traditional, manual processes are replaced with new tech-enabled functionalities and/ or software. Thus, operations become more efficient and cost-effective. This also reduces the dependencies on

intermediaries and brokers. [28, 29] Implementation of technology also helps them to better service their customers, communicate efficiently, and resolve cases faster. There also opens avenues for more flexible supply chains through improved communication and collaboration. Technology also smoothens the process by means of automation, thus also helping in keeping the process government compliances. Advanced software also help in diverse data availability, helping in better standardization of processes, analytical practices, and mirroring of best practices.

The five direct benefits of technology implementation by the logistic industry, as mentioned by Kumar, are as follows (Figure. 12):

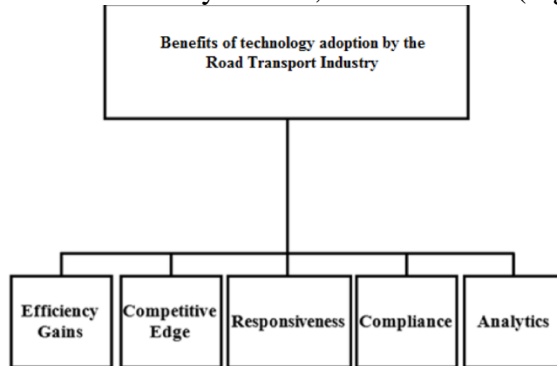


Figure 12. Benefits of technology adoption by the Road Transport Industry

- **Efficiency Gains:** Visible significant gain on the replacement of traditional manual processes with automated software technologies, cutting cost, reducing turn-around-times, easing maintenance and reducing surprise costs.
- **Competitive Advantage:** The customer services provided by technologically advanced firms are way better than those running on traditional mechanism. The communication between customer and the firm is better, together with the improved issue resolution process.
- **Responsiveness:** Addition of technology adds to the flexibility of the supply chain. As more and more parties, participate in the chain, the complexity increases, and so does the human errors. Hence, the addition of technology smoothens the rough edges, in the process, reduces errors pertaining to manual processes, and helps the chain communicate better and respond to the scenarios faster and more efficiently.
- **Compliance:** As more and more automated technologies become part of the process, it is more likely of the firm to be compliant to the rules set by the government. Be it import, export, screening process, classification, etc., a technologically advanced system reduces uncalled-for deviations from the norms.
- **Analytics:** Automation leads to standardization of various processes involved in the supply chain. This improves the reporting mechanism. There are more and more data stored through the system, with minimum zero error. This data is then a ready source for analysts to mine, study, and detect recurring issues, if any, and or, suggest best practices for increased savings and growing P&L.

New Technologies for Logistics Industry

New technologies and the developments therein, suggest various answers to the challenges faced by the logistics industry. As discussed by Kumar, there are many technologies, such as Big Data, Automation & Robotics, etc., that will prove worthwhile in the course of application and adoption by the logistics industry. They are discussed separately, below (Figure. 13):

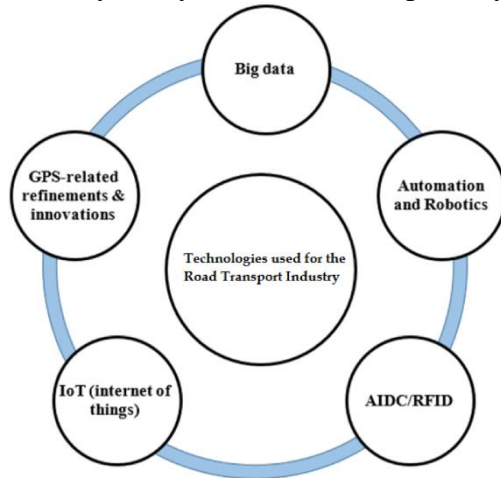


Figure 13. *Technologies for the Road Transport/logistics industry*

- **Big Data:** Logistics process and chains are long and multi-layered, and thereby, come with unprecedented amount of data. By efficient data mining, analysis, key insights may be drawn to improve the process. A few companies are already using big data analysis in different forms to simplify the collection of data, draw the necessary insights, and hence, optimize the process thereon. The potential of big data are immense, offering opportunities for optimal capacity utilization, improved customer experience, reduced risk, and to open avenues for new business models.
- **Automation & Robotics:** This refers to the processes driven by certain triggers that set-off the subsequent process automatically, without the need of human involvement. Inclusion of automation supports zero-defect and enhances productivity. New generation robots, collaborative automated solutions, and enhanced sensors improve the services provided by the logistics firms.
- **AIDC/RFID (Automatic Identification and Data Capture/Radio Frequency Identification):** Few stages where manual processes are still highly in use are gateway passages of cargos, loading/unloading checks, and identification of details of the goods. AIDC and RFID will mostly hit the industry soon, and will find utility in the above-mentioned steps of the processes.
- **IoT (Internet of Things):** The Internet of Things (IoT) refers to the merger of different digital devices, various electronic devices, among themselves. This helps in easier transfer of data amongst the devices. IoT has the potential to connect virtually anything to the Internet, thus accelerating the process of data collection, mining, analysing, and thereby, providing the customer with faster and improved experiences and reduced turn-around-times.
- **GPS-related Refinements & Innovations:** Global Positioning System or GPS has been helping the logistics industry for over a decade now. It has aided

few of the biggest pain points of the logistics industry such as vehicle tracking, consignment tracking, etc. However, it is necessary for the industry to refine the system and innovate newer tracking systems and processes for improved efficiency. For instance, collaborating GPS with various other data points may also help in identifying behavioural mapping of the drivers, and thus, device-personalized incentive mechanisms.

7. Electronic Logistics Marketplace (ELM)

Electronic Logistics Marketplace (ELM), also referred to as E-marketplace for the purpose of this study, is the term used to denote an Internet-based digital system that brings together the shippers, carriers and customers on a single platform for various trade purposes such as collaboration among firms, and/or facilitation of information flow among different stakeholders or parties; all by means of the use of Information and Communication Technology (ICT).

ELM Leveraging Technology

Considering the rate of growth of the logistics industry in India, there is a mega opportunity for the logistics marketplace to revamp the currently highly fragmented, unorganized, non-transparent and low tech-enabled industry. Technology is disrupting the traditional ways on which the logistic industry used to work in various ways.

- Technological support has enabled the industry to create on-demand marketplaces that facilitate ease of information sharing and convenience in discovering prices and comparing them. This also gets the chain rid of the intermediaries, thus reducing cost, increasing efficiency and helping in better utilization of the resources.
- Technologies help in driving adoption of innovations such as sensors, telematics, analytics, etc., which are core to the industry. Adoption of these technologies help the industry with real-time tracing, visibility of demand, optimization of routes, predictive analysis and thereby, proactive maintenance to streamline the operations.

Functioning of the E-marketplace

As the logistics industry continues to grow with rising demand, the expectations from the firms also continue to grow with respect to flexibility in services, agility in delivery, and transparency of cost and timings. With the help of the E-marketplace, it becomes easier for the firms to live up to these expectations. In order to understand how, let us understand the functioning of the E-marketplace better. [24] To begin with, it is imperative of the transporters, fleet owners, brokers or customers to register with the online marketplace. Customers in need of service then raise their requests, post them on the marketplace and await responses for their inquiry. Accordingly, the transporters bid their services and cost against the request raised. On the close of it, both the participants should be able to see the lowest bid, and thereafter, the choice of the transporter depends on the customer depending upon the services being provided. [27]

Explained below are the different stages of this process, for easier understanding. (Figure. 14)

- **Planning:** Initiated by the customers looking out for logistic support.

- **Bidding:** Bidding by the available transporters based on the request initiated by the customers. It ends when the customer picks up one of the services based on personal discretion.
- **Communication:** Direct communication between the customer and the selected logistic firm. Documentation, etc. occurs according to the predetermined requisites. This stage improves transparency and efficiency.
- **Tracking:** The shipment is now in motion, and this step, with the use of technology, helps in tracing the shipment and its movement. Real-time insights are also collected in this stage for improvement efficiency.
- **Invoicing:** Using the relevant data available on the centralized dashboards, automated invoice is generated upon delivery, thus making the entire process smooth, transparent and efficient.

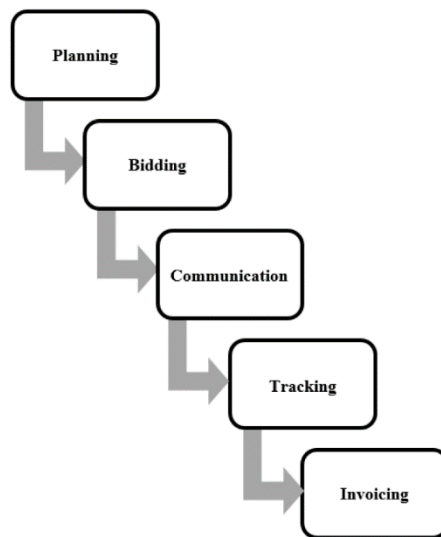


Figure 14. Stages involved in the functioning of e-marketplace

Therefore, E-marketplace is an effective platform for the logistics industry to help them facilitate better services. Not only does it help with the transportation process, but also with the hiring of the trucks, fair incentives payments for the drivers, improved maintenance practices, and transparency of the process.

Benefits of ELM

As discussed by Kumar, following are the benefits of electronic logistic marketplaces:

- Real-time quotation generation
- Flexibility in closing broker/customer deals
- Broader and more accessible customer base for the logistic service provider
- Flexibility for customers to source best fit services
- Reduced dependencies over long-term partnerships
- Optimized capacity utilization, additional capacity acquisition, and reduction of empty rides
- Transparency in pricing; more choices for customers to choose from/compare with
- Improved control over the supply chain

- Improved internal synergy within the logistic service provider firms

Types of services provided by the end-to-end ELM

Kumar discusses the following services covered under the ELM. This includes all procedures from the beginning of the planning of the shipping, to the receiving of the feedback and rating of the services provided.

- Ocean freight
- Air freight
- Government agency filings
- Trucking & delivery
- Custom bonds
- Customs clearances
- Warehousing and fulfilment
- Cargo insurance
- Product classification
- Quality inspections
- Document generation and management
- Comparison of quotes
- Standardization of quotes
- Algorithmic matching
- Auctions
- Payment gateways and settlements
- Ratings of participants
- Performance measurement

Challenges for ELMs

The key challenges for ELMs, as discussed by Kumar, are:

- Unresolved issues related to security, insurance, liability, and fraud. Software alone cannot cater to these.
- Quality and availability of carrier capacity keeps fluctuating due to various controllable as well as uncontrollable factors. In such a case, guaranteeing and living up to certain services become tricky.
- Automation of business forwarding is complex. It is not possible by software alone, but needs human intervention. This includes processes such as custom clearings, etc.

According to the study by Kumar, the global deals and funding trends show a spike in the previous two years. The study displays an annual funding of \$302 billion in the year 2012. While it showed humble increase in the next subsequent years — \$420 billion in 2013 and \$921 in 2014 — it grew exponentially to \$2,501 billion in 2015 and to \$4,253 billion in 2016 (updated until October 16, 2016).

ELM in India

According to the study by Kumar, there are three broad areas of operation in the logistics marketplace of India, them being:

- Trucking Tech
- Hyper Local
- Fulfilment Services

Trucking Tech long-haul marketplace is further classified into the following:

- Load boards: Generally, subscription-led, these are online listing platforms wherein the shippers and the brokers are allowed to post loads and carrier information, and thereby enable the discovery of the services.
- Freight Marketplaces: Generally, transaction-led, these too are online managed marketplaces wherein the demand matches the supply of freight in real-time, thereby improving the utilization.
- Freight Exchanges: Entirely subscription-led, these online marketplaces connect shippers with the freight by focusing on the inter-modal and international freight segment.

Trucking Tech is also categorized into two major segments, namely 'long-haul' (inter-city) and 'short-haul' (intra-city). Kumar points out that most of the start-up action has been in the long-haul freight marketplace segment, the benefits offered being faster transaction, efficient spot pricing, standardized service levels and removal of agents and intermediaries. In addition, the commission percentage yields for a huge market opportunity.

On the other hand, the short-haul freight marketplace connects the shippers with the local small carriers. The key of success lies in the improvement of utilization rates as their monetization structure is similar to that of the taxi aggregators. This segment caters mostly to the e-commerce companies, 70% approximately. The rest 30% caters to the retail business. Hyperactive locals are the businesses that model around making local deliveries of online orders within a restricted geographical area. It has three sub-categories: First and Last Mile, B2C, and B2B. Fulfilment Services, as the name suggests, caters to end-to-end fulfilment, including First Mile, Line Haul and Last Mile. These firms are asset-heavy, and take care of the entire gamut of services such as warehousing, packing, sorting, delivery, as well as return logistics. Kumar further argues that most of the currently functioning logistics start-ups and marketplaces are focusing one-sidedly on certain aspects of logistics, such as truck freight, etc., that too in a limited geography. There are no such marketplaces wherein the single marketplace offers an end-to-end logistics support for both domestic as well as international market, including documentations, ratings, risk management, and the likes. Thereby, the void offers an opportunity for the players to fill.[29]

Global factors impacting the Indian Logistics Industry

Kumar has discussed several factors affecting the Indian logistic industry. They are mentioned as below (Figure. 15):

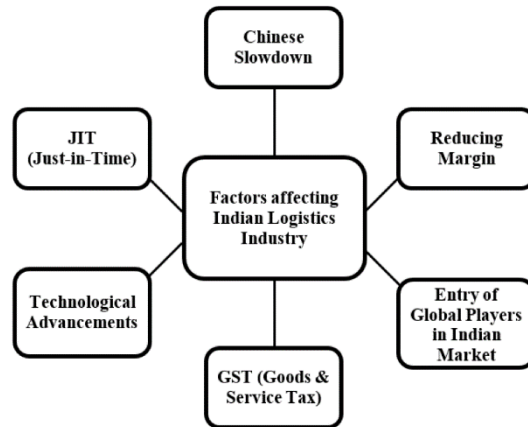


Figure 15. Factors affecting Indian Logistics Industry

- **Chinese Slowdown:** India has become the favourite destination for the manufacturing sector. With Make in India and related policy changes, there is huge increase in imports of projects into India. This has positively affected the Indian Logistics Industry too.
 - **Reducing Margin:** Intense competition has led to freight rates falling to their lowest. There is also reduced arbitrage due to the increasing penetration of the Internet and the transparency of pricing. This has attracted more imports of projects into India due to reducing margins.
 - **Entry of Global Players in Indian Market:** With the Indian Government proactively favouring the e-commerce industry, big names have plans to enter the India market; few of them already having entered and reaped benefits.
 - **GST:** The roll out of Goods and Service Taxes (GST) has positively influenced the logistic industry in India. Owing to the expiry of disparate state laws and the implementation of uniform regulations, the companies are expected to be encouraged to outsource logistics functions to third parties, thus investing into them.
 - **Convenience through technology:** Improved tracking systems, and enhanced customer convenience have bettered the trust in the logistics services by customers.
 - **JIT:** Just-In-Time delivery is the need of the hour as the expectations of the customers continue to rise. This is forcing the logistics service providers to realize more efficiency and integrate services for enhanced deliveries.
- Kumar concludes that the logistics industry in India is booming and showing encouraging signs and potential in future, both pertaining to the domestic as well as the global market. It coincides with the ripe time for technological intervention to come in and revamp the mainly manually handled industry. Technological implementation and adoption is expected for gain in efficiency, streamlining of process, improved data recording and analysis, tracking system implementation, cost reduction, enhanced reliability, and the likes, thereby enhancing the industry overall.
- CNBC has recently reported interesting data showing encouraging growth in the online booking sector, highlighting it as ‘exciting times’ for the industry. According to its report, online travel agencies help the user by providing better

and convenient services with facilities like price comparison, feature comparison, diverse options to choose from, and the likes. However, it also reports that many people end up booking from the brand websites rather than the third-party agencies. This occurs due to the lack of trust among users towards the third-party agencies. Their faith lies more in the brand websites. It was also found that about 180 million people visited online travel sites in a month, claiming a 27% year-on-year increase. Moreover, the industry itself has gained 11% in the first quarter from the previous year 2016. The articles suggest that by putting the pricing power in the hands of the consumer, the online booking industry is set to rise more.

Business Model of E- Commerce Travel Businesses

Every industry has, and follows, its own model of functioning and usually businesses within the industry follow the same model, as it is tried, tested, and so safe. With e-commerce models entering the arena, they are simply supplementing these models, not replacing them, and thus enabling them to expand operations. In case of the travel industry, the customers are generally the more affluent ones and thus have access to the Internet and are more tech-savvy. Since they are more apt to take the online route to booking their tickets and reservations, the tourism players have been forced to adopt the online route to be where their customers are making a purchase.

A survey of 88 international airlines shows that B2B marketplaces play various roles for these companies. Airlines that have strategic alliances benefit from higher procurement activities than those without such alliances. However, these alliances could be loose arrangements given that airlines would be reluctant to share information on procurement prices with their competitors. The financial cost involved in the initiation of an e-marketplace is very low. However, whereas low-cost airlines show high use of e-marketplaces, they show little financial involvement in contrast. The survey further shows that airlines can reduce costs and increase procurement process efficiencies in categories such as spares and repairs, tools and ground support equipment, and office supplies. Given the immense competition, airline carriers will search for tools to realize further savings and e-marketplace is one such tool they can use to improve their performance indicators (Wagner, Huber, Sweeney, and Smyth, 2005).

The airline industry is one of the most competitive of all industries in the prevailing economic environment and especially from the regional perspective (Jarach, 2002). It also incorporates distinct features that motivate continuous change, for example, during liberalization and deregulation issues, privatization etc., the airlines that evolved with the changing economic environment were the ones that survived and adapted. Internet is the new revolution that is redefining the ways companies conduct business. In the 1990s, the airline companies were leveraging the Internet as a sales channel for ticket; however, at this time, there was little research on the potential of Business-to-Business (B2B) practices. By the late 1990s, Internet has made its presence felt in this space, leading to the emergence of B2B e-marketplaces.

Demand for tourism is met by a concerted effort of a range of related services, together making tourism one of the world's largest and fastest growing

industries (Halloway, 1998). Traditionally, a host of intermediaries linking producers with consumers distributed these products and services. These producers also called principals, included airline carriers, tour operators, car rentals, accommodation providers and other destination-based companies. Tour operators were viewed as wholesalers and they bought all related products together to provide complete package to the tourists. These tour operators sold the complete tourism package to the consumers but carried no stock, as their role was to facilitate connect between the tour service providers and consumers. There were, and are, two types of tour operators: out-bound operators that are located in the tourist-generating countries and in-bound – are those in the destination country, handling everything from pick-up and transfers to accommodation and tour itineraries and their fulfilment. The role of these tour operators is shown in Figure. 16.

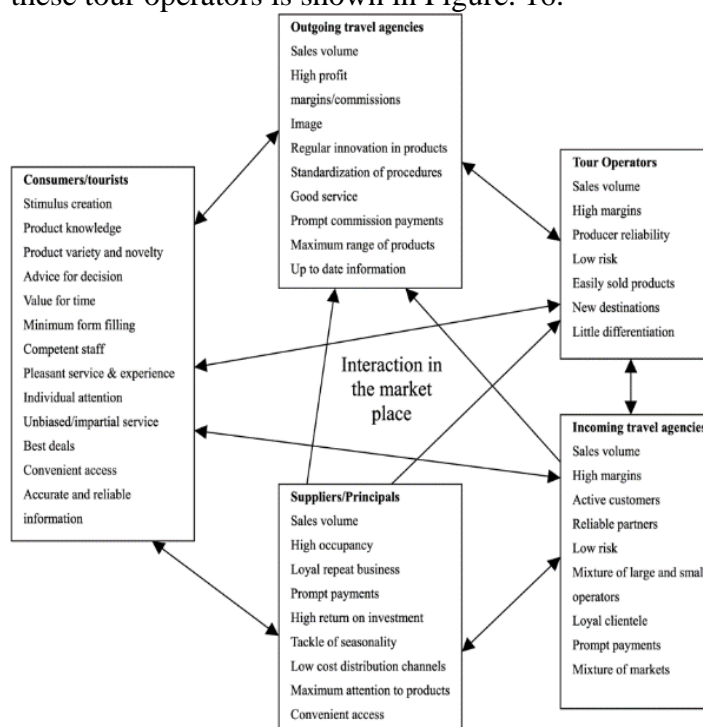


Figure 16. Factors affecting Indian Logistics Industry (Buhalis. 2001)

Information technology is today playing an integral role in the tourism sector more specifically in terms of ticket reservations now being done through the computer systems. Online systems enable suppliers such as airlines and hotels, to monitor, manage and control their capacity, directly through end-consumers and indirectly through intermediaries. To illustrate with an example, authorized tour operators are provided dedicated access to a hotel’s intranet to verify the number of rooms still available for booking. An online system, thus, not only helps to streamline processes but also makes them more efficient and transparent across the entire value chain. (10)

Benefits and Barriers

The entry and barriers to an online tourism marketplace are more or less the same as those associated with other e-marketplaces. Tourism is the backbone of any economy and the same holds true for India. The emerging and ever-

growing middle-class in the country now has additional income, encouraging them to invest in holidays, which they are purchasing through various channels including e-marketplaces. While some are taking the traditional route, others are taking advantage of the Internet and their smartphones to buy all tourism-related products online. To benefit from this online traffic, tourism companies are offering online channels to these tech-savvy customers.

E-commerce has now established way of promoting and selling tourism products through the web. However, tourism players need to make an informed decision while transitioning to an e-marketplace since it requires a huge investment in terms of money and IT resources. Moreover, while there is an increasing trend towards shopping online, it is a challenge to attract traditional buyers who would rather purchase products from brick-and-mortar travel agencies. To attract these customers, there is need to create awareness of e-commerce and its benefits, make websites user-friendly and informative and provide virtual tours of destinations on sale. While e-commerce includes initial investments, it has several benefits to its credit such as low operating costs, direct interaction with customers, fast and transparent service, facility to compare prices, and ease of communication etc. There are some barriers associated with e-commerce as well including the initial investment and investment in IT resources; continuous need to upgrade systems in tune with the change in technologies; lack of easy availability of skilled labour; customer confidence and ambiguous government policies concerning e-commerce. One of the most important challenges facing travel operators is customer loyalty. The Internet has empowered the customers, giving them the platform to compare prices, services and quality and if their demands for these are not met, they can easily switch providers.

Therefore, companies need to walk the extra mile to retain their customers, offer loyalty programs, and excellent service in order to retain them. In sum, it can be said that while e-commerce opens up opportunities for wider audience reach, strengthen brand, save time etc., it does pose its share of challenges, especially in terms of retaining customers. For consumers, e-commerce is empowering in that it gives them more control in terms of price, and quality of both goods and services, and shop anytime, anywhere across geographies. The Internet also serves as a new communication and distribution medium for suppliers with websites having several attributes for promotional and marketing activities. These attributes can greatly affect consumer's shopping behavior and play a critical role in creating demand.

This being said, these attributes need to be designed based on consumer behavior towards current purchases and future intentions. Several travel operators have successfully leveraged the online medium for better business results. E-commerce has also streamlined services in that software used ensures minimum or no errors, leaving no scope for issues such as overbooking or other communication problems. E-commerce also allows for easy and fast communication making it simpler to disseminate information, enabling people to make an informed decision.

Internet has thus opened up a completely new world of opportunities for both

the suppliers and consumers, providing a vast pool of information, increasing awareness and ensuring greater reach. Therefore, it is in the best interest of the tourism sector to embrace e-commerce to evolve with the changing business landscape.

However, before taking the online route, companies need to educate themselves on the right technology and skilled set required to run the technology. Several Online Travel Agents (OTA) have understood the mechanics of the online world and have harnessed the technology and skill sets with profitable results. Before adopting an online business model, companies need to understand their businesses and how and which technology would help to strengthen their respective competencies.

The ever-increasing reach of the Internet and the proliferation of travel applications have greatly affected B2B. Travel suppliers (for e.g. scheduled airlines, low-cost carriers, hotels, car rental companies, train operators, etc.) are using the Internet to minimize the role of intermediaries and develop direct relationships with their customers, with the aim to directly communicate and to reduce commission charges, and thus, pass on the benefits to the consumers. B2B companies are therefore redefining their roles to work as negotiators and identify the best role on behalf of the travellers by charging fees for these services.

Also, instead of simply focusing their efforts on corporate clients, these agencies are also trying to find a market in the small and medium enterprise market segment, as a case point, the e-Travel corporate travel solution by Amadeus. Also, several of these agencies are using IT services to streamline their processes, lower operational costs and adopt more flexible structures. [12] Internet has also made it possible for travel cyber intermediaries to redefine their business models to offer more transparency in their products and services. This has enabled the consumers to shop for best prices. While companies such as Expedia Corporate Travel have entered the B2B market, traditional B2B agencies have taken the brick-and-mortar route to survive. For these companies the biggest challenge is from the self-booking systems which a large number of travel distribution players are exploiting for their benefit. Independent software companies such as KDS in Europe, GetThere in the US and) are also reworking their strategies for sustaining and enhancing their distribution revenues (e.g. Highwire by Galileo and Trip Manager by Worldspan); Travel suppliers (e.g. Sol Melia, Accor, Wyndham hotels have their own corporate sales systems on their web site, easyJet.com offers a B2B corporate travel solution, etc.); and Cyber-intermediaries (e.g. the corporate-business travel solution of travelocity.com, expedia.com, orbitz.com) that are usually empowered by the GDS systems. In other words, online B2B solutions have perplexed the traditional and sequenced travel distribution chain (i.e. traveller, travel agent, GDS, travel supplier) by blurring and creating dynamic changes in inter-firm relations within the travel distribution chain'. [11]

Hoteliers can greatly benefit from educating themselves on the various options available and then pursuing the best options for business advantage. They can use SaaS to benefit from professional knowledge and thus save on time, money

and research and marketing efforts. Customer acquisition channels have also evolved with the evolving technology. Hoteliers need to invest in cloud-hosted websites, which have been optimized for search engines. Buuteeq's Cloud DMS is an affordable SaaS solution designed specifically for hotels. As current and emerging intermediaries participate in digital travel, they are increasingly likely to wield significant influence in directing consumer traffic to hotels, and charging fees and charges for their services. Digital travel shopping will also ensure more transparency in hotel pricing structures, thus putting additional pressure on pricing, and in turn, additional pressure on management for achieving profits.

8. Conclusion

The study of existing literature revolving around the subjects of e-commerce, e-marketplace, the logistics industry, and the sectors thereof indicate that the organizations and their leaderships are still contemplating their move from the traditional form of trading to the e-commerce way of doing business. They are still investigating the decision, studying various factors that would affect their business and assessing them against the benefits the adoption proposes. The review of literature also suggests that there does exist the need for few background initiatives for the integration of e-marketplace technologies by marketers. Few things that need to be taken care of include:

- Identification of the contextual factors
- Selection of the correct B2B e-marketplace
- Allocation of funds for the ICT infrastructure
- Integration of marketing policies and strategies by the company
- Identification of the components of e-marketing
- Identification of the tools of e-marketing in the B2B e-marketplace, and
- Highlighting the problems faced in e-marketing

As the competition in the market grows, it becomes difficult to face them all together, and requires drastic redressed mechanisms. In such scenario, e-marketing comes as a revolution for companies who fancy reduced cycle times, increased sales, cost reductions, and improved relationships with their customers. The presented framework has provided an understanding of a strong foundation to identify the benefits of the e-marketplace from a marketing perspective. They are listed as below:

- An improvement in customer-organization relationship
- A considerable reduction in the marketing cost as opposed to the cost incurred in the traditional setup
- A logistically easier process of implementation
- Reduction in the requirement of marketing staffs
- Time-independent operationalization, enabling services to customers from diverse time zones
- Geography-independent operationalization, providing opportunities for global expansions
- An extended exposure to new market sectors, and segments that were not tapped until now due to geographical or time or resource constraints

- Opportunities for more interactive marketing communication

The study on the development of the framework of e marketing suggests that there are considerable benefits of the e-marketing facilities to the logistics industry from a marketing perspective. The implementation of the e-marketing facilities across industries, including the logistics industry open up immense opportunities for growth. Besides bringing significant efficiency gains in the overall marketing mechanism, they also offer a more cost-effective way of undertaking business transactions. This gain is also brought across by the fact that the marketing implementations are not restrained by geographical boundaries or timelines. This enables the e-marketplaces to tap into new markets, which were otherwise not feasible.

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