

VIETNAMESE CURRENT E-COMMERCE AND OPPORTUNITIES FOR HUMAN RESOURCES TRAINING IN EDUCATIONAL INSTITUTIONS

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ABSTRACT

E-commerce has developed rapidly worldwide over the past two decades, and Vietnam is now experiencing its first decade of significant growth. This study aims to assess the current state of E-commerce (EC) development and the demand for human resources by Vietnamese enterprises. The study also identifies opportunities for human resource training activities in educational institutions, particularly through formal training programs. Data from the Department of E-commerce and Digital Economy and the Vietnam E-commerce Association (2021-2023), and various previous reports and studies is based to analyse. Using descriptive statistical methods, the study reveals that the development and application of EC in enterprises, is diverse and has been continuously increasing over the years. However, enterprises face a shortage of high-tech personnel. Furthermore, human resource training in educational institutions remain limited. This situation, thus, presents an opportunity to expand training programs and courses to better meet the needs of society and enterprises.

Keywords: *e-commerce, human resources, educational institutions, Vietnam.*

1. INTRODUCTION

Digital platforms are keys in the context of e-commerce and the digital economy. By reducing search and transaction costs, digital platform-based businesses facilitate the connection of assets and services with users more efficiently. In other words, enterprises can avoid the costs associated with construction and operation; reduce marketing expenses through direct access to a large customer base; decrease human resource investment costs; and enhance service quality. This also creates opportunities for businesses to participate in major e-commerce platforms (Nguyen Nhat Tan, 2024). In the digital economy, e-commerce is a key driver for economic development, providing extensive economic benefits to all countries (Rahayu and Day, 2017; Terzi, 2011). By utilizing e-commerce and other digital platforms, products, and services are transacted more effectively between buyers and sellers, enhancing product visibility. In other words, e-commerce positively impacts the business sector by fostering macroeconomic growth and labor market expansion (Singh, 2008).

Currently, e-commerce is expanding in scale, quantity, and access market, encompassing not only large enterprises but also small and medium-sized enterprises (SMEs) (OECD, 2019). According to a report by Wearesocial, the number of Internet users and participants in e-commerce globally has shown a rapid increase from 2019 to 2023, with over 5 billion users in 2023 and

an average Internet usage time of 6 hours and 37 minutes (Wearesocial, 2023). Vietnam also is one of the most promising e-commerce markets in ASEAN, with an average Internet usage time of 6 hours and 23 minutes, ranking sixth globally. The scale of Vietnam's Internet economy ranks third in Southeast Asia, following Indonesia and Thailand, with a value of USD 30 billion in 2023, which is predicted to increase to USD 43 billion by 2025 (iDEA, 2023).

However, this growth has led to significant challenges in finding human resources with high technology expertise. This real situation creates a essential demand for human resources in the digital economy, particularly in e-commerce, especially formally trained personnel from educational institutions. In recent years, e-commerce training has received greater attention, such as 47% of institutions offering e-commerce courses. By the end of 2025, the government goal for half of all higher education institutions to offer e-commerce training. This will help businesses adapt to the digital age (Vietnamese Government, 2020). The government has issued policies to encourage e-commerce education. These policies include supporting e-commerce courses in universities, promoting online learning methods, and developing resources for e-commerce research (Vietnamese Government, 2020). However, achieving numerical targets for training programs is feasible while the quality of e-commerce human

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resource training warrants considerable discussion (VECOM, 2023). Consequently, enterprises are facing great challenges in finding personnel with technology expertise (high-tech). For instance, these enterprises are willing to pay high salaries and attractive benefits to find highly qualified high-tech workers.

This paper aims to (1) understand the development of e-commerce amongin Vietnamese enterprises; (2) assess the challenges of human resources for e-commerce; and (3) explore the opportunities for higher education institutions to provide professional, high-quality training to meet societal and business needs.

2. MATERIALS AND METHODS

2.1. Materials

Overview of E-commerce

Electronic commerce, commonly written as E-Commerce, refers to the trading of products or services using computer networks (Jain et al., 2021). It encompasses the process of business trading with other businesses and the formulation of internal processes using electronic links (Kütz, 2016). Essentially, E-commerce is a business model where commercial activities are conducted via electronic networks, particularly the Internet (Uni Commerce Global Union, 2019).

Types and forms of E commerce

E-commerce encompasses various types and forms.

- Based on the relationships between participating parties, the e-commerce includes (1) Business-to-business (B2B); (2) Business-to-consumer (B2C); (3) Consumer-to-consumer (C2C); and (4) Business-to-administration (B2A).

- Based on the type of enterprises, the e-commerce is divided into (1) Pure players (enterprises that sell exclusively or primarily via the Internet); (2) Platform sellers (entities that provide online marketplaces for external vendors); and (3) Omni-channel players (businesses that integrate physical stores with online platforms to deliver a seamless marketing and centralized management experience (Uni Commerce Global Union, 2019).

E-commerce has revolutionized many aspects of business, including how sales, purchases, and transactions with customers and suppliers (Achrol and Kotler, 1999; MacGregor and Vrazalic, 2005).

Three core concepts of the nature of e-commerce: (1) Transaction Management: Online technologies and computer networks enable efficient and cost-

effective transaction processing; (2) Business Process Optimization: E-commerce facilitates the redesigning of business processes into streamlined, interconnected activities using online tools and networks, maximizing efficiency and effectiveness; (3) Remote Work Enablement: Information technologies and networks empower employees to telecommute or telework, fostering flexible work arrangements, distributed workforces, and improved productivity.

2.2. Methods

This study employs a descriptive statistics to analyze datasets. Specifically, authors collect secondary data from the Department of E-commerce and Digital Economy and the Vietnam E-commerce Association from 2021 to 2023. This data helps to insight an overview of current development of EC.

Beside that, data from educational report of VECOM during 2021-2024, which informed the informationa about the human resources and e-commerce education in educational institutions.

Additionally, materials are sourced from databases including Scopus, Google Scholar, Web of Science, and Official report, thesises and paperson the research topic. Keywords such as “e-commerce,” “human resources,” “professional and high-quality human resources,” and “education institutions” are used to search for relevant articles, which are then selected, compared, synthesized, and statistically analyzed.

Analytical framework:

The demand-supply framework provides a structured approach to assessing both current and future human resource needs in the e-commerce sector. This approach enables the analysis of the demand for workers in the e-commerce market and the supply of trained personnel from educational institutions.

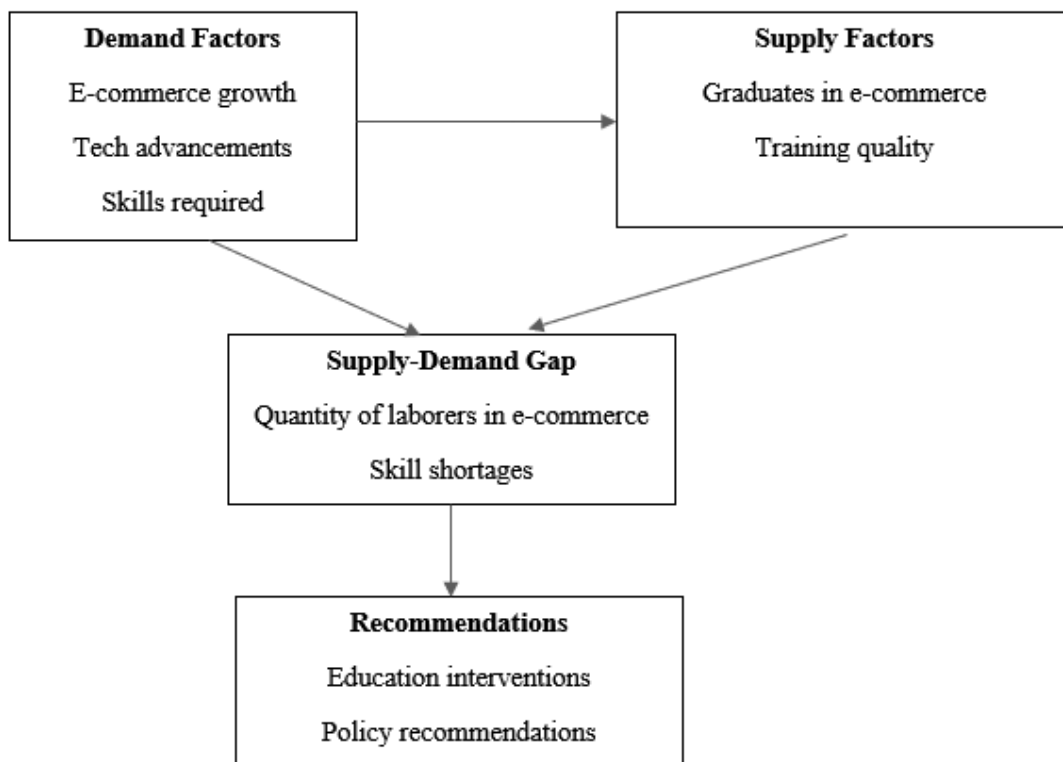


Figure 1. The demand-supply progress of EC in the study

Source: Suggested by the authors, 2024

From many previous studies of the demand-supply conceptual framework and the demand and supply labor markets, authors draw a demand -supply progress for EC in this study (Bell, 1981; Esper et al., 2010; Panitchpakdi, 1977; Toutkoushian et al., 2016). The aim is to identify the demand of EC’s human resources (depending on EC’s current situation) and supply of EC’s laborers (graduated laborers from educational institutions). From that, a gap of supply-demand is determined before giving the recommendations.

3. RESULTS AND DISCUSSIONS

3.1. The e-commerce development in Vietnamese digital economy

Vietnam is now one of the top three fastest-growing e-commerce markets in Southeast Asia. In recent years, Vietnam has made significant strides, becoming one of the fastest-growing e-commerce markets globally, with an annual growth rate of 35% (VECOM, 2023). These results emphasize the increasingly vital role of e-commerce as a key component of the digital economy in Vietnam.

For instance, in 2023, the retail e-commerce market size increased by approximately 25% compared to 2022. Vietnam’s largest

e-commerce platforms are expected to continue their robust growth in 2024, accounted for VND 310 trillion (US\$12.5 billion) of with revenue and sales volume, representing a 35% increase from 2023 (VECOM, 2023). This growth offers numerous benefits, including economic development, technological advancement, better use of human resources, lower production costs, increased international trade, and more accurate information sharing between buyers and sellers. However, as noted by Hue et al. (2024), and Minh et al.(2022), despite the strengths and advantages of EC, there are several major obstacles remain unchanged, leading to its reduced competitiveness. Therefore, in addition to recommendations for enterprises’ efforts, government policies and human resources play an important factor for development of Vietnamese E (Choi & Mai, 2018, Nhung et al., 2024). It implied that the development and critical role of e-commerce highlight the opportunities for training high-quality human resources in this field (Nguyễn Bích Lâm, 2021).

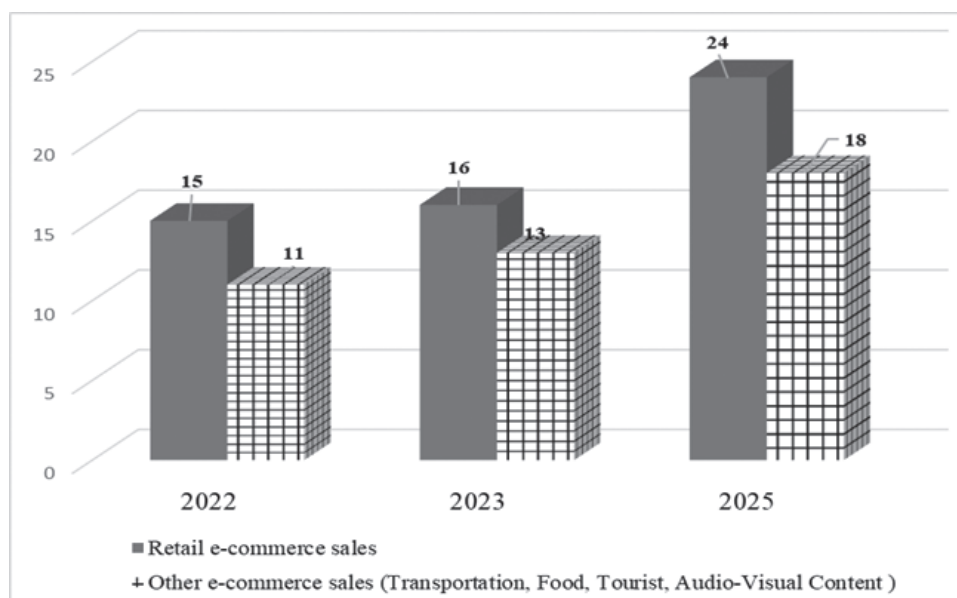


Figure 2. Revenue growth in Vietnam in 2022, 2023 and the forecast for 2025 (Billion USD)

Source: iDEA, 2023

According to the Vietnam E-commerce report 2023, the scale of Vietnam’s B2C e-commerce market has experienced an average annual growth rate of 20%-30%. Vietnam’s B2C e-commerce revenue is estimated at USD 20.5 billion in 2023, reflecting a growth rate of 25%, an increase of 5% compared to 2022 (E-commerce report, 2023). E-commerce is enabling consumers to shop in international markets via the Internet, transforming them into “global consumers.” Specifically, in 2023, Vietnam had 61 million online shoppers, out of nearly 80% of the population using the

Internet, with an estimated per capita shopping value of USD 336. Among the various channels, e-commerce platforms remain the most popular for online shopping. Retail sales of goods constitute the highest proportion of all online revenue activities in Vietnam (Figure 2). These figures indicate that the e-commerce sector continues to grow robustly at a rate exceeding 25%, reaching a market scale of over USD 20 billion. This growth rate is expected to be sustained over the three-year period from 2023 to 2025.

Table 1. The Vietnamese participant in E-commerce

Items	2021	2022	2023
Online shoppers (Thousand people)	54,6	57	61
Ratio of Internet users (%)	73	73,2	78,6
E-commerce gross merchandise value (per person)	251	288	336

Source: iDEA, 2023

This trend motivates enterprises to integrate e-commerce into their business operations, underscoring that e-commerce in business is both a current and future development trajectory aimed at meeting consumer demands. Consequently, establishing websites or selecting platforms for business purposes is crucial for enterprises.

In reality, enterprises are effectively capitalizing on Vietnamese consumer trends by variety of platforms. This includes e-commerce platforms such as Shopee and Lazada, which accounted for 57% of in 2022. Notably, enterprises are increasingly leveraging social medias (Facebook, Tiktok, Zalo, Viber, WhatsApp, and Skype) for

sales, replacing traditional email communication. Moreover, mobile apps had shown substantial growth, comprising 22% of transactions in 2022 (Figure 3). The widespread use, convenience, and speed of social media sales enable businesses to more easily introduce and deliver their products to both domestic and international customers. Statistics show that 62% of enterprises has over half their workforce regularly uses this tool to interact with customers (VECOME, 2021). In 2020, the proportion of businesses participating in e-commerce platforms reached 23% (Statista, 2022).

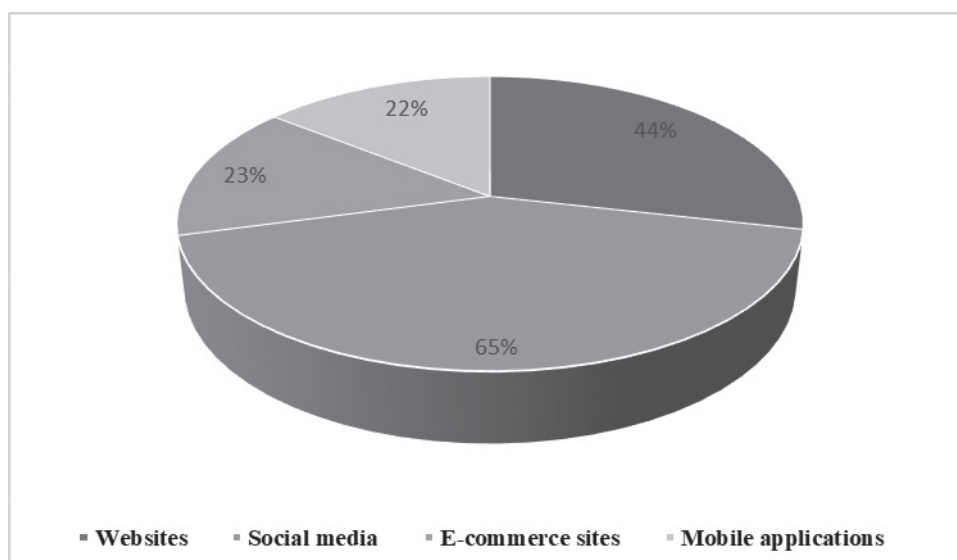


Figure 3. The percentage of online market share via platforms in 2023

Source: iDEA, 2023

3.2. The e-commerce human resources in Vietnamese enterprises

According to the World Bank (2018), the employment trends in Vietnam will be quite diverse in the coming years. In the digital context, it will lead to new types of jobs and employment, altering the nature and conditions of work, changing skill requirements, and impacting the labor market as well as labor distribution (United Nations Conference on Trade and Development, 2017).

Regarding EC, E-commerce requires human resources with specialized skills and knowledge. These include understanding technology,

regulations, and online business practices. Employees should be skilled in both business and technology, always learning about new developments, and staying ahead of emerging business opportunities.

In the other words, human resources require systematic training, progressing from basic to advanced levels corresponding to specific positions, tasks, and specialized fields. However, the situation shows that the e-commerce human resources are facing a severe shortage, which was highlighted by previous studies (Dung & Tu, 2018; Nhung, 2023; Nhung et al., 2024).

Table 2. The human resources of e-commerce in Vietnamese enterprises (%)

Items	2021	2022	2023
(1)	22	35	-
(2)	32	-	-
(3)	-	64	65

(1) E-commerce specialist in enterprises; (2) Enterprises facing difficulties in recruiting skilled e-commerce and technology workers; (3) Enterprises prioritize hiring personnel trained in e-commerce

Source: iDEA, 2023

Table 2 indicates that the proportion of enterprises with dedicated e-commerce specialists was 22% in 2021 and 35 % in 2022, respectively. Concurrently, from 32% to 65 % of enterprises has facing difficulties in recruiting e-commerce personnel during 2021 - 2023.

Moreover, enterprises need to diversify their human resources when participating in the e-commerce market. In other words, most enterprises faced challenges in recruitment of workers, who lack skills such as database

management, marketing, and online payment implementation. Clearly, the shortage of e-commerce human resources is driving the recruitment demand and providing significant employment opportunities for the Vietnamese workforce (VECOM, 2023).

This presentation implied that there is an opportunity for educational institutions to focus on training human resources in this field to meet the needs of society and businesses.

3.3. Opportunities for human sources training in Vietnamese higher education institutions

As VECOM, 2022, only 30% of the workforce have received formal training in current e-commerce solution provider. Data of a 2023 survey of 5,000 enterprises in Vietnam showed that 65% of enterprises prioritize recruiting personnel trained in Information Technology (IT) and E-commerce. Additionally, enterprises identify human resources as a key factor creating difficulties and barriers in operating websites and EC, with a score of 0.89 (mobile application on a scale from 0 to 2, where 0 means no barriers and 2 means significant barriers). This implied that around 70% of e-commerce personnel are recruited from other training disciplines such as commerce, business, and information technology (Nhi Anh, 2022). According to the Vietnam E-commerce Association (VECOM), surveyed data from 238, excepted security and specialized universities in 2023 indicated that 89 higher education institutions

(referred to as universities) offered e-commerce courses, 16 offered specialized programs, and 40 offered e-commerce majors (VECOM, 2023).

With respect to human resources, as VECOM, the Figure 3 showed that there was a significantly increase of students enrolled for e-commerce majors. For instance, data from 34 universities shows that the graduated students from this major reached over 1,300 people in 2023 while its enrolled students in e-commerce section are 5,317 in 2023-2024 (Figure 4). Currently, universities have transitioned from scale expansion to quality improvement. Strong employment outcomes of e-commerce students are high to be good choices to engage the labor market. The demand for enrollment in e-commerce and related fields such as logistics and digital marketing is rapidly increasing (Nguyễn Ngọc Hải, 2020). However, these numbers are still quite limited as compared to the current demand (Đàm Thanh Tú, 2022).

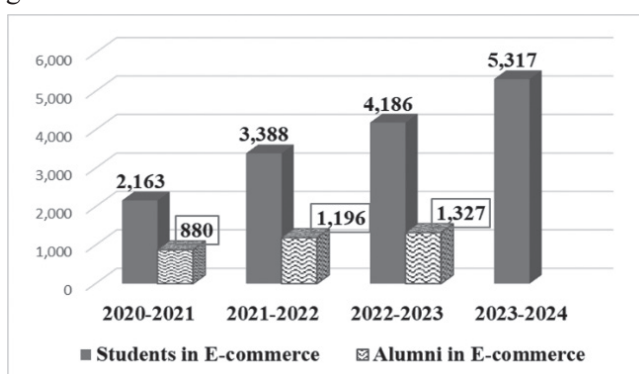


Figure 4. The Alumni and students in E-commerce section between 2021 and 2024

Source: Surveyed Data from VECOM, 2023

The evidence indicates that the demand for formally trained e-commerce human resources from enterprises has not yet caught up with the sector's growth. This presents an opportunity for educational institutions to expand and enhance the quality and relevance of their training programs to meet needs. Those that consider it an elective should make it a mandatory course. E-commerce training programs should include relevant modules with an appropriate number of credits. Each e-commerce program should be unique and aligned with its strengths.

Based on this, several solutions to improve the quality of training and meet the demand for human resources in e-commerce, focusing on (1) *developing specialized training programs*: institutions can design and offer professional e-commerce programs; (2) *Collaborating with enterprises*: Establish partnerships with e-commerce companies to provide internship programs, real-world projects,

and short courses taught by experts; (3) *Updating technology and knowledge*: Lectures and students should have access to and learn about the new technologies in e-commerce.

4. CONCLUSIONS

The e-commerce sector is experiencing significant growth and expansion. This could refer to an increase in the number of online stores, online sales volume, or the adoption of new technologies within e-commerce. However, there are not enough qualified people available to fill the job openings in e-commerce. This situation presents opportunities for the development of specialized programs and EC courses at education institutions. Despite these opportunities, to truly facilitate the growth of EC and build a professional and high-quality workforce, education institutions must strive to further expand their training programs, aligning education with the practical needs of society and businesses.

THỰC TRẠNG THƯƠNG MẠI ĐIỆN TỬ VIỆT NAM VÀ CƠ HỘI ĐÀO TẠO NGUỒN NHÂN LỰC CHO CÁC CƠ SỞ GIÁO DỤC

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TÓM TẮT

Trong hai thập kỷ qua, thương mại điện tử (TMĐT) đã phát triển mạnh mẽ trên toàn thế giới, và Việt Nam đang trải qua giai đoạn tăng trưởng nhanh chóng trong thập kỷ đầu tiên của mình. Nghiên cứu này nhằm đánh giá thực trạng phát triển TMĐT và nhu cầu về nguồn nhân lực của các doanh nghiệp tại Việt Nam. Đồng thời, nghiên cứu cũng xác định các cơ hội cho hoạt động đào tạo nguồn nhân lực tại các cơ sở giáo dục, đặc biệt là các chương trình đào tạo chính quy. Dựa trên tổng hợp và phân tích dữ liệu từ Cục Thương mại điện tử và Kinh tế số và Hiệp hội Thương mại điện tử Việt Nam từ các năm 2021 đến 2023, cũng như các báo cáo và nghiên cứu trước đây, và sử dụng phương pháp thống kê mô tả, nghiên cứu cho thấy sự phát triển và ứng dụng TMĐT của các doanh nghiệp rất đa dạng và liên tục tăng trưởng qua các năm. Tuy nhiên, các doanh nghiệp đang đối mặt với tình trạng thiếu hụt nhân sự liên quan đến thương mại điện tử. Trong khi đó, việc đào tạo nguồn nhân lực tại các cơ sở giáo dục vẫn còn hạn chế. Điều này mở ra cơ hội cho việc mở rộng các chương trình và khóa học đào tạo tại các cơ sở đào tạo nhằm đáp ứng nhu cầu của xã hội và doanh nghiệp.

Từ khóa: thương mại điện tử, nguồn nhân lực, cơ sở giáo dục, Việt Nam.

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