



Original article

## Logistics Revolution for e-commerce in Vietnam: A Brief Review

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### Abstract

For the whole process of circulation, distribution, application of the logistics system is a higher development step of transportation technology. Multimodal transport has linked all modes of transport together to serve the supply and consumption needs of the manufacturer. Currently, when e-commerce (EC) is on the rise, quality logistics and delivery services are the essential stages to achieve success in transactions. e-commerce today is no longer a fashion trend; it is an essential part of the retail industry. EC is changing the game of Logistics. The e-commerce world has been introducing many risks and complex issues that logistics and supply chain experts have never faced. E-commerce is the main impact on terminal logistics (last mile) and warehousing. However, it is also quite interesting to see how e-commerce is impacting airports and seaports. E-commerce is growing actively in Vietnam at a rate of about 25% per year, which is an excellent opportunity for business logistics services to get more orders. Moreover, the Vietnamese logistics market is small but has a high growth rate (20% - 25% / year). In recent times, this market is expected to change the face and grow faster due to the development of electronic retail in Vietnam and e-Logistics logistics trends in the world. However, to meet the requirements, to grasp the opportunities, logistics enterprises need to link to get a closed and synchronized service chain. So logistics companies need to increase information, respond faster, enhance technology to meet flexible processes, establish networks, and business links to meet changing needs. The article shows that the inadequacies and lack of cohesion between logistics service providers and e-commerce are limiting competitiveness, losing opportunities of enterprises, and the economy in the context of healthy industrial revolution 4.0. The assessment of the correlation and connectivity of logistics and e-commerce enterprises in Vietnam in the paper will contribute significantly to the development of Vietnam's economy in the period 2020-2025.

*Keywords: logistics, e-commerce, Vietnam's economy, industrial revolution 4.0*

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<https://doi.org/10.52820/j.enavi.2019.13.050>

## 1. Introduction

Along with the rapid development of e-commerce in the world, in Vietnam, e-commerce has just developed in a short time but has achieved particular successes (Chaffey, Hemphill, & Edmundson-Bird, 2015). With the development of E-commerce, businesses should also focus on developing Logistics in E-commerce; this is quite an essential factor determining the success or failure of businesses (Cai, He, Dai, & Zhu, 2018). E-commerce wants to thrive; it is indispensable for logistics services and quality delivery.

Firstly, let us look at the size of the global and Vietnamese e-commerce markets: The world market is estimated at \$ 4,878 billion in 2021 compared to the US \$ 1,845 billion in 2016, up 264%. In Vietnam, e-commerce revenue reached \$ 2.1 billion in 2017 and is estimated to reach \$ 4.3 billion in 2022 (Choi & Mai, 2018). E-commerce today is no longer a fashion trend; it is an essential part of the retail industry (Falk & Hagsten, 2015). According to market research group Euromonitor, Vietnam's e-commerce revenue in 2016 was \$ 1 billion, of which e-commerce forwarding accounted for about 10 - 12% (Kinda, 2019). Spending on e-commerce in Vietnam will increase by an average of 23% annually from 2020. According to data from the Ministry of Industry and Trade, by 2022, e-commerce revenue will increase 150% annually and reach 10 billion USD / year thanks to the popularity of smartphones and social networks Facebook (Kim & Peterson, 2017). Vietnamese market is very potential, but the shipping and forwarding enterprises also see opportunities in the cross-border e-commerce market - a market that brings a significant source of revenue for businesses (Kinda, 2019). A joint study by Google and Temesek Holdings (Singapore) suggests that Southeast Asia's e-commerce market may increase from \$ 5.5 billion in 2015 to \$ 88 billion in 2025 (Laudon & Traver, 2016). Further analysis of this potential, Nomura Investment Bank (Japan) gives quite detailed data. Individually, revenue of e-commerce businesses to consumers (B2C) and users to users (C2C) in the ASEAN region will reach 36.1 billion USD in 2020, with a compound annual growth rate (CARG) of 34% (Cai et al., 2018). Notably, e-commerce forwarding revenue is estimated at \$ 7 billion (Oliveira, Alinho, Rita, & Dhillon, 2017).

The Internet is opening up great opportunities for

Vietnamese businesses to come to the world. At DHL Express, the number of orders shipped in e-commerce has increased from 10% in 2013 to more than 20% in 2016 of international orders. If excluding the US market, 21% of UPS delivery service in the international market is B2C (Rutherford et al., 2016). The cross-border e-commerce revolution is much stronger than the domestic e-commerce market. Currently, Vietnamese manufacturers can sell directly on e-commerce platforms worldwide (Pham & Lee, 2019). From an online export service provider's perspective, Vietnam currently exports many agricultural products, textiles, and footwear via its platform. China, India, Vietnam are the countries with substantial export advantages, and Alibaba is looking for authorized dealers in these countries to support exporters by the online platforms (Semet, 2016). Therefore, through authorized agents, Alibaba expects to be able to support 1,000 Vietnamese businesses to export online shortly (Wong, Soh, & Goh, 2016). According to the Nielsen Market Research Company, Vietnam's e-commerce market (e-commerce, e-Logistics) in 2016 was worth up to US \$ 4 billion (nearly VND 100,000 billion). Vietnam e-commerce Association predicts that in the next 5 years, this market size in Vietnam may reach 10 billion USD (Wu, Goh, Yuan, & Huang, 2017). Vietnam is the 4th country in terms of e-commerce development speed in the Asia-Pacific region. The distinctive feature of e-commerce channels is its ability to cover a wide range of goods from urban areas to rural and mountainous areas where internet access is available. The large and small frequency of delivery and the comprehensive coverage of services across provinces are essential features of logistics for e-commerce channels. E-Logistics Therefore, when the e-commerce market develops, the e-commerce logistics system also changes (Yu, Wang, Zhong, & Huang, 2017).

E-commerce is booming and is an inevitable development trend in the future. However, online shopping cannot wholly eliminate traditional shipping. It is possible to divide online purchases into two groups. The first group is digitized intangible products, such as music, computer software, and online games (Liao & Wang, 2018). The second group is tangible products, which are weight and volume that cannot be digitized, such as cars, refrigerators, clothes, computers, etc. Digitalization is an indispensable trend that Vietnam's logistics businesses need to implement (M. Zhang,

Pratap, Huang, & Zhao, 2017). This is no longer a choice for businesses, but an existential story, if that business continues to do business in logistics. Today, all standard transactions are transferred to electronic transactions and technology applications. Logistics for e-commerce is also on the rise. However, this industry in Vietnam is still very young. Most companies have just switched from traditional logistics to e-commerce logistics (Zhu, Kara, & Zhu, 2019).

E-commerce floors often need two to three times larger warehouses than traditional retailers because the coordination center for e-commerce needs more inventory, labor, and also automation (Wong et al., 2016). The current trend is to build a "build-to-suit" (tailor-made warehouse) so that the warehouse can be customized to serve multimedia. EC is the main impact on terminal logistics and warehousing. Traditional forwarding companies, Courier companies, which focus on serving business customers (B2B), must also shift their business model to be able to serve end-users (B2C) today. Traditional delivery companies often have fewer property assets (Davarzani, Fahimnia, Bell, & Sarkis, 2015). So they can quickly adapt to changing e-commerce market needs day by day.

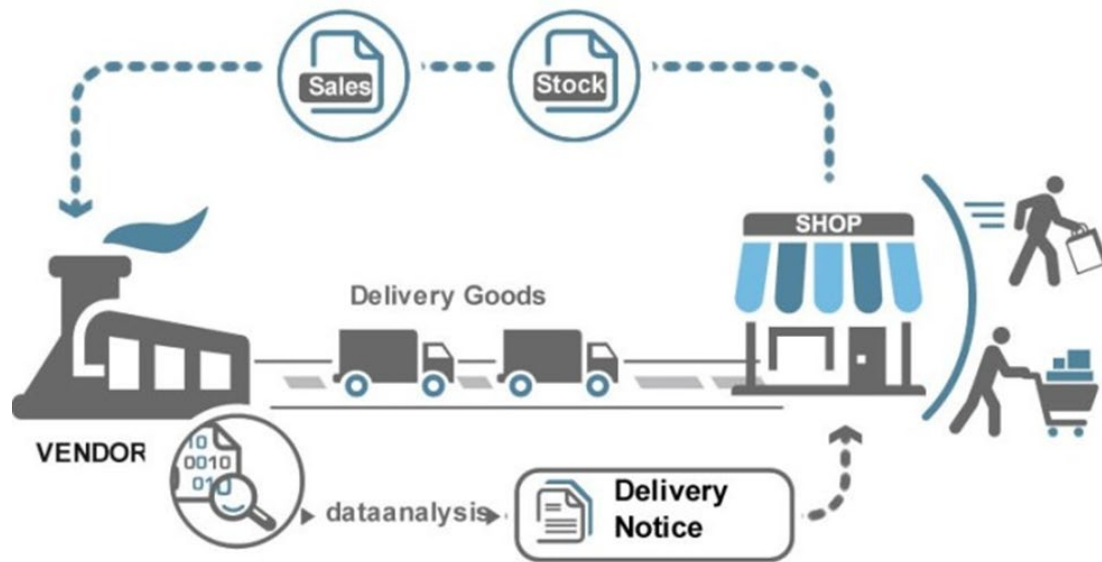
Logistics not only makes the process of circulation and distribution smooth, accurate, and safe but also reduces transportation costs. Thanks to that, the goods are brought to the market quickly and promptly (Kengpol & Tuammee, 2016). Consumers will be able to buy goods conveniently, flexibly, and to satisfy their needs. Buyers can stay at home, order by calling, faxing, e-mailing, or trading via the Internet ... for sellers, even for goods manufacturers, to be able to quickly get what they need to buy, delivered to their homes (Glushkova et al., 2017).

That effect is due to the application of the Logistics system in production and circulation. Primarily, its effectiveness for e-commerce businesses, when customers and businesses communicate with each other in the virtual world, it is difficult to build credibility and trust for customers. Therefore, e-commerce logistics will actively support the activities of businesses with the fundamental goal of delivering the right products to the right quantity at the right place and time to the right customers, helping achieve the goal. The ultimate goal is a competitive advantage.

## **2. The changing trend of e-logistics in the world market**

### *2.1. The era of single order shipping*

The end of the method of transporting whole containers (FCL) and opening the era of single shipment (LCL). The reason is that e-commerce is booming; e-commerce limits working capital narrow inventories, and optimizes supply chains, resulting in smaller shipment sizes and more frequent ordering. Consignees are always aware of their assets and inventories; This number of assets must be very streamlined and reach the lowest level possible. On the other hand, many small retailers cannot afford to buy large quantities of goods from developed economies. This demand has led shippers to use small orders and ship them to diverse geographic locations. This trend is of great significance for 3PLs and forwarders (Prockl, Pflaum, & Kotzab, 2012), requiring them to build an optimal consolidation network, reducing inventory, inventory costs, interested in consolidation and cross-docking solutions, improving the advantages of electronic orders and last-mile delivery services as depicted in Figure 1.



**Figure 1. Operation process of E-logistics** (Kinda, 2019)

## 2.2. Multi-channel operation

Restructuring the supply and logistics chains developed by e-commerce has motivated commercial companies to turn to multi-channel operations so they can be present anytime and anywhere on devices that consumers are using. The boundary between traditional commerce and e-commerce is blurred. When multichannel business became a new way of trading, day-to-day delivery became the criterion for service quality of retail companies, regardless of whether they were traditional commerce or e-commerce. This promotes the adaptation of logistics systems. The Amazon e-commerce brand has restructured its logistics system from warehouses to fulfillment centre and distribution centre (X. Wang, Lin, & Spencer, 2019). Target is trying to erase the line between traditional department stores and e-commerce distribution systems. This giant retailer is urgently restructuring its stores to be more compact, and able to perform many of the functions of a distribution centre. They are expanding solutions to add more buying options to customers, such as home delivery to online

customers at retail stores.

## 2.3. Digital technology and e-commerce in freight forwarding and courier

In many countries as shown in Figure 2, shopping habits are changing rapidly. In the last decade, e-commerce usage became famous following the explosion of Information Technology (IT) such as laptops, tablets, and smartphones. Today, online shoppers account for 43.3% in Asia, 58% in Europe, and 70% in the North America. Mobile devices decide everything because we use our phones, on average, for more than four hours a day (Maulana, Susilo, & Riyadi, 2015). For e-commerce sites, access via mobile devices now accounts for more than 50% of total visits. The biggest challenge is that 86% of mobile time is spent on applications such as social networking and messaging, and very little time is spent searching for information. So we have to find ways to connect with customers where they often visit on the internet to increase the probability of using e-commerce (Lu, Fan, & Zhou, 2016).

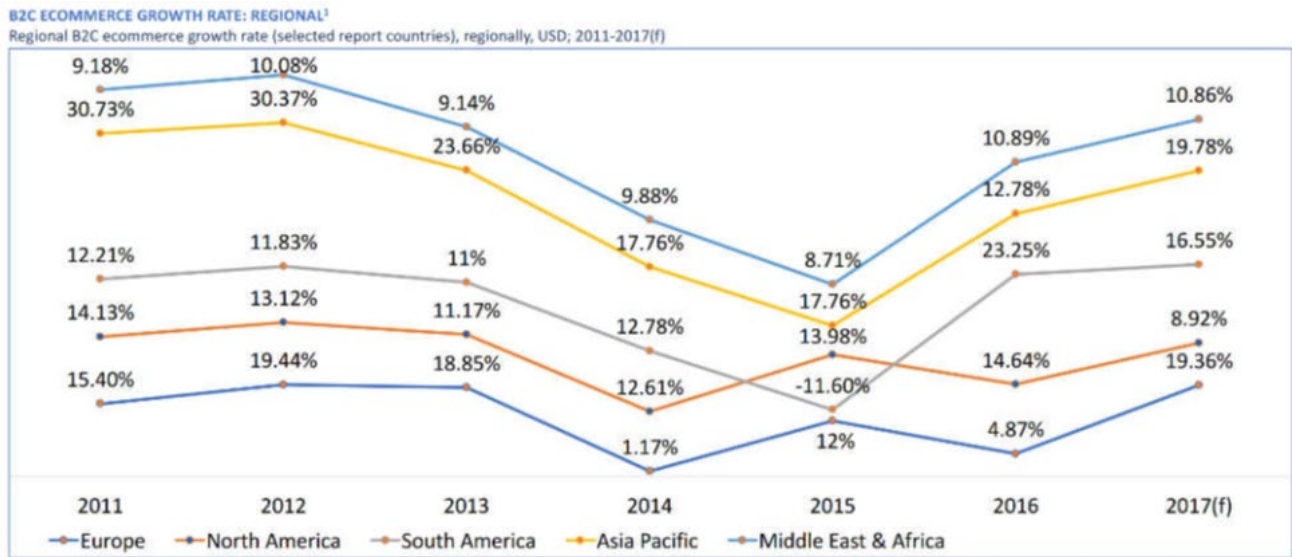


Figure 2. B2C e-commerce growth rate by country (Choi & Mai, 2018)

Fuelled by technology, the growth of online shopping in the coming years will be decided by a new generation of customers. They are the ones who require more comfort, more excellent value, and more choices. This presents both challenges and opportunities. According to

the Ministry of Transport (MOT), Vietnam is one of the fastest-growing countries in the world in e-commerce. Figure 3 shows that the e-commerce market grows 35% annually, 2.5 times faster than Japan.



Figure 3. Vietnam e-commerce (Kinda, 2019)

In the past few years, one of the factors that helped Vietnam e-commerce continue to grow strongly is thanks to the consumption power of the population. In the prior period, people were able to buy smartphones, laptops, desktops, and tablets. Accompanying this is the connection to the internet; mobile internet is much more convenient, contributing to increasing the number of Vietnamese customers who can go to the internet to entertain, connect, and search for information (Y. Zhang et al., 2011). Also, online applications are becoming smarter; the online shopping environment is more convenient and transparent, and innovative applications are more invested in this area. This has made more and

more consumers choose to shop online. Vietnamese internet users increase their annual online shopping spending. Currently, annual online shopping spending is \$ 70.18, an increase of \$ 15.18 compared to 2016 (\$ 55). The online shopping list of Vietnamese is also expanding significantly, moving from buying books in the early days to a much more extensive collection, ranging from fashion, electronics and telecommunications, food and personal care products, household furniture and appliances, toys, self-assembling items and more. The increase in sales of items in the e-commerce market in Vietnam increased sharply as shown in Figure 4.

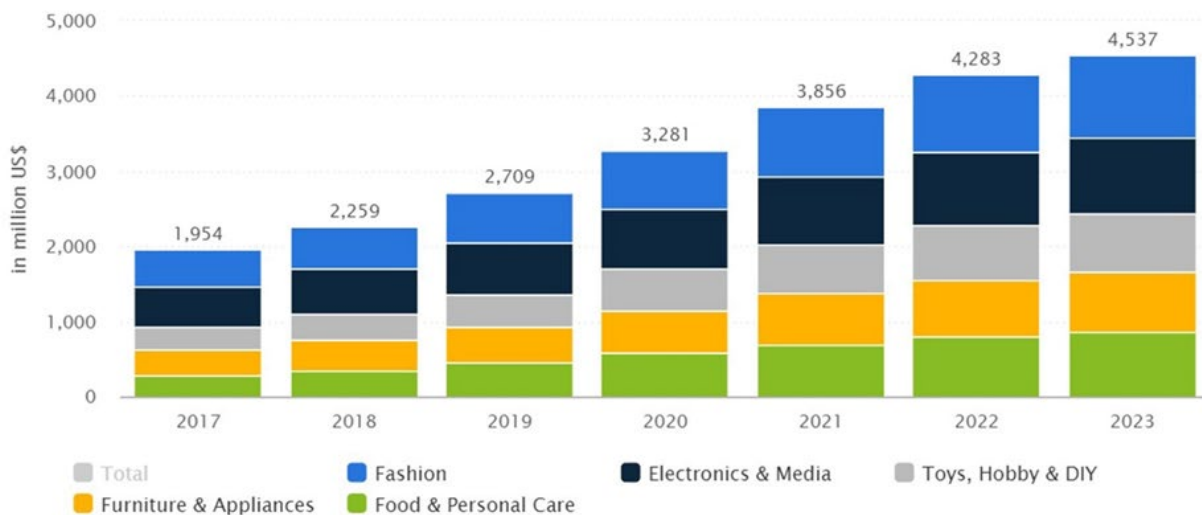


Figure 4. Revenue in the Vietnam e-commerce market from 2017-2023

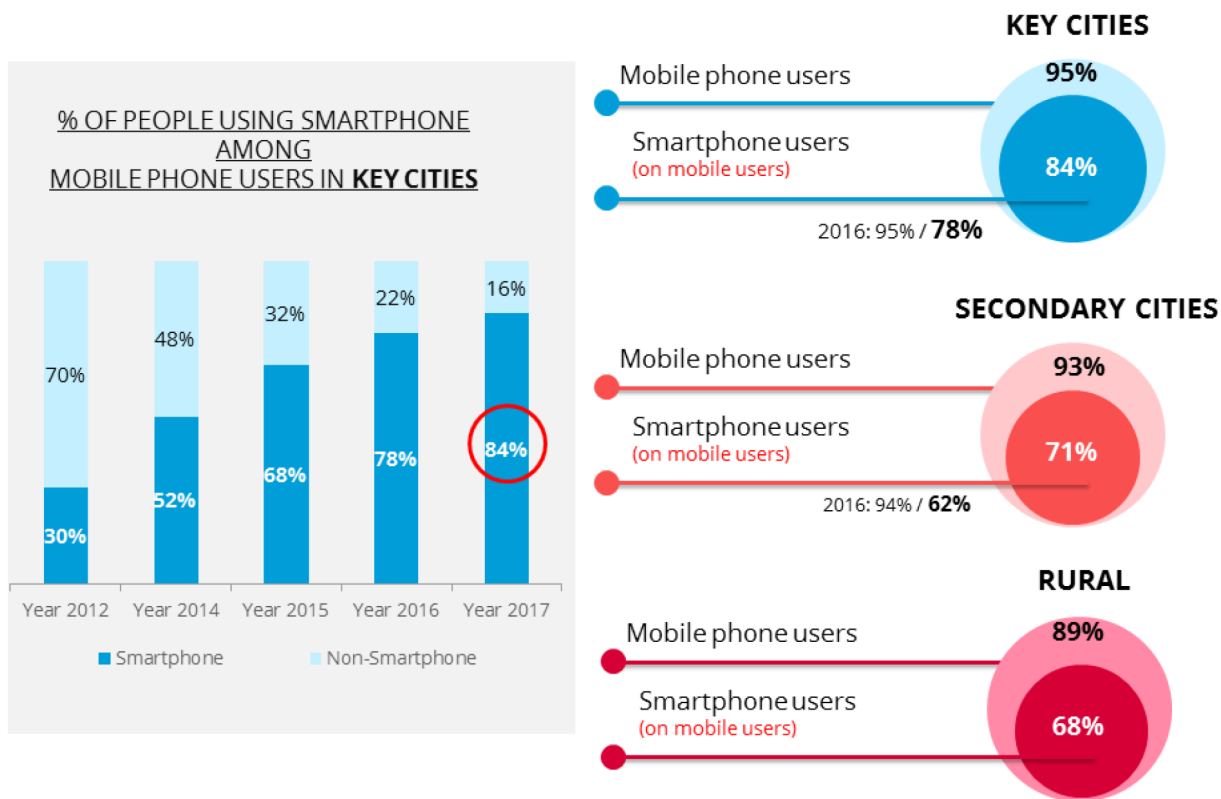
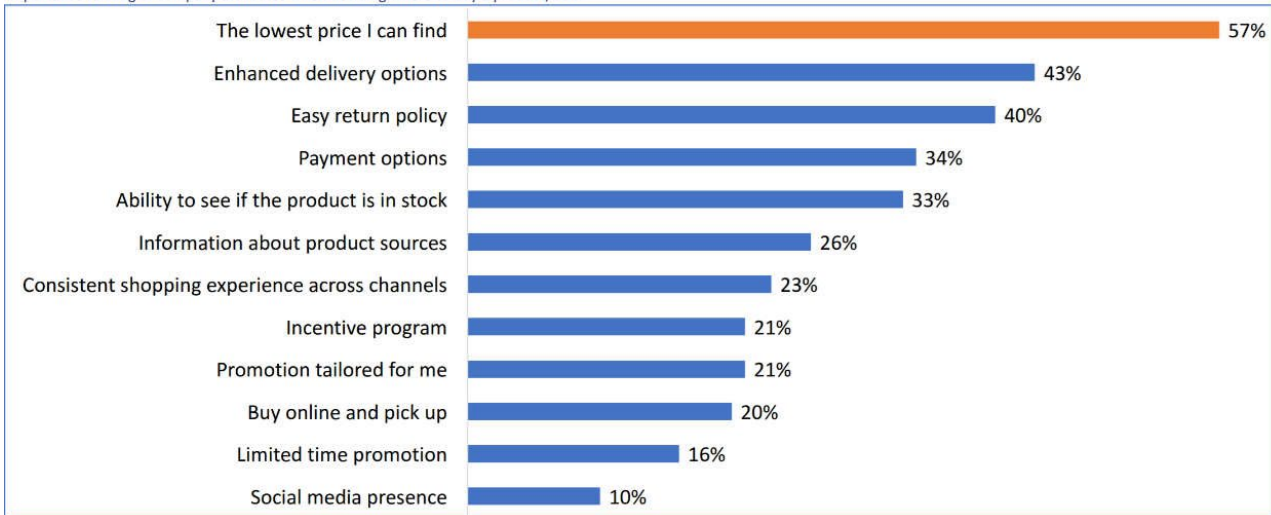


Figure 5. Smartphone penetration in Vietnam (Kinda, 2019)



**CONSUMER OPINION: WHERE TO BUY\***

Importance ranking of company attributes when deciding where to buy a product, 2017



**Figure 6. Consumer opinion: where to buy** (Rutherford et al., 2016)

Terminal pricing and delivery are two of the critical factors that determine whether customers choose to buy with e-commerce or not. The younger generation is no longer satisfied with mobile ordering; they also expect to receive goods faster. The desire to quickly become one of the characteristics of this generation of consumers. Figure 5 shows that 63% of the younger generation is very interested in receiving goods within the day, half of them willing to pay extra for this service. So companies can offer quick services like day delivery, online purchases and store delivery, etc. to keep up with young consumers' consumption habits and enhance the customer experience. Finally, talking about after-sales service, companies can simplify the process and optimize the service experience through a series of after-sales service directly on the app, including the return and purchase feedback as shown in Figure 6.

### 3. Major obstacles regarding logistics for e-commerce in Vietnam

The first challenge is the legal corridor and administrative procedures. Currently, we do not have laws for logistics for e-commerce. For example, a financial invoice (red invoice) is a mandatory document when goods are on the road. However, with e-commerce and the characteristic of Vietnam is delivery and collection, goods on the road are not a successful transaction. So there is not enough basis for issuing a red invoice. Only when customers receive the goods and pay the money. Indeed, when customers receive goods and pay money, it is enough basis to issue an invoice.

The second challenge is human resources that are both the delivery staff and senior personnel for the logistics industry for e-commerce. With the massive difference in the number of goods that need to be delivered to customers between the regular day and the event day, finding a delivery staff during this period is a real challenge. Moreover, in Vietnam, we do not yet have an official education system for the E-logistics industry. Mainly professional training is provided through job training. Also, the boom of e-commerce in recent years has brought a lot of potential but also a great challenge for companies in retaining talent.

The third challenge is shipping capacity. Currently, the principal means used for delivery in Logistics is motorbikes. Motorbikes are not specialized vehicles to carry goods. We are currently improving this method to become a means of delivery by adding more containers and limited capacity (from about 0.2m<sup>3</sup> to 0.4m<sup>3</sup>). Using a truck or pickup is not cost-effective and faces challenges such as traffic jams, individual licenses to operate, etc.). We are facing many barriers in bringing new vehicles such as electric tricycles into operation to increase capacity and delivery efficiency for e-logistics, a successful lesson for China, a country that has partly solved delivery capacity problem with a growth of more than 2,500 times in 10 years (Nisar & Prabhakar, 2017).

The fourth challenge is infrastructure. Traffic jams and floods are obsessions of Ho Chi Minh City and especially for e-logistics. Besides, our address system is also a considerable problem, wards, hamlets, communes, and villages, and we have not applied the area code

system (Postal code). We are only developing a network test as well as technology that helps e-commerce customers to receive goods at counters or cabinets at convenience stores (Smart Locker). As a country with 3,200 km in length, Vietnam has a difference compared to other countries that we have 2 cities 1,600 km apart, but there is no cargo plane between these two cities. Cargo transportation mainly takes advantage of passenger aircraft. This affects both capacity, cost, and time.

The 5th challenge is on the technology side. The

technology platforms, technology infrastructure, automation systems to meet e-commerce with the requirement of processing large data blocks are still a problem of Vietnam.

The final challenge is Collect on Delivery (COD). With 95% COD makes our logistics costs higher, risks higher for delivery brothers and the percentage of customers canceling orders are not delivered on arrival. All of this comes back to making the efficiency of Vietnam's logistics system low (Kalinda, Rukangu, & Rintaugu, 2016).

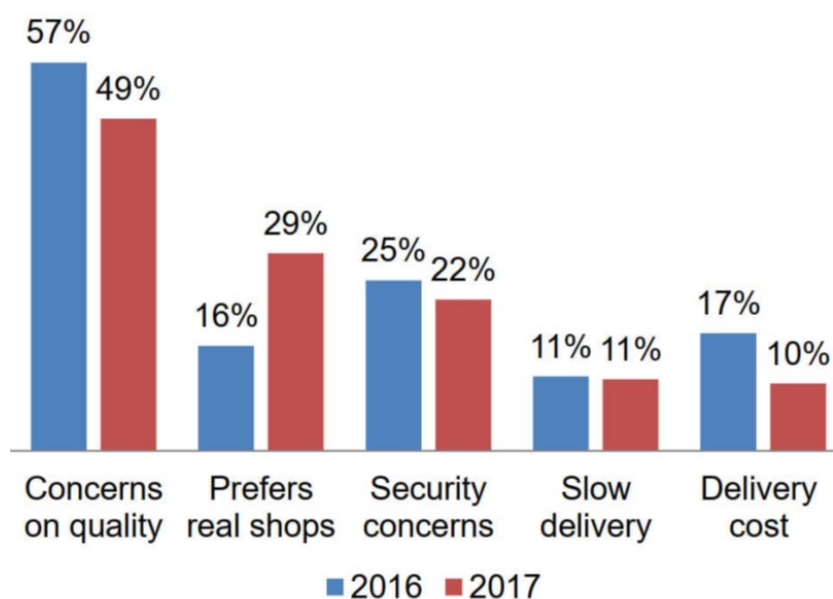


Figure 7. Reasons not to shop online (Vanham, 2018)

#### 4. Inadequacies and lack of cohesion between logistics enterprises and e-commerce in Vietnam

##### 4.1. The last mile for e-commerce

Last mile delivery service is one of the headache points of e-commerce in China. Customers care about end-to-end delivery because it offers convenience and flexibility. For these reasons, day-to-day and on-demand delivery services are being developed for food delivery (e.g., Deliv Fresh, Instacart), ready-to-eat foods (for example, service from Sun Basket) and retail purchases (for example, Dropoff's service, Amazon Prime Now). In China, having a variety of delivery options is more important than price. Studies related to Vietnamese customers have shown that many customers do not choose to shop online because of delivery services and delivery prices as show in Figure 7.

There are many factors related to the end-to-end delivery service (fast delivery, cash delivery) that currently influences the decision of whether or not to purchase online from Vietnamese customers. For more e-commerce customers to choose, e-commerce logistics need to improve more because many factors of logistics make customers not decide to buy online such as long delivery, high delivery costs, complicated delivery process. A survey of more than 350 customers in Vietnam showed that Logistics was one of the critical factors for them to decide whether to buy online or not. Survey results show that, besides the price factor, the convenience of EC is home delivery, and this is an essential factor for customers. Besides, the ability to track order status, delivery speed, and delivery costs are also essential and affect the customer experience.

Also, the biggest thing that can make a difference in e-commerce logistics is technology. Technology is the driving force that helps manage work processes, increase



customer experience, and help make goods routes transparent to all parties: vendors, logistics companies, and customers. The shipper in terminal logistics is the representative image of the e-commerce floor. They are replacing the position of salespeople in the stores. They are the ones that customers remember the most and are the connection between customers and the e-commerce floor. Long-term courier and logistics companies are struggling with tech-savvy startups to gain the last share of the e-commerce problem. Entrepreneurs have big dreams in this segment. They hit markets like food delivery and fast food. Also, they focus on crowdsourcing, using applications to receive forwarders, and connecting with sellers to deliver goods to customers like Uber models, apply technology to connect independent shippers and retailers such as Grab Delivery, Grab Food, Go-Send. Also, Vietnam witnessed many acquisitions and sales of traditional companies acquiring Start-ups.

In the Vietnam market, the terminal logistics market competes fiercely with four main groups:

- Large logistics and courier companies are participating in the terminal logistics market, such as DHL e-Commerce, Kuehne Nagel, Kerry Logistics, CJ ... They are changing to be able to service the rapidly growing terminal logistics market.

- Traditional postal companies like Vietnam Post Corporation (VN Post), Military Post, and Telecommunications Corporation (Viettel), Netco Company integrate quickly into this segment, taking advantage of the existing network and building additional innovation to meet this market.

- There are also many startups both at home and abroad that are invested in expanding the network, taking advantage of information technology such as Fast Delivery, Ninja Van, Ship60.

- Finally, Express Delivery Companies owned by e-commerce platforms such as Lazada Express, Savings Delivery. This is also the trend of the world: eBay acquired British Express Company Shurtliff in 2013, Amazon bought Air Transport Services Group (ATSG), Alibaba bought Lazada. The reason that e-commerce exchanges penetrate logistics because logistics is one of the sources of competitive advantage.

More and more companies both at home and abroad

enter the market. However, not all companies have the ability to grow in size. Many companies are trying to sell products delivered within 1-3 hours or delivered within a day. However, the efficiency of terminal logistics depends heavily on the density of goods delivered in a short distance (density).

Many startups do not yet have this. Many startups are excluded from the market because of their technological prowess but lack of experience in transportation and operations. “The key to the success of terminal delivery is similar to traditional transportation - understanding your costs, have good processes to take advantage of the productivity from the delivery staff, and set prices for customers corresponding to the product”- Satish Jindel, SJ Consulting. However, the competition will make the market become more dynamic and develop as long as logistics companies adopt.

#### *4.2. Actual situation of e-commerce application in logistics enterprises*

##### *a. Situation of using e-commerce websites and flooring e-commerce*

Indeed, businesses using websites will grow a lot faster than those without or having few activities. In that trend, many Vietnamese exporters have invested and developed their websites. However, according to the statistics of E-commerce Department in 2018, only 42% of exporting enterprises built websites to serve production and business activities, in which large enterprises own websites more than SMEs with 52% and 36% respectively (L. W. Wang & Liem Le, 2016). And in order to promote product promotion towards export markets, 58% of websites have foreign language versions (Tran, Tran, Nguyen, & Favia, 2014). 86% of exporters owning websites use different means to advertise their websites, most of which is advertising on social networks (21%), search tools (20%), online advertising (15%) (Vo, Chovancová, & Tri, 2019).

Among exporting enterprises with websites, 88% of enterprises have assigned staff to be in charge of website (technical, information management and business staff). The number of enterprises with website managers is concentrated in enterprises with websites in foreign language versions, mobile versions or participating in e-commerce trading floors in and outside the country. The percentage of exporting enterprises participating in e-commerce trading floor is still relatively low, accounting

for 20% of the survey participants.

*b. Mode of establishing relations with export partners*

Regarding the method of establishing relationships with export partners, 59% of enterprises said that they used direct meeting method, large enterprises are more active than SMEs in utilizing electronic channels to establish partnerships and seek opportunities to expand markets (Baharum & Jaafar, 2015). According to the survey results, 96% of enterprises have ever received orders via email, the percentage of enterprises that received orders via their websites or e-commerce trading floor were 29% and 23% respectively.

*c. The situation of using electronic contracts in export activities*

The form of signing contracts by sending via e-mail or by post / fax to sign and seal contracts by face-to-face meetings is currently the most applicable business. Meanwhile, the form of concluding contracts entirely by electronic means such as through e-commerce trading floor and website accounts for a very low rate. 8% of enterprises using electronic contracts reported having disputes with their partners, 60% of them said that disputes related to the contract content, only 24% of disputes related to the "electronic" aspect of contracting (information errors or other forms of errors in electronic contracts cause disputes over prices and quantities of goods) (Hoanh, Manh, & Lee, 2014).

Overall, Vietnam can see no small exports and many goods. But a survey conducted by the Ministry of Industry and Trade on 800 Vietnamese enterprises shows that only 42% of exporting enterprises have websites. Among enterprises having websites, only 58% of enterprises use foreign languages; the remaining is monolingual language is Vietnamese (Baharum & Jaafar, 2015). Another problem, while many large-scale Vietnamese enterprises have poor website content, while foreign enterprises are very small in scale, their website content is plentiful, and information is always updated regularly. Therefore, the advantages of attracting partners of foreign enterprises are also more effective than Vietnamese enterprises. The situation of e-commerce application in import-export enterprises in particular and logistics enterprises in general shows that Vietnam is facing many challenges at the door of integration and participating in the 4.0 revolution..

## **5. The development of logistics under the impact of e-commerce in Vietnam**

Firstly, there is a considerable change in the percentage of people who buy online and how they buy. According to the annual Q & Me survey in major cities like Hanoi and Ho Chi Minh City, the number of online shoppers increased from 40% in 2016 to 52% in 2017. Social online shopping has also increased, with 62% of customers saying that "more interesting" social buying is made through regular online shopping sites, 66% of online shoppers bought via Facebook, which is much higher than 47% in 2016. This raises the requirement to expand e-commerce logistics channels towards professionalization to meet services for e-retail. The limited type of small delivery companies with the old ways will no longer meet the requirements of providing professional logistics services with the current growth scale.

Secondly, the trend of multi-channel sales has also appeared quite clearly in Vietnam. According to the Vietnam Retail Association, the single-channel direct method will gradually decrease and be replaced by the multi-channel model. The line between "real" and "virtual" shopping activities is gradually blurring, with more and more customers searching online and then shopping as well as looking after reality and shopping online. Therefore, retail and e-commerce businesses need to restructure their logistics systems to meet the multichannel customer experience requirements. On the other hand, the characteristics of multichannel systems are that retailers rarely invest in distribution centers; they entrust to professional distribution companies and thus increase their competitiveness in the market. This shows that the logistics service industry must develop in the direction of serving multichannel retail, not purely for a particular type of trade.

Third, despite a relatively fast growth rate; currently, the COD delivery rate still accounts for 88%, with the exchange rate at B2C sales websites is from 10% -15%. This increases transport costs, operating costs and reduce the profits of businesses. Besides, product price is still an essential factor in attracting electronic buyers in Vietnam. According to a survey of Q & Me, up to 51% of online buyers choose to buy products because of "good price." This requires increasing the efficiency of e-commerce logistics services to support COD delivery. Particularly

interested in improving delivery activities to minimize logistics system costs to increase price competitiveness for products. It can be seen that the needs of businesses with e-commerce businesses are increasingly complicated. The rapid increase in the number of touchpoints in multi-channel sales shows that only 3PLs and professional packaging service contractors are qualified to become the last-mile logistics providers. Show that Vietnamese 3PLs must quickly reform and adapt to these requirements.

Fourthly, the level of competition and participation of types of businesses in the e-commerce market are increasingly deep and complex. In the electronic retail market, it is not only small retail shops that seek opportunities to penetrate the market through e-commerce channels, especially social networks, but many other types of businesses also find ways to take advantage of this useful business method. Traditional retailers such as Mobile World, FPT, Nguyen Kim, Lotte, Big C, Saigon Co.op ... are accelerating in the online retail segment. An abundance of investment deals among e-commerce brands such as Alibaba bought Lazada, VNG invested in Tiki, Central Group with Zalora, and Nguyen Kim (Budhi, 2016). There has been a rapid shift of major traditional retail chains into the online environment through the links of Vingroup with Adayroi, Thegioididong with Vuvui.com, Lotte with Lotte.vn, Aeon with Aeonshop.com ... (Naik & Suresh, 2018) As the level of competition increases, to take advantage of and address increasingly complex service requirements, e-commerce businesses must work closely with logistics service providers to improve delivery systems, warehousing, payment ... especially delivery. The need to form logistics enterprises specializing in providing efficient delivery solutions is increasingly urgent.

Delivery is such a type of company, and this company has met very well the requirements of electronic delivery in the current context. This is a new company born for 5 years but has provided daily delivery service for more than 4,000 businesses in 1,400 cities in 33 countries. Deliv has the same day delivery capacity as Amazon Prime service. The professionalism of distribution companies such as Deliv will allow small-scale retail and e-commerce companies also to participate in competing with large trading corporations such as Amazon or Alibaba.

In Vietnam, the above trends have promoted an apparent transformation of the logistics industry. In 2017, DHL e-Commerce officially launched a domestic distribution service. DHL e-Commerce services deliver goods throughout Vietnam. The company has warehouses located in the two largest cities of Hanoi and Ho Chi Minh City and many distribution centers across the country. In big cities, delivery will take 1-2 days, in other provinces, from 3-7 days (Herrera et al., 2017). DHL e-Commerce also provides cash on delivery service for customers. DHL e-Commerce also provides cash on delivery service for customers (Li et al., 2016). DHL e-Commerce is working to provide same-day delivery and cross-border shipping. Also, many delivery companies in Ho Chi Minh City and Hanoi have provided services within the day, big retail systems such as Mobile World because there are stores across the country, so they commit to deliver in 30 minutes.

## **6. Conclusion**

Located in the area rated as the most dynamic development of e-commerce in the world. Vietnam has both advantages and challenges. The development trends of Vietnam e-commerce will not be out of the global trend in the coming time. In the logistics service chain, transport is considered the backbone of e-commerce, but currently, the transportation costs of logistics enterprises are still quite high. Along with that, Vietnam still has a habit of using cash for transactions, which is easy to create risks, especially when the amount of money logistics enterprises has to collect for e-commerce businesses is too high.

It can be seen that changes in e-commerce in the world, and the country will promote the logistics industry towards professionalism and efficiency. This also puts enormous pressure on the business strategy of logistics enterprises — especially domestic forwarding companies. Adapting and changing to develop or accept to be competitive and take over will depend on the awareness of the situation and the path that businesses choose. Logistics and e-commerce are always tied together. Vietnamese e-commerce businesses must always make continuous efforts in order to improve service quality. They are contributing to eliminating barriers and difficulties of the current Vietnamese e-commerce industry.

The integration of Vietnam e-commerce enterprises with logistics service enterprises in the direction of "giving priority to using each other's services", taking advantage of each other's strengths to create services on the basis of available services of the parties will contribute to Vietnam's logistics enterprises to improve their competitiveness and reduce dependence on foreign businesses operating in Vietnam. The specialization of logistics services for e-commerce is a global trend. Therefore, Vietnam's service providers need to develop an appropriate development strategy so that e-commerce is increasingly developing commensurate with their potential.

## References

- Baharum, A., & Jaafar, A. (2015). Identifying the importance of web objects: A study of ASEAN perspectives. In *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*. [https://doi.org/10.1007/978-3-319-25939-0\\_41](https://doi.org/10.1007/978-3-319-25939-0_41)
- Budhi, G. S. (2016). Analisis Sistem E-Commerce Pada Perusahaan Jual-Beli Online LAZADA Indonesia. *Jurnal Electronics, Informatics, and Vocational Education (ELINVO)*.
- Cai, L., He, X., Dai, Y., & Zhu, K. (2018). Research on B2B2C E-commerce Website Design Based on User Experience. In *Journal of Physics: Conference Series* (Vol. 1087, p. 62043). IOP Publishing.
- Chaffey, D., Hemphill, T., & Edmundson-Bird, D. (2015). *Digital business and e-commerce management*. Pearson UK.
- Choi, Y., & Mai, D. (2018). The sustainable role of the e-trust in the B2C e-commerce of Vietnam. *Sustainability*, 10(1), 291.
- Davarzani, H., Fahimnia, B., Bell, M. G. H., & Sarkis, J. (2015). A Review of the Literature of Green Ports and Maritime Logistics. In *Green Logistics and Transportation* (pp. 149–158). Springer.
- Falk, M., & Hagsten, E. (2015). E-commerce trends and impacts across Europe. *International Journal of Production Economics*, 170, 357–369.
- Glushkova, J. O., Golubeva, S. S., Pakhomova, A. V., Slavnetskova, L. V., Filippov, D. V., & Goryacheva, T. V. (2017). Logistics performance index between countries. *International Journal of Economic Perspectives*.
- Herrera, A. F., Mei, M., Low, L., Kim, H. T., Griffin, G. K., Song, J. Y., ... Armand, P. (2017). Relapsed or refractory double-expressor and double-hit lymphomas have inferior progression-free survival after autologous stem-cell transplantation. *Journal of Clinical Oncology*. <https://doi.org/10.1200/JCO.2016.68.2740>
- Hoanh, S. Le, Manh, T. N., & Lee, H.-K. (2014). Motivations Triggering Electronic Word of Mouth Intention: A Study for E-Learning Websites at Vietnam. *Korean Business Education Review*.
- Kalinda, J. M., Rukangu, S., & Rintaugu, G. (2016). Influence of Agency Banking Services on Service Delivery in Equity Influence of Agency Banking Services. *International Journal of Economics, Commerce and Management*.
- Kengpol, A., & Tuamsee, S. (2016). The development of a decision support framework for a quantitative risk assessment in multimodal green logistics: an empirical study. *International Journal of Production Research*, 54(4), 1020–1038.
- Kim, Y., & Peterson, R. A. (2017). A Meta-analysis of Online Trust Relationships in E-commerce. *Journal of Interactive Marketing*, 38, 44–54.
- Kinda, M. T. (2019). *E-commerce as a Potential New Engine for Growth in Asia*. International Monetary Fund.
- Laudon, K. C., & Traver, C. G. (2016). *E-commerce: business, technology, society*.
- Li, S., Desai, P., Lin, P., Yin, C. C., Tang, G., Wang, X. J., ... Medeiros, L. J. (2016). MYC/BCL6 double-hit lymphoma (DHL): A tumour associated with an aggressive clinical course and poor prognosis. *Histopathology*. <https://doi.org/10.1111/his.12884>
- Liao, D.-Y., & Wang, X. (2018). Applications of Blockchain Technology to Logistics Management in Integrated Casinos and Entertainment. In *Informatics* (Vol. 5, p. 44). Multidisciplinary Digital Publishing Institute.
- Lu, B., Fan, W., & Zhou, M. (2016). Social presence, trust, and social commerce purchase intention: An empirical research. *Computers in Human Behavior*. <https://doi.org/10.1016/j.chb.2015.11.057>
- Maulana, S. M., Susilo, H., & Riyadi. (2015). Implementasi E-Commerce Sebagai Media Penjualan Online. *Jurnal Administrasi Bisnis*.
- Naik, G., & Suresh, D. N. (2018). Challenges of creating sustainable agri-retail supply chains. *IIMB Management Review*. <https://doi.org/10.1016/j.iimb.2018.04.001>
- Nisar, T. M., & Prabhakar, G. (2017). What factors determine e-satisfaction and consumer spending in e-commerce retailing? *Journal of Retailing and*

- Consumer Services.  
<https://doi.org/10.1016/j.jretconser.2017.07.010>
- Oliveira, T., Alinho, M., Rita, P., & Dhillon, G. (2017). Modelling and testing consumer trust dimensions in e-commerce. *Computers in Human Behavior*, 71, 153–164.
- Pham, H. T., & Lee, H. (2019). Developing a Green Route Model for Dry Port Selection in Vietnam. *The Asian Journal of Shipping and Logistics*, 35(2), 96–107.
- Prockl, G., Pflaum, A., & Kotzab, H. (2012). 3PL factories or lernstatts? Value-creation models for 3PL service providers. *International Journal of Physical Distribution and Logistics Management*.  
<https://doi.org/10.1108/09600031211250587>
- Rutherford, B., Dagher, A., Wiseman, M., Paie, D. J. M. C., Rans, J.-P. E., Ates, F., & Wankmueller, J. (2016, December 6). Customer authentication in E-commerce transactions. Google Patents.
- Semet, F. (2016). Challenging optimization problems in E-commerce logistics.
- Tran, D., Tran, Q., Nguyen, L., & Favia, M. (2014). Factors influencing consumer's trust in e-commerce: An empirical examination in Vietnam. *International Journal of Business Research*.  
<https://doi.org/10.18374/IJBR-14-2.4>
- Vanham, P. (2018). The story of Viet Nam's economic miracle. *World Economic Forum*.
- Vo, N. T., Chovancová, M., & Tri, H. T. (2019). A major boost to the website performance of up-scale hotels in Vietnam. *Management and Marketing*.  
<https://doi.org/10.2478/mmcks-2019-0002>
- Wang, L. W., & Liem Le, Q. (2016). Customer Satisfaction towards Online Shopping at Electronics Shopping Malls in Vietnam- A Conceptual Model to Enhance Business Success through Efficient Websites and Logistics Services. *Journal of Stock & Forex Trading*.  
<https://doi.org/10.4172/2168-9458.1000164>
- Wang, X., Lin, X., & Spencer, M. K. (2019). Exploring the effects of extrinsic motivation on consumer behaviors in social commerce: Revealing consumers' perceptions of social commerce benefits. *International Journal of Information Management*.  
<https://doi.org/10.1016/j.ijinfomgt.2018.11.010>
- Wong, W. P., Soh, K. L., & Goh, M. (2016). Innovation and productivity: insights from Malaysia's logistics industry. *International Journal of Logistics Research and Applications*, 19(4), 318–331.
- Wu, Y.-C., Goh, M., Yuan, C.-H., & Huang, S.-H. (2017). Logistics management research collaboration in Asia. *The International Journal of Logistics Management*, 28(1), 206–223.
- Yu, Y., Wang, X., Zhong, R. Y., & Huang, G. Q. (2017). E-commerce logistics in supply chain management: Implementations and future perspective in furniture industry. *Industrial Management & Data Systems*, 117(10), 2263–2286.
- Zhang, M., Pratap, S., Huang, G. Q., & Zhao, Z. (2017). Optimal collaborative transportation service trading in B2B e-commerce logistics. *International Journal of Production Research*, 55(18), 5485–5501.
- Zhang, Y., Fang, Y., Wei, K. K., Ramsey, E., McCole, P., & Chen, H. (2011). Repurchase intention in B2C e-commerce - A relationship quality perspective. *Information and Management*.  
<https://doi.org/10.1016/j.im.2011.05.003>
- Zhu, L., Kara, O., & Zhu, X. (2019). A comparative study of women entrepreneurship in transitional economies: The case of China and Vietnam. *Journal of Entrepreneurship in Emerging Economies*, 11(1), 66–80.