

Current Development of E-commerce Enterprises in Vietnam

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Abstract: E-commerce is one of the important infrastructures of the contemporary knowledge economy and the information society. It is a way to help businesses promote the development of domestic markets and foreign trade, participate in the global supply chain, help improve competitiveness and enhance integration in international stage, contributing to boosting the national industry. Recently, e-commerce in Vietnam has made a significant progress due to the great benefits that it brings about. However, in general terms, many consumers and businesses have not seen the effectiveness that e-commerce has brought, so they have not paid much attention to and have not promoted the strengths of this type. The article introduces the current situation of competitiveness of e-commerce businesses in Vietnam besides the opportunities and challenges in this business field.

Keywords: e-commerce, B2B, B2C, competitiveness, enterprises, Vietnam

1. Fundamentals of E-commerce

Electronic commerce (e-commerce), also known as e-commerce or EC, is the purchase and sale of products or services on electronic systems such as the Internet and computer networks (Gepner and Wackowski, 2003). E-commerce is based on several technologies such as electronic money transfer, supply chain management, Internet marketing, online transaction process, electronic data exchange (EDI), inventory management systems and automated data collection systems (Leszczynski and Pilarczyk, 2012). Modern e-commerce often uses the World Wide Web as a minimum point in the transaction cycle, although it can cover a broader range of technologies such as email and mobile devices (Konopielko et al, 2016; Tien, 2006).

When talking about the concept of e-commerce, many people confuse with the concept of E-Business. However, e-commerce is sometimes considered a subset of e-business. E-commerce focuses on online trading (external focus), while e-business is the use of Internet and online technologies to create effective business processes to increase benefits of customers (internal focus) (Szpringer, 2010). In summary, e-commerce only occurs in the Internet business environment and electronic media among groups (or individuals) with each other through tools, techniques and electronic technologies (Hoe, 2007; Tien and Vinh, 2019a, 2019b, 2019c).

2. E-commerce Indices in Vietnam

Vietnam Association of E-Commerce Business Enterprises (VECOM) has conducted the construction of the Capacity Index for e-commerce businesses for the first time in 2012 for the business community to assess the environment and compare it with corporate internal competitiveness so that companies can improve their competitiveness when the global trend takes place quickly in the near future [2, 7]. The Vietnam E-commerce Competency Index (abbreviated as EBI from E-Business Index) is built on four major criteria groups. The first group is human resources and information technology infrastructure. The second group is business transactions with consumers (B2C). The third group is transactions between businesses and businesses (B2B). The fourth group is government-to-business (G2B) transactions (Tien, 2012; Tien, 2013; Hong and Thoan, 2013) [2]. EBI will help businesses interested in e-commerce to quickly determine the level of e-commerce deployment in the country as well as in each local market, the progress over years and suggestions for each local market and necessary solutions to improve the capacity of e-commerce application (Do, 2013).

On August 8, 2016, the Prime Minister issued Decision No. 1563 / QĐ-TTg approving the overall e-commerce development plan for the period of 2016-2020 [1, 2]. In particular, it is focusing on completing

policies and laws on e-commerce; improving the management and competitiveness of enterprises in the local market; promoting the online provision of public services related to e-commerce production and business activities; enhancing the application of information technology in public administrative procedures (Tien et al, 2019b; Tien, 2019b, 2019c, 2019d).

3. Development of E-commerce in Vietnam

As of January 2018, Vietnam had 64.05 million internet users, accounting for 67% of the population, an increase of 6% compared to 2016. The number of Internet users is considered to be at a high level in the world, but the percentage of people using Internet is still average. Vietnam has 55 million social network users, accounting for 57% of the population. Information updates continue to be the most common daily internet use goal, up from 87% in 2015 and to 93.5% in 2016. The majority of respondents use the internet daily to participate in online forums, social networks (81.2%), e-mail access (73.8%), watching movies, listening to music (64.8%) and academic research (63.9%). For activities such as personal purchases, the majority of respondents have a monthly activity frequency (36.2%). The latest report of eMarketer, a research firm from the US, also showed that Vietnam is a booming market of smartphones with 30% of the population of users. Online time on mobile devices also accounts for 1/3 of a day of Vietnamese consumers [4, 5]. Fierce competition in the field of e-commerce is due to the emergence of large corporations around the globe that force e-commerce enterprises to continue to enhance communication and marketing activities, thereby increasing operating costs. Therefore, these enterprises suffer from prolonged losses in e-markets (Tien, 2019a; Tien et al, 2019a).

Vietnam's e-commerce market is very potential with a growth rate and increasing size. Research and consultancy firm Frost and Sullivan also forecast that the size of the Vietnamese market will increase from USD 1.7 billion in 2016 to USD 3.7 billion in 2020, equivalent to a growth rate of 45% per year. In November 2017, at the Vietnam E-commerce Panorama Forum, experts forecast the annual growth of e-commerce to 22%. The size of Vietnam's e-commerce market is expected to reach USD 10 billion in the next 5 years. Despite such potential market, the loss of the above enterprises shows that e-commerce enterprises are operating almost without profit. Therefore, in order to maintain and strongly develop operations for e-commerce sites, domestic e-commerce businesses need to evaluate their competitiveness indexes periodically to take advantage of cooperation or merger and acquisition (M&A) with foreign businesses to improve competitiveness (Tien, 2019a) [4, 5].

Vietnam e-commerce map ranks the top 50 e-commerce businesses in Vietnam based on the average number of visits by quarter, mobile app ranking and social media followers. The data was collected in October 2018. According to iPrice's statistics, by the end of the fourth quarter of 2017, the top e-commerce market in Vietnam was Shopee (ranked first), Tiki (ranked fourth) and Sen Do (ranked fifth) [3]. In 2018, there were 21 investments in e-commerce field with a total value of 83 million USD. In particular, Tiki received investments of up to USD 54 million from JD.com and STC Investment.

The list of countries with a lot of Vietnamese e-commerce investment projects includes Japan, Germany, the US, South Korea, China and Singapore. This shows that Vietnam's e-commerce market is a potential land for investors from the region and the world, with 6 principal investors pouring capital into various e-commerce companies in Vietnam in which Japan becoming the largest. According to statistics from the Korea Chamber of Commerce and Investment Promotion (KOTRA), Japan is the country that poured the most FDI into Vietnam in the period from January to December 2017 (Tien and Nhi, 2019; Tien and Vinh, 2019a, 2019b, 2019c).

4. Opportunities and Challenges for E-commerce Businesses in Vietnam

According to experts' forecast, Vietnam's e-commerce growth may reach 30-50% / year in the next 5 years, while e-commerce market size may reach 10 billion USD in the year 2020. Along with the growing e-commerce technology platform, most e-commerce enterprises in Vietnam despite being small and medium-sized enterprises (SMEs) will not be inferior if they know how to take advantage effectively (Tien, 2012; Tien 2013).

4.1. Opportunities

At the Vietnam ICT Summit 2017, the Organizing Committee had surveyed 275 participants on the organization's readiness, strengths and solutions needed to prepare for the Industrial Revolution 4.0. Results showed that 35.2% of organizations have been prepared for the Industrial Revolution 4.0, most of which are enterprises in banking and information technology (IT) sectors. 58.7% did but did not know what to prepare, while 6.1% did not know and did not know how to prepare for the opportunities and impacts of the Industrial Revolution 4.0.

In addition, according to the survey results, enterprises and organizations also suggested that Vietnam should focus on some industries that have advantages in the Industrial Revolution 4.0 including: IT

(89.9%), tourism (45.7%), agriculture (44.9%), finance - banking (47%) and logistics (28.3%). This shows that the awareness of e-commerce and the Industrial Revolution is increasingly clear [4]:

- Market potential: According to the Department of E-Commerce and Digital Economy (Ministry of Industry and Trade), Vietnam is rated as one of the countries with the fastest e-commerce growth in the world, at a rate of 35 % per year, 2.5 times higher than Japan. The explosion of e-commerce applications has increased the likelihood of online shopping. In 2017, more than 210 websites with content related to e-commerce were established. Retail e-commerce revenue in 2017 reached more than 2 billion USD, a growth rate of 20%.

- IT infrastructure: Nielsen Vietnam's research shows that currently, an average Vietnamese person owns 1.3 phones, of which 70% are smartphones. Strong technology infrastructure is the foundation for Vietnam's e-commerce to generate 4 billion USD in sales last year.

- Efficiency of online sales: The survey of e-commerce activities of businesses in Vietnam was conducted by the Vietnam E-Commerce Association (VECOM) in 3 months (from November 9, 2017) at more than 4,100 businesses across the country showed that up to 39% of businesses surveyed rated the effectiveness of online sales through social networks, the highest among online tools; next positions are: Selling via website of the enterprise (35%), via mobile application (22%), via e-commerce trading floor (18%).

- Vietnamese consumer behavior: According to a study by Nielsen Vietnam, the technology trend in the next 5 years will change the behavior of Vietnamese consumers. Accordingly, 55% of Vietnamese consumers have and will use devices with internet connection to shop faster and more efficiently. Notably, in the last 6 months, Vietnamese consumers use connected mobile devices to simplify the experience with 43% of shopping, 33% of paying bills online, 35% booking tickets, movies, hotel reservations, 31% money transfer. On this trend, up to 68% of consumers have and want to use virtual shopping.

4.2. Challenges

Although currently, e-commerce businesses account for an increasing proportion of the business community, there are still many limitations in management capacity, technology and human resources when technological innovation is needed to automate the manufacturing and business processes. Therefore, e-commerce businesses will face more difficulties in the Industrial Revolution 4.0 if they are unable to convert and adapt to change. Contrary to the strong growth wave of e-commerce, many businesses still do not have a full view of this opportunity. In fact, only 20% of e-commerce businesses build their own websites to promote their businesses. Meanwhile, 70% of consumers go online to search for information and shopping addresses before going to stores directly.

If businesses do not have their own websites and brands, consumers will have difficulty finding their products and services (Because according to Nielsen Global Trust in Advertising 2015 report, Vietnamese consumers trust much most ads on search engines, followed by social networks, online videos and online banners). E-commerce businesses also face many barriers from the beginning to participate in the e-commerce when building and operating the system requires a lot of time, finance as well as human resources and management qualifications.

In fact, in order to do business on the Internet, businesses need to build a system to appear on the Internet in the form of a website and a system behind managing stages such as warehousing and transportation. The construction of such a system often takes a lot of time and cost. In addition, there are also barriers on logistics and technology. Not only need to invest in technology and technology solutions, e-commerce needs to solve the problem between the sellers and buyers. However, even when successful in conquering buyers, businesses still have difficulties with issues such as delivery, payment or some other problems such as warranty, customer information confirmation (Tien, 2019a; Tien et al, 2019a).

4.3. Status of competitiveness of e-commerce businesses in Vietnam

According to VECOM estimates, the growth rate of e-commerce in 2017 reached over 25% and that this rate is likely to be maintained in the next three years: 2018, 2019 and 2020. Despite the development of e-commerce has begun to spread many localities, the digital gap is still very large. The two largest cities, which are also the economic centers of Ho Chi Minh City and Hanoi, continue to have strong growth. In addition to Da Nang, which is the economic center of the Central Region, the high ranking localities are those located in the immediate vicinity of these two cities. The 2018 status of the EBI index is assessed based on four major criteria groups. The first group is human resources and information technology infrastructure. The second group is business transactions with consumers (B2C). The third group is transactions between businesses and businesses (B2B). The fourth group is government-to-business (G2B) transactions (Tien, 2012; Tien, 2013) [2].

Human resources and IT infrastructure index (HRIT). Information technology and telecommunications infrastructure in Vietnam has met quite well for online business needs. However, human resources implementing e-commerce have not kept up with demand. In the third period of 2012-2014, the component index of human resources and information technology infrastructure (HR & HT) was calculated

based on criteria such as how the current human resources have met the deployment needs. IT and E-commerce of businesses, the ability to recruit IT and E-commerce skilled workers, the proportion of IT and E-commerce professionals, the percentage of employees who regularly use email computer and IT investment and e-commerce. These criteria are calculated on the basis of the enterprise survey. On the other hand, in the process of operation, the Vietnam E-Commerce Association (VECOM) also highly appreciated the role of domain names in affecting e-commerce, so from 2015 to present, in line with the development of e-commerce, the index of the composition of human resources and information technology infrastructure is supplemented with the index of the national domain name (.vn). In fact, over the years, there are still two cities, Hanoi and Ho Chi Minh City, always have a huge difference in the number and average rate of domain names with the remaining localities. The two cities with the highest number of domain names in 2017 are Ho Chi Minh City and Hanoi and also the two localities with the lowest population per domain name in the country, respectively 52 and 48, followed by Da Nang city ranked third but there is a big gap in the number of domain names as well as the ratio of population per domain name to the top two cities. In the underdeveloped local group, Lai Chau is still the region with the lowest number of domain names and population per domain, respectively 90 domain names and 4,844 people per domain name. Accordingly, the index of human resources and information technology infrastructure in 2017 for each locality was built based on the following criteria groups: 1) the rate of population per domain; degree of equipping computers and smart mobile devices; 3) the percentage of employees who regularly use e-mail at work; 4) the percentage of employees who regularly use tools such as Viber, WhatsApp, Skype, Facebook Messenger and 5) workers specialized in e-commerce. These criteria groups remain the same as in 2016 as a basis for comparing growth rates. Hanoi is the city with the highest HR and IT component index (84.2 points), followed by Ho Chi Minh City with the HR and IT component index of 82.7 points. Da Nang scores 41.7 points, Hai Phong scores 41 points and Bac Ninh scores 40 points.

Business to consumer index (B2C). For the component index of business-to-consumer transactions (B2C), in 2017, the points for this index continue to be based on a group of criteria such as 2016, including: 1) building an enterprise website; 2) frequency of information updates on the website; 3) social networking sales application; 4) participating in e-commerce trading floor; 5) mobile version website; 6) mobile sales application; 7) enable buyers to perform the entire shopping process on mobile devices; 8) the situation of receiving orders; 9) advertising website / mobile application; 10) online channel revenue and 11) per capita income. Despite the industry's high growth rate, the size of the online retail market is still small compared to the total retail sales. VECOM also sees a correlation between the average income of consumers and the decision to buy as well as the value of online orders. Therefore, from 2016 the per capita income criterion has been added to the B2C index. According to the General Statistics Office, 5 provinces/cities with the highest per capita income per month in 2016 were: Ho Chi Minh City (230 USD), Binh Duong (220 USD), Hanoi (210 USD), Hai Phong (195 USD) and Dong Nai (185 USD). Ho Chi Minh City took the lead in B2C trading component index in 2017 (80.7 points). It was followed by Hanoi (79.4 points), Binh Duong (69.1 points), Hai Phong (67.2 points) and Bac Ninh (63.0 points). Unlike the HR and HT component index, in the B2C transaction index, the difference between provinces in the top 5 localities is not too high. The average score of the B2C transaction index in the whole country is still below the average of 42.4 points, of which the leading 5 provinces and cities have an average score of 71.9 points and the lowest 5 provinces and cities have the average score of 26.3 points.

Business to business index (B2B). The business-to-business (B2B) index reflects the level of business dynamics of receiving and ordering online with partners, and demonstrates the ability to apply information and communication technology (ICT). In 2017, the B2B trading component index continued to take into account the number of businesses and the population of each local market. Accordingly, the 2017 B2B transaction component score includes the following criteria: 1) use of software in the enterprise; 2) use of electronic signatures; 3) use of electronic contracts; 4) take orders through online tools; 5) Order through online tools; 6) the rate of investment, construction and operation of the website/mobile application of the business and 7) the average percentage of the population per enterprise. According to the General Statistics Office, Ho Chi Minh City and Hanoi are still the two regions with the best population / business ratio, 56 and 71 respectively. Thereby it can be seen that the business density in these two areas is quite high. The average point of the B2B transaction index in the country is 27.5 points, of which the average score of the highest 5 provinces and cities is 58.8 points and the average score of the lowest 5 provinces and cities is 17.5 point.

Business to government index (G2B). Transactions between state management agencies and enterprises (G2B) are one of the four component indicators of the e-commerce index. This component index reflects the transparency of local information for businesses as well as the level and effectiveness of online public services for the business operations of the business. Comparing to previous years, G2B transaction index barely changed much. However, 2017 marked a rise in the G2B trading index between the two cities. Ho Chi Minh (ranked first with 82.5 points) and Hanoi (ranked second with 76.2 points).

The e-commerce index of local markets is aggregated from four groups of component indices, each with their own weights. The weights for each component index group in 2017 have changed compared to 2016 and focused more on the two main pillars: B2C and B2B. The addition of criteria related to the average of national domain names, income and businesses have better reflected the current situation of e-commerce development in local markets. The five local markets leading the E-Commerce Index have the difference between the 4 component indexes and the corresponding average as follows. Ho Chi Minh City continues to be the leading local market for e-commerce index with an aggregate score of 82.1 points and 3.5 points higher than in 2017. The chart of component indexes of Ho Chi Minh City reflects the high level of separation compared to the national average, especially the two indexes of HR & IT and B2B transactions. This gap is quite similar to the previous year. Hanoi ranked second with an aggregate score of 79.8 points and 4 points higher than the previous year. In particular, Hai Phong rose to the 3rd position in the ranking of e-commerce index, followed by Da Nang and Binh Duong. However, despite being in the top 5 local markets, the distance between the two economic centers is Hanoi and Ho Chi Minh City. Ho Chi Minh City with the remaining 3 provinces is very large. Even the gap between Hanoi (ranked No. 2) and Hai Phong (ranked No. 3) is already 24.9 points apart. Accordingly, this year Hai Phong ranked third with a score of 54.9 points and increased to 12.7 points compared to the previous year, Hai Phong is also the city with the highest increase in EBI points compared to the previous year in the country. Da Nang city ranked fourth with 54.1 points. This city has a strong development in B2C transactions, possibly due to the high contribution of the tourism and service sectors. Binh Duong ranked fifth with 50.4 points and increased by 7.4 points compared to the previous year. Although in 2017, there were many activities from state management agencies, organizations and enterprises to narrow the gap in the level of e-commerce development between the two major economic centers and the markets. Other local schools but the results are still low. Narrowing the digital gap continues to be a real big challenge for Vietnam.

5. Conclusions

Twenty years ago Vietnam began offering public Internet services, opening stage of e-commerce formation. In 2006, Decree eCommerce and many other decrees guiding the Law on Electronic Transactions born, marking first stage of ecommerce development lasting 10 years (2006-2015) (Tien, 2007; Kuc and Tien, 2007). 2017 is the second year of the third stage, stage of e-commerce developing rapidly. Besides the strong growth of electronic commerce, the 2017 witnessed several major practical problems faced by the State management agencies and enterprises to e-commerce business. The time has come to act by agencies developing policies and legislation to create a macro environment more favorable to make a significant impact on the development of electronic commerce, and the business enterprise facing and electronic transactions with challenging business capacity to compete with various types of new business appearing on the platform of cloud computing, mobile technology, big data, social networks (social media), Internet of things or blockchain (Tien, 2019).

Capacity index Electronic Commerce of Vietnam (Vietnam E-business Index) in 2018 continued to be built on four pillars, namely infrastructure and human resources, transactions between businesses and consumers (B2C), transactions between businesses (B2B) and online services (G2B). Factors related to Internet domain names, per capita income and the number of businesses in local markets are also taken into consideration when building the index. While e-commerce in the country continues to grow rapidly this year, the index showed that Ho Chi Minh City and Hanoi keep vanguard role. The two largest cities have outstripped all the rest of localities. Vietnam should have policies and robust solutions to both promote the leading role of electronic commerce for businesses in the two pioneering economic centers at opposite ends of the country, to support the development of the other localities to make a rapid and sustainable development in the country to enhance the competitiveness of the e-commerce enterprise nationwide.

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