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Marcin Salamaga *Editors*

Economic and Political Aspects of EU-Asian Relations

Selected Papers from The Vietnam-EU
Economic and Trade Forum 2023

 Springer

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Preface

The relationship between the European Union (EU) and Asia has evolved through a complex interplay of economic and political factors, influenced significantly by the forces of globalization, sustainable development, and responses to climate change in recent years. To comprehend these relations better and their implications for both regions, it is crucial to delve into the key drivers shaping them.

Economically, the EU and Asia share a vital relationship heavily reliant on trade and investment. The growth of the Asian economy has emerged as a significant catalyst in recent years, making Asian countries pivotal trading partners for many EU nations. This phenomenon owes much to the rise of globalization, which has facilitated the establishment of global supply chains and the expansion of international trade.

Simultaneously, sustainability concerns have shaped the EU-Asia relationship, especially with a growing recognition of the need to mitigate the environmental and social impacts of economic development, particularly in Asia. This awareness has driven a concerted effort toward sustainability in trade and investment, with both regions advocating for sustainable economic growth through the adoption of green technologies and environmentally friendly policies.

Politically, cooperation on global issues like climate change and sustainable development has been imperative for EU-Asia relations. The increasing acknowledgment of the necessity for a coordinated global response to these challenges has positioned both regions as key players in shaping the international agenda. However, geopolitical tensions and strategic interests have also influenced political relations, particularly with the rise of China as a global economic and political force, leading to a nuanced relationship balancing economic and strategic interests alongside addressing global challenges.

Climate change stands out as one of the most pressing global challenges, profoundly impacting economic and political relations between the EU and Asia. Recognizing the urgency, efforts to address climate change have gained momentum, especially in Asia, which faces significant vulnerabilities. This response has intertwined economic considerations, prompting both regions to prioritize green growth

and sustainable development through initiatives focused on renewable energy and sustainable technologies.

The Vietnam-EU Economic and Trade Forum 2023 (VEF2023), organized jointly by VNU University of Economics and Business (Vietnam), Krakow University of Economics (Poland), Vietnam Union of Friendship Organizations (VUFO), and Vietnamese Business Association in EU (VBAE), served as a platform to delve into the economic and political aspects of EU-Asian relations against the backdrop of globalization, sustainable development, and climate change responses. The conference focused on various dimensions of the economic and political relationship between Asian and EU countries, spanning topics such as promotion of Asian-EU economic-political relations, policies for environmental protection, green growth, and climate change responses, as well as cooperation in education, culture, science, technology, and innovation.

The VEF Proceedings 2023 are edited by Profs. Nguyen Truc Le, Nguyen An Think, Ewa Ślęzak-Belowska, and Marcin Salamaga.

Professor Nguyen Truc Le has published academic papers and textbooks on business administration and financial policies. He now is in charge of the President of University Council of VNU University of Economics and Business, Vietnam National University, Hanoi. Professor Nguyen Truc Le is the Chairman of Organization Board of the international conference on “Economic Aspects of EU-Asian Relations” (VEF2023).

Professor Nguyen An Think has guided and performed an impressive series of sustainable development and climate change projects in Vietnam. Currently, Prof. Nguyen An Think acts as the Dean of Faculty of Development Economics, VNU University of Economics and Business, Vietnam National University, Hanoi. Nguyen An Think is the Editor-in-Chief of a series of Springer monographs *Human Ecology of Climate Change Hazards in Vietnam* (2019), *Global Changes and Sustainable Development in Asian Emerging Market Economies: Proceedings of EDESUS 2019* (Volume 1 and Volume 2) (2021), *Contemporary Economic Issues in Asian Countries: Proceeding of CEIAC 2022* (Volume 1 and Volume 2) (2023), and *Global Changes and Sustainable Development in Asian Emerging Market Economies: Proceedings of EDESUS 2023* (Volume 1 and Volume 2) (2023, in process).

Professor Ewa Ślęzak-Belowska is working in the Department of Economics at the Krakow University of Economics. Since October 2020, she has been serving as a head of the department. Her research interests focus on the labor market, migration, welfare state, aging society, and global political economy at large. She was the author and the co-author of numerous articles in Polish and English. She has participated in multiple international research projects, including those co-financed by the European Commission, addressing youth unemployment in the European Union (7th Framework Program), information society (5th Framework Program), informal work (5th Framework Program), social economy (INTERREG IIIC), and support for the elderly workers (INTERREG IVC). Her recent project: Migrants’ Integration via Education (MINTE) financed under Erasmus+ addresses the integration policy of Ukrainian refugees.

Professor Marcin Salamaga is working in the Department of Statistics of the Krakow University of Economics. His scientific interests focus on the use of quantitative methods in economic and social research, especially in the areas of foreign trade, foreign investment, development economics, innovation, and the capital market. He is the author of over 150 scientific publications and monographs, and he has presented papers at over many national and international scientific conferences.

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Competitive Capabilities of Logistics Enterprises Analyzing Factors Impacting Viettel Post, Vietnam



Le Thi Khanh Ly

Abstract In the face of the complex dynamics brought about by COVID-19, the survival and competitiveness of logistics companies present a challenging puzzle to solve. This research aims to explore and examine the factors influencing the competitive capabilities of logistics enterprises, with a focus on the case of Viettel Post, a transportation and logistics company in Vietnam. Drawing from relevant literature and considering the specific research context within Viettel Post Vietnam, the author undertakes a research model comprising seven factors, including pricing, reliability, resource quality, information supply capability, service quality, responsiveness, and convenience. Using linear regression analysis, the author analyzes data collected from 260 surveys, which include business partner respondents and individual customers who utilize Viettel Post's delivery services. The research results indicate that all seven factors from the research model significantly impact the competitive capabilities of Viettel Post Vietnam, with the independent variables explaining nearly 73% of the variance in the dependent variable, with reliability, responsiveness, and service quality being the most significant. Based on the research findings, the author proposes several managerial solutions and implications aimed at enhancing the competitive capabilities of Viettel Post Vietnam.

Keywords Competitiveness · Price · Reliability · Quality of resources · Ability to provide information · Service quality · Responsiveness · Convenience

1 Introduction

In the context of the ongoing and complex developments of COVID-19 worldwide and specifically in Vietnam, governments of various countries have had to implement strict control measures, including the closure of factories. According to statistics from the General Statistics Office, most economic indicators are currently less favorable compared to the same period in 2019–2020. Retail, tourism, dining, accommodation,

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passenger, and cargo transportation services have been severely affected by COVID-19.

According to data from the General Statistics Office, the revenue from the cargo transportation sector decreased by nearly 8% in 2020 compared to the previous year. However, the road transportation activities, as reported by the Vietnam Logistics Market Information (Center for Industrial and Trade Information), have shown signs of recovery in the early months of 2021. Recent reports from the World Bank indicate that Vietnam's logistics costs have surged from 16.8 to 20.9% (as a percentage of GDP)—the highest in comparison to other Southeast Asian countries and most other regions worldwide. In contrast, Singapore's equivalent figure is only between 7.5 and 8.5%. Several reasons for this include the lack of synchronized transportation infrastructure; limited connectivity between sea, rail, and road transportation; inefficient multimodal transportation in Vietnam; and a lack of cohesive coordination among regulatory bodies.

Furthermore, the capabilities of Vietnamese logistics companies are weak, with limitations in terms of business scale, capital, experience, management expertise, the application of information technology, and the level of human resources needed to meet international standards.

In the era of global economic integration, Vietnamese logistics enterprises face far greater challenges. Competition is no longer limited to the domestic context but extends to a global scale. E-commerce companies have begun expanding into logistics activities, opting to establish their own logistics operations rather than relying on third-party logistics companies (3PLs) to connect them with supply chain partners. A notable example is Amazon Prime, which has the capability to deliver globally. As a result, Vietnamese businesses are now contending with various competitive adversaries, and enhancing competitive capabilities is not a task that can be accomplished within a short timeframe or a year or two. Instead, it is an ongoing, continuous process that requires constant monitoring and improvement throughout a company's presence in the market.

Given these reasons, our research team has chosen to explore the factors influencing the competitive capabilities of logistics enterprises, with a specific focus on the case of Viettel Post, a logistics company in Vietnam. Our aim is to contribute to the understanding and enhancement of the competitive capabilities of Vietnamese logistics companies, using Viettel Post as a case study.

2 Theoretical Framework

2.1 The Origin of Competition

The business activities of any enterprise take place within a market and are influenced by the mechanisms and laws of the market. Therefore, to understand why businesses are always subject to the influence of the laws of competition and how these laws affect their behavior, the first step is to clarify the concept of the market.

According to Carthy (1965) [4] “A market can be understood as groups of potential customers with similar (alike) needs, and sellers who offer different products in various ways to satisfy those needs.” This definition points out that there are multiple suppliers to meet similar needs that exist in the market. Sellers encompass a diverse range of businesses, individuals, and organizations capable of providing at least one product or service. They must always use all resources, advantages, and methods to exploit the limited needs in the market. If they succeed, they will earn profits to survive and grow. Otherwise, they will incur losses and bankruptcy. This is the market mechanism, the common rule for all market participants. The friction of interests among market participants creates competition.

2.2 The Concept of Competition

According to Michael (1980) [11], “Competition is about gaining market share. The essence of competition is seeking profits, aiming for profits higher than the average profit a business currently has. The result of the competition process is the averaging of profits in the industry in the direction of deep improvement, leading to the possibility of price reduction.”

We can see that competition is the driving force of a market economy. In a competitive environment, to avoid the risk of bankruptcy, businesses must use a portion of their profits to increase capital, modernize production, enhance labor productivity and product quality, and efficiently manage their organizations. Competition also creates alignment between the profit objectives of businesses and the interests of consumers: high-quality products, low prices, and good service will help businesses sell more products and services, thereby earning more profits.

Competition also has its downside. Competition drives out businesses with high costs, low product utility, and poor consumption organization, leading to unemployment and resource wastage. Competition can also lead to a “big fish swallowing the small fish” situation, increasing wealth disparity and social injustice. The issue is not to eliminate competition but to ensure the effective operation of the competition mechanism, harnessing its positive aspects and mitigating its negative effects. This requires rational regulation by the state in competition policy and is the responsibility of all economic entities in a market economy. Research on competitive capabilities by the author’s group is divided into five main directions:

Competitive capability approached from the perspective of traditional competition theory. Prominent research paradigms such as Chamberlin Economics and Industrial Organization economics (IO). Competition theory based on IO economics often relies on the premise that firms in the same industry exhibit homogeneity in resources and the business strategies they employ (Barney 1991a).

Competitive capability approached through the value chain. A concept first introduced by Michael Porter assumes that a firm's resources depend on its activities. Consequently, a company's value chain (the resources and capabilities it uses) is contingent upon industry structure; the functional activities it focuses on; the value chains of customers, suppliers, competitors; and whether the firm possesses cost or differentiation advantages compared to its competitors.

Competitive capability approached from a market-oriented perspective. This concept is developed on the basis that a firm achieves competitive capability by focusing on how to meet customer needs, create superior customer value compared to competitors, and achieve business operational results. This perspective represents research on competitive capabilities originating from the market, essentially moving from the outcomes of value activities to reverse-engineer what creates superior customer value compared to competitors, thus providing a competitive advantage for the firm.

Competitive capability approached through the theory of firm resources. Wernerfelt (1984) introduced a novel approach to studying firm competition, positing that a firm's resources are the determining factors for its competitive capabilities and business effectiveness. The theory of firm resources centers on analyzing competitive capabilities based on internal factors, namely, the resources of the firm. The resource-based theory asserts that the primary determinant of a firm's competitive capability and business performance is the firm's resources, based on the premise that firms in the same industry often employ different business strategies that are not easily replicable due to the unique resources of each firm.

Competitive capability approached through the competence-based view (CBV) theory. This theory emphasizes the ability to use, combine assets, resources, and capabilities to achieve overall growth and efficiency of an organization. It is predominantly developed through the research of Barney (1991b), [19]. Particularly, the competence-based view theory aligns with the theory of evolution in analyzing economic interactions between firms and the environment created through continuous change (Freiling et al. 2008) [7]; (Freiling 2004) [8].

Currently, there are various different perspectives on competitive capabilities at different levels: national, corporate, and product. There is no universally accepted or convincing theory on this matter, and as a result, there is no "standard" theory of competitive capability. However, two theoretical frameworks with widely used evaluation methods have been developed and employed by nations and international economic institutions. The first method was established by the World Economic Forum (WEF) in its Global Competitiveness Report. The second method was proposed by the International Institute for Management Development (IMD) in its

annual World Competitiveness Yearbook. Both of these methods were developed with the involvement of several Harvard University professors such as Michael Porter, Jeffrey Shach, and experts from the WEF like Cornelius and Mache Levison.

According to Sanchez and Heene (2004) [18], “Competitive capability of a company is the ability to sustain, deploy, and coordinate resources in a manner that helps the company achieve its objectives.” Competitive capability is typically applied to the economies of nations that share common geographic characteristics, particularly in the context of small nation regions.

3 Related Research Studies

3.1 *Research Model by Rafiq and Jaafar (2007)*

Rafiq and Jaafar (2007) conducted a study on “Measuring Customer Perceptions of 3PL Logistics Service Quality” in the United States and the United Kingdom. Research Objective: This study aimed to report on the testing and validation of LSQ instrument of Mentzer et al. (1999) in the context of the third-party logistics (3PL) industry in the UK. The 3PL context was considered more appropriate for testing the tool than internal logistics services aimed at internal customers, which the original tool was based on. The essence of this research extended its external validity beyond a single organization and, therefore, the generalizability of the LSQ scale.

Research Results: Prior to the issues with the LSQ measures mentioned above, some respondents faced difficulty in answering parts of the questionnaire. The result was that approximately 16% of the data was incomplete. Order accuracy, the number of order releases, and the accuracy of order accuracy were most affected. Most of the respondents who used 3PL providers for logistics services that went beyond domestic logistics or used specific logistics services found that these measures were not applicable to their situations. Researchers attempted to handle incomplete data using various approaches such as listwise deletion, pairwise deletion, and imputation. Non-imputation strategies (e.g., listwise and pairwise deletion) were more appropriate when there was relatively low missing data. However, modern imputation methods like multiple imputation and maximum likelihood estimation produced unbiased estimates of overall values, thus improving both precision and statistical power of the results.

Research Evaluation: Given the importance of logistics service quality in customer satisfaction and overall efficiency, it is crucial for managers to have a valid and reliable measure of how customers perceive logistics service quality. The motivation behind the current study was the fact that while Mentzer and colleagues had developed and demonstrated the validity and reliability of their LSQ scale in the context of domestic logistics, its generalizability to international logistics and situations where companies use both internal and external logistics services had not been established. Furthermore, the scale had been developed and tested using a single organization,

and its effectiveness in various industry sectors and types of organizations that were unknown and untested. However, despite the results indicating that the LSQ scale can be generalized across the entire sample, particularly technical quality aspects of the scale, such as order accuracy, the volume of order releases, and order accuracy, seemed less applicable to external logistics services. The diversity of logistics operations across different industries also rendered some technical quality measures not fully generalizable. This is because 3PL providers tend to customize their services for specific industries/customers.

3.2 Research Model by Park et al. (2009)

This study examined the relative importance of factors influencing the choice of air express courier services and assessed the competitiveness of air courier companies in the Korean market. Research Method: Analytical Hierarchy Process (AHP) analysis was conducted. The AHP analysis revealed that accuracy and speed were the two most significant factors influencing competitiveness, with DHL having the highest competitiveness in the Korean market, followed by FedEx, TNT, EMS, and UPS. The authors further examined the importance of factors and the competitiveness of service providers from the perspective of service users. While accuracy and speed remained essential factors, price became the most critical factor.

Research Objective: While the author's research focused on air express courier services in the Korean market, it also holds significance for the air express courier industry in general.

Research Results: The author's competitiveness rankings were not only consistent with the market share in the Korean market but also with the international market. Similar to the Korean market, the four largest integrated carriers dominated the global market, holding 87.6% of the market share in 2005. In the international market, DHL had a 39.9% market share in 2004, nearly double that of the next closest competitor, FedEx (21.2%), followed by UPS (14.5%) and TNT (12.0%). In contrast, DHL's domestic express market share in the United States was only 3%, significantly trailing behind FedEx's 43% and UPS's 27%. These observations highlight DHL's international focus.

Research Conclusion: Valuable management lessons can be drawn from the Korean market, both in terms of serving customer quality levels and developing customer-oriented business plans.

3.3 Research Model by Wong and Karia (2010)

Wong and Karia (2010) conducted a study on "Explaining the Competitive Advantage of Logistics Service Providers (LSPs)." The main objective of this research was to identify various types of logistics resources and their characteristics, and based on

empirical evidence, explore how different logistics resources can be combined to achieve the competitive advantage of LSPs. It aimed to answer three questions: (1) What logistics resources are accessed by these LSPs? (2) How are different resources combined? (3) What are the characteristics of the resources accessed by successful LSPs? The answers to the first question would contribute to the development of resource structures and establish measurement scales for each of these structures. The answers to the second question would provide further insight for logistics managers on how logistics resources can be combined to gain a competitive advantage, knowing that resource ownership does not always guarantee success (Rubin 1973; Barney 1991b). Finally, the answers to the third question were crucial to identifying the specific attributes of resources accessed by successful LSPs.

Research Findings: The study showed that all LSPs acquired tangible resources, human resources, information, knowledge, and relationships, and then combined them in various specific ways to create specific and non-imitable capabilities. However, only some of them performed well financially. The findings contributed to the formation of the concept and measurement of strategic logistics resources and identified the resource packaging processes.

Research Evaluation: This study analyzed empirical evidence to explain the competitive advantage of logistics service providers. It drew theoretical foundations from the Resource-Based View (RBV) perspective and related logistics literature to establish a theoretical framework comprising resource structures, approaches, and resource packaging as key stages to achieve resource-based competitive advantage. The study identified five strategic resources (i.e., tangible resources, human resources, information, knowledge, and relationships) and their characteristics. Based on these findings, the concept and measurement of these resource structures were clarified.

3.4 Research Model by Yoon and Park (2004)

Yoon and Park (2014) conducted a study on “Competitiveness of Air Cargo Services Departing from South Korea: Focusing on Major Export Routes” in South Korea. The purpose of the study was to identify the competitive service factors of airlines by ranking the perspectives of forwarders in the South Korean export market. An analytical process was applied to data collected from the top 50 forwarders regarding their airline selection.

Research Findings: The study showed that price appeared to be the most important factor for all routes. Other attributes showed varying degrees of importance, depending on the route. Based on the results, the most competitive airlines were selected for each route, and strategic recommendations were proposed for each airline.

3.5 Study by Le Thi Quynh Nhu (2017)

Le Thi Quynh Nhu (2017) suggested that there are five factors influencing competitive capability, ranked as follows: service responsiveness, reliability, employee expertise, pricing, and information provision. These factors explain nearly 60% of the variation in competitive capability, indicating that there are other factors beyond these five factors that affect the competitive capability of companies in the logistics industry (Table 1).

Define Measurement Scales.

1. Price Scale

To assess specific factors related to price in the study by Yoon and Park (2014), specific questions were posed regarding aspects such as shipping costs, pricing suitability for various types of services, etc. The representative questions for the “price” scale are encoded from GIA1 to GIA5 as follows:

GIA1 Low transportation costs.

GIA2 Diverse service pricing.

GIA3 Quantity-based discounts.

GIA4 Loyalty discounts for customers.

Table 1 Correlation coefficient matrix

No	Observational variable	Description
1	Viettel Post is adequately prepared to meet customer needs	LDV4
2	Viettel Post is always ready to resolve any risks and complaints for customers	LDV5
3	Information about customer services is continuously updated	CTT1
4	Viettel Post has a very good after-sales policy	LDV1
5	Viettel Post’s transportation network is reasonable and extensive throughout HN City’s suburbs	LDV2
6	Viettel Post employees have the ability to quickly learn and apply	LDV3
7	Viettel Post employees have good communication skills and problem-solving abilities	NNL1
8	Viettel Post employees have extensive professional experience	NNL2
9	Viettel Post employees handle goods in transit with care	NNL3
10	Viettel Post utilizes information technology in operations and services management	NNL4
11	Viettel Post presents information in a complete, understandable, and consistent manner	CTT2
12	Viettel Post focuses on building and developing enterprise information management systems and communication with customers	CTT3
14	Viettel Post’s transportation network is reasonable and extensive throughout Ho Chi Minh City’s suburbs	CTT4

GIA5 Price aligning with quality.

2. Reliability Scale

To evaluate the specific factor of reliability impacting competitiveness in Yoon and Park (2014), Park et al. (2009) introduced questions about security, brand image, packaging status of orders, etc. Therefore, five questions are encoded from DTC1 to DTC5 as follows:

- DTC1 Personal information is secure when using the service.
- DTC2 Payment information is secure when using the service.
- DTC3 A reputable brand image.
- DTC4 Accurate execution of the delivery process.
- DTC5 Careful maintenance of packaging integrity.

3. Measurement Scale for Resource Quality

The resource quality measurement scale is based on the research by Wong and Karia (2010) and Rafiq and Jaafar (2007). To specifically evaluate the factors of resources affecting competitive capability, the authors provided questions about hard skills, soft skills, willingness to work, etc. Therefore, five questions are encoded from NNL1 to NNL5 as follows:

- NNL1 Employees have the ability to easily grasp and apply technology.
- NNL2 Employees have good communication and problem-solving skills.
- NNL3 Employees have a lot of professional experience.
- NNL4 Employees handle goods in a careful manner during transportation.
- NNL5 Employees are ready to resolve issues with orders when problems arise.

4. Information Provision Capability Measurement Scale

The information provision capability measurement scale is based on the research by Rafiq and Jaafar (2007) and Wong and Karia (2010). In their research, the authors provided questions about the ability to provide and present information about services during operation. According to the studies by Rafiq and Jaafar (2007) and Wong and Karia (2010), the authors believe that information provision capability is a measure to gauge the quality of logistics services. Therefore, four questions are encoded from CTT1 to CTT4 as follows:

- CTT1 Continuous updates of service information for customers.
- CTT2 Application of information technology in operations and service management.
- CTT3 Presentation of complete and easily understandable information.
- CTT4 Consistent presentation of information.

5. Service Quality Measurement Scale

The service quality measurement scale is based on the research by Yoon and Park (2014) and Wong and Karia (2010). In their research, the authors provided questions

that represent their observed variables. Wong believes that a contributing factor to explaining service quality is flexibility in service provision, efficient and effective service, a diverse transportation network, and these factors can enhance or hinder customers' decisions to choose transportation services. Additionally, Yoon and Park (2014) provided specific factors such as quick cargo delivery procedures; online customer support; and the requirement for transportation services to be fast, flexible, and effective for each customer. Therefore, six questions are encoded from LDV1 to LDV6 as follows:

- LDV1 Transportation is carried out quickly.
- LDV2 Good after-sales policies.
- LDV3 The transportation network is distributed reasonably and widely within the city.
- LDV4 Online customer support is readily available.
- LDV5 Always prepared to meet customer needs.
- LDV6 Always ready to address all risks and complaints for customers.

6. Convenience Measurement Scale

The convenience measurement scale is based on the research conducted by Yoon and Park (2014) and Park, Choi, and Zhang (2009). The authors emphasize the ease of procedures for shipping and receiving goods. Additionally, the ease of using the service from any location makes customers more flexible and convenient in using the service, which also reflects the company's scale. Flexible and convenient receipt and delivery of goods create convenience for customers. The items representing the "convenience" scale are encoded from STT1 to STT6 as follows:

- STT1 It is possible to easily and accurately track the cargo schedule through the website or application.
- STT2 It is possible to place orders easily through the application.
- STT3 It is possible to be flexible in placing and receiving orders even when the weight and volume of the goods increase when using the service.
- STT4 The company's loyal partners will receive the company's cargo schedule.
- STT5 Cargo delivery and receipt procedures are carried out quickly.
- STT6 Viettel Post's transportation network and drivers are widely distributed.

7. Competitive Capability Measurement Scale

To specifically evaluate competitive factors in the research by Wong and Karia (2010) and Yoon and Park (2014), questions were raised about service quality and cost suitability for customers. Additionally, Park, Choi, and Zhang (2009) also mentioned the customer's trust in the company's service. The items representing the "competitive capability" scale are encoded from LCT1 to LCT6 as follows:

- LCT1 Provide optimal methods to reduce time for the business supply chain and for customers.
- LCT2 Provide cost-minimizing options for the business/customers.

- LCT3 Provide safety when using the service.
 LCT4 Offer lower transportation costs compared to competitive rivals.
 LCT5 Provide quick feedback on services compared to competitive rivals.
 LCT6 Provide efficient and value-maximizing services for the needs of business/customers using the service.

4 Research Model and Hypotheses

Table 2 summarizes the factors influencing the competitive capabilities of Logistics businesses from five studies by various authors. Six key factors, commonly addressed across these studies, include reliability, pricing, human resource quality, information provision capability, service quality, and convenience.

Based on the research conducted in [16], [20], [21], [15], [14], this study proposes a model consisting of six factors impacting the competitive capabilities of Logistics businesses: reliability, pricing, human resource quality, information provision capability, service quality, and convenience.

Factors influencing competitive capabilities:

H1: Pricing; H2: Reliability; H3: Human resource quality; H4: Information provision capability; H5: Service quality; H6: Convenience.

The critical components affecting the competitive capabilities of a business include reliability, pricing, human resource quality, information provision capability, service quality, and convenience. For instance, businesses must pay significant attention to service quality and how customers perceive the value the business brings. Employees must be well-trained, possess expertise, be ready to support, and meet customers' specific requirements, especially those who are passionate about their work. Pricing

Table 2 Synthesis of factors influencing students' learning motivation

	Rafiq el at (2007)	Park el at (2009)	Wong el at (2010)	Yoon el at (2014)	Le Thi Quynh Nhu (2017)
Pricing				x	x
Reliability		x	x	x	x
Human resource quality	x		x		x
Information provision capability	x		x		x
Service quality	x			x	x
Convenience	x	x		x	
Material resources			x		

must be competitive, instilling a high level of trust in customers, and the ability to provide services and timely information according to customer needs.

Pricing Factor Economic efficiency (pricing of service providers' fees) is one of the vital factors in user evaluations. Customers often have various expectations with varying price levels, such as accepting higher prices for immediate delivery or demanding lower prices for late-arriving goods. Therefore, logistics companies must develop a range of pricing levels based on service differentials and volume discounts [21].

Hypothesis H1: Pricing Has a Positive Impact on the Competitive Capabilities of Logistics Businesses.

Reliability Factor Logistics companies have sought to build cooperative relationships with their customers by demonstrating reliability in their delivery services. This criterion is essential, as service providers build trust with customers, reducing their concerns when seeking reliable, quality transportation service providers. Consequently, this enhances the company's reputation in specific industrial fields. Some logistics companies (e.g., UPS, Wincanton) have become the official post-service providers for certain customers due to their close relationships. Cooperative relationships are the primary reason for success in securing new contracts and ensuring long-term or continuous contracts [20]. Furthermore, logistics companies not only deliver enough and on time but also strive to ensure that orders arrive on time to gain customers' trust. Companies with high reliability will make customers feel more secure that their goods will arrive on time, undamaged, and that services will always be available to meet user needs [21].

Hypothesis H2: Reliability Has a Positive Impact on the Competitive Capabilities of Logistics Businesses.

Human Resource Quality Factor Human resources (skilled labor) are another crucial resource that can be trained by the company itself or acquired from competitors in the industry. Skills and experience in transportation management, customer service, and information system management are skills that are often specifically mentioned. The dedicated and professional service quality of employees will allow customers to see some of the high-quality services that customers will receive from the dedication and professionalism. Furthermore, human resources can be retrained alongside the purchase of other physical facilities. Especially for logistics companies actively involved in mergers and acquisitions (e.g., Exel, DHL, FedEx), skilled and proficient employees are crucial for expanding insurance and service networks. The competitive capabilities of the company are also extended through joint ventures and alliances, as these strategies complement the expertise of the existing workforce. Instead, other evidence suggests that some logistics companies (e.g., Exel and DHL) have attempted to hire experts from other industries to join management boards. This strategy indirectly contributes to the success of ensuring the link between logistics and various industries in different industrial fields [20].

Hypothesis H3: Human Resource Quality Has a Positive Impact on the Competitive Capabilities of Logistics Businesses.

Information Provision Capability Factor

According to [20], to leverage the competitive advantages of information, all 15 LSPs made efforts to develop their own in-house information systems and also engaged in cooperation, alliances, and even acquisitions of technology companies. Exclusive technologies are often more challenging to emulate. Other efforts to enhance information sources included the use of wireless technology and the utilization of Radio-Frequency Identification (RFID) technology for warehouse management and transport system management (e.g., Ryder Systems and Wincanton). In practice, most LSPs sought to gain a competitive advantage by developing exclusive information sources because they aspired to become the sole providers of application services rather than conventional logistics services. Furthermore, as per the research [16], given the significance of functional quality found in the author's paper, it would be fascinating to discover which factor of functional quality (human resource quality, information provision capability, order procedures, etc.) is deemed most important by customers.

Hypothesis H4: Information Provision Capability Has a Positive Impact on the Competitive Capabilities of Logistics Businesses.

Service Quality Factor

In the study by [21], the authors pointed out that speed and accuracy are much more important than cost-effectiveness and convenience. Therefore, overall, those three transportation companies have a much lower competitive edge compared to DHL. This confirms the interesting prior understanding that, based on expert evaluations within the industry, service quality plays a more crucial role in users' choice of an air cargo carrier than the price they charge. It also indicates that the differentiation of services exists not only between Korean carriers (EMS) and international carriers but also among international carriers themselves. Additionally, according to the research by [16], customer knowledge of operations is essential for improving service quality and exclusive customer knowledge of operations will certainly help extend service contracts. Long-term relationships will allow for obtaining more exclusive customer insights.

H5: Service Quality Positively Impacts the Competitiveness of Logistics Businesses.

Convenience Factor Research by [15] explored the relative importance of factors influencing the adoption of express delivery services. Speed and accuracy are much more important than economic efficiency and convenience. In general, TNT, EMS, and UPS have much lower competitiveness scores than DHL. The contribution of the authors here is not only to discover different product differentiation strategies by transportation companies but also to indicate the relative weights of price and various aspects of service quality. On the other hand, the study by [15] shows that factors

such as flight frequency, the number of flight routes, employee service quality, and long-term business relationships with shippers have made Korean Air increasingly competitive in terms of speed, reliability, convenience, and social connectivity. Other airlines besides Korean Air received similar evaluation rates, around 20%. Other airlines received good ratings in terms of price but lacked high ratings in other services.

H6: Convenience Positively Impacts the Competitiveness of Logistics Businesses.

4.1 Research Methods

Qualitative Research

This research aims to explore the factors influencing the competitiveness of logistics businesses, specifically the case of Viettel Post. It adjusts the measurement scale of previous studies to fit the scope and subjects of the research, which include individual customers and businesses in Hanoi City. Based on prior research and theoretical foundations, the study identifies six factors that impact the dependent variable, “competitiveness,” of logistics businesses, represented by 33 observable variables related to these six factors. The following steps were taken:

- Step 1 Prepare a discussion outline to facilitate expert discussions and gather information from research subjects.
- Step 2 Conduct discussions following the previously prepared outline. Selected experts included long-term employees, department heads of operations, department managers, and the CEO of Viettel Post. Following the saturation principle, the authors stopped interviewing after the fourth interviewee had no new insights to provide, to determine saturation (Nguyen Dinh Tho & Nguyen Thi Mai Trang, 2015) [13]. However, an additional interview was conducted to ensure saturation. Thus, the research sample consisted of five individuals, including one employee with 5 years of experience, two department heads of operations, one direct manager, and the CEO of Viettel Post.
- Step 3 Synthesize the results. The results of the paired discussions with experts indicated that the initial factors affecting competitiveness were highly representative, which is understandable as the initial factors covered almost entirely what affects the competitiveness of Viettel Post Vietnam’s logistics business. However, some adjustments were made to the final measurement scale.

4.2 Quantitative Research

Sampling Method: The research used a convenience sampling method. Data was collected through surveys of business and individual customers in the Hanoi City area. Interviews were conducted using an online questionnaire via Google Form and face-to-face interviews using a paper questionnaire, under the specific guidance of interviewers.

Sample Size: In the quantitative study, exploratory factor analysis (EFA) and structural equation modeling (SEM) were employed. For EFA, the minimum sample size required is 50, preferably 100, and the minimum ratio of observations to measurement variables is 5:1, preferably 10:1 (Hari et al. 2006, as cited in [12]). In this study, there were 33 observed variables, so the minimum sample size required is $33 \times 5 = 165$, and the ideal sample size is 300.

For SEM, sample size recommendations often depend on the number of independent variables in the model. Using the formula $n \geq 50 + 8p$, where n is the minimum sample size required and p is the number of independent variables, it is suggested that this formula is suitable when $p < 7$ (Green, 1991, as cited in [12]). Applying this formula, the minimum sample size needed for this study when $p = 6$ is $n = 98$. Therefore, to accommodate both EFA and SEM, the minimum sample size for this research is 165, and the ideal sample size is 300. In this study, a sample size of 260 was chosen.

Data Analysis Method: To analyze the data, 260 questionnaires were used for the survey. After data collection, all questionnaires were reviewed, and those that did not meet the requirements were excluded. Subsequently, data were coded, entered, and cleaned. Data analysis was then performed using the SPSS software.

5 Data and Research Results

5.1 Sample Characteristics

The variables used in the sample characteristics analysis include income and job position. Regarding income, it was observed that the percentage of respondents with income ranging from 10 to 15 million VND accounted for the highest proportion, nearly 75%, among the research sample. Income levels between 15 to 25 million VND accounted for 25%, making it the second-highest percentage. This indicates that Viettel Post's delivery service is widely trusted for average income levels ranging from 10 to 25 million VND. In terms of job positions, 79% of the research sample consisted of employees, while the remaining 21% held various positions such as Department Head/Deputy Head, Director, or other roles. This clearly demonstrates that the primary users of online delivery services, especially E-Logistics, are employees, individuals with high demand for such services.

5.2 Scale Validation and Evaluation

Cronbach's Alpha Test: The measurement scales presented in the study were subjected to reliability testing using the Cronbach's Alpha method. The results of the analysis showed that all initial scales achieved satisfactory levels of reliability (Cronbach's Alpha coefficient of 0.60 or higher). All seven measurement scales demonstrated high levels of reliability, with values ranging between 0.7 and 0.90, as presented in Table 3.

Factor Analysis (EFA)

After conducting Cronbach's Alpha analysis, the six independent variables of the research model and one dependent variable with 33 observed variables were retained for exploratory factor analysis (EFA). The independent variables were analyzed collectively, while the dependent variable "Competitiveness" was analyzed separately. In the factor analysis, the Principal Components extraction method with Varimax rotation was employed, and the analysis was stopped when the eigenvalues of extracted factors were greater than 1.

Exploratory Factor Analysis of Independent Variables

The independent variables, comprising 33 observed variables, and the competitiveness variable with six observed variables were subjected to EFA. The Kaiser–Meyer–Olkin (KMO) test and Bartlett's test of sphericity indicated that the data were suitable for factor analysis ($KMO = 0.804 > 0.5$, and $sig < 0.05$). The explained variance reached 77.444% ($> 50\%$), demonstrating that 7 factors were extracted, explaining 77.444% of the data variance. The factor analysis was terminated at factor 7 with an eigenvalue of 1.516. All observed variables exhibited factor loadings > 0.3 , and all loadings were > 0.5 , indicating that all observed variables measured the intended constructs effectively.

The Rotated Component Matrix confirmed the convergence of observed variables into factor groups. Variables related to Price (GIA1, GIA2, GIA3, GIA4), Convenience (STT1, STT2, STT3, STT4), Reliability (DTC1, DTC2, DTC3, DTC4), and Information Provision Capability (CTT1) all loaded onto the respective factors

Table 3 Summary of Cronbach's Alpha coefficients for seven measurement scales

No	Measurement scale	Number of observed variables	Cronbach's Alpha
1	Price	4	0.875
2	Reliability	4	0.914
3	Quality of human resources	5	0.873
4	Information provision capability	4	0.913
5	Service quality	5	0.869
6	Convenience	5	0.967
7	Competitiveness	6	0.968