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Improving Value Chain Through Efficient Port Logistics

Ho Thi Thu Hoa
Ho Chi Minh City University of Transport, Ho Chi Minh, Vietnam
Hans-Dietrich Haasis
University of Bremen, Bremen, Germany

Emerging as a dynamic economy in the South East Asia, Vietnam, the 151st WTO member has to improve export goods value chain to create sustainable competitive advantage. Nowadays, Vietnam port-logistics sector has been becoming one of the most important service industries that contribute intensively to create value for Vietnam export goods in global market. This paper discusses one of the contemporary challenging issues for Vietnam—how to improve value chain through efficient port logistics. The objective of this research is to review literature issue of value chain, analyse the situation of Vietnam logistics sector, especially in port logistics and provide some recommendations to improve value chain of Vietnam export goods. The surveyed issues of both sides of logistics service providers (LSPs) and beneficial cargo owners (BCOs) will be taken into consideration. Based on the findings result, some actions are suggested to the government and local logistics service providers to make necessary decisions and solutions to improve value chain of Vietnam export goods through efficient port logistics.

Keywords: value chain, port logistics, Vietnam export goods, logistics performance, logistics service providers (LSPs), beneficial cargo owners (BCOs)

Introduction

Logistics generally and port logistics particularly are powerful tools to support export activities because its ultimate goal is to bring in added value—most importantly, delivering to "*right customer*" with "*right product*" and "*right quantity*" at the "*right time*" and "*right place*", with "*right condition*" and "*right price*" as customers' expectation. Hence, countries and businesses should utilize this advantage of logistics to create and strengthen value chain for goods, especially export goods to be more competitive in global market.

Literature Review

The Concept of Value Chain

The business of a firm can best be described as a *"value chain",* in which total revenues minus total costs of all activities undertaken to develop and market a product or service yields value (Fred, 2011). Value chain can be understood as a perspective in which business is seen as a chain of activities that transforms inputs into outputs to create customers value (Figure 1). Customer value derives from three basic resources as follows:

Ho Thi Thu Hoa, Dr., assoc. prof., Department of Logistics Management and Multimodal Transport, Faculty of Transport Economics, Ho Chi Minh City University of Transport, Ho Chi Minh, Vietnam.
Hans-Dietrich Haasis, Dr., prof., Chair in Maritime Business and Logistics, University of Bremen, Bremen, Germany.
Correspondence concerning this article should be addressed to Ho Thi Thu Hoa, No. 2 D3 Street, Van Thanh Bac, Ward 25, Binh Thanh District, Ho Chi Minh City, Vietnam.

- Activities that differentiate the product;
- Activities that lower its cost;
- Activities that meet the customer's need quickly.

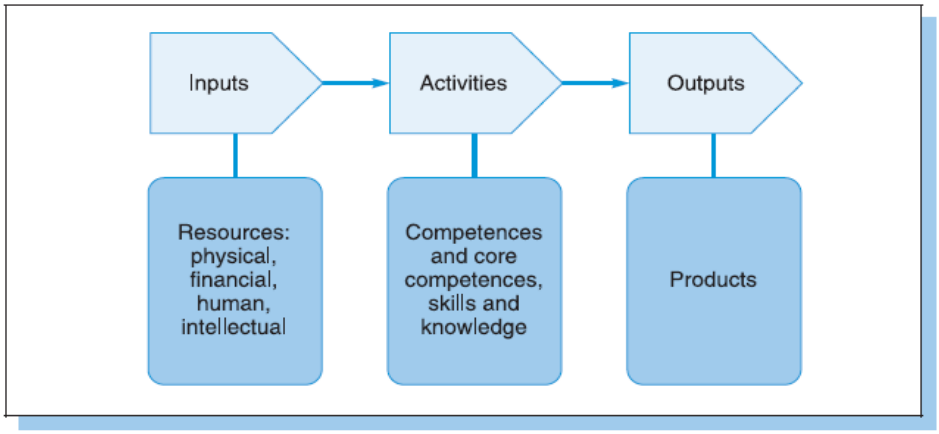

Figure 1. A simplified schematic of the value-adding process. Source: R. D. Fred (2011), Strategic Management: Concepts and Cases.

Example of value added through different activities in value chain can be described in Table 1:

Table 1

Illustration of Value-Adding Activities

Input	Activity	Value-adding
X	A (production/process/assembly)	A'
X+A'	B (packaging)	X+A'+B'
X+A'+B'	C (marking)	X+A'+B' + C'
X+A'+B' + C'	X' (invisible value)	X+A'+B' + C' + X'

In Table 1, value-adding is divided into two categories including:

- Physical values (A', B', C') are created by visible activities such as production, marking;
- Invisible value X' may be created by brand name, needs satisfaction, differentiation, product quality, time, etc.

Activities add more value for goods consist of two main types of activities, including primary activities and support activities (Figure 2).

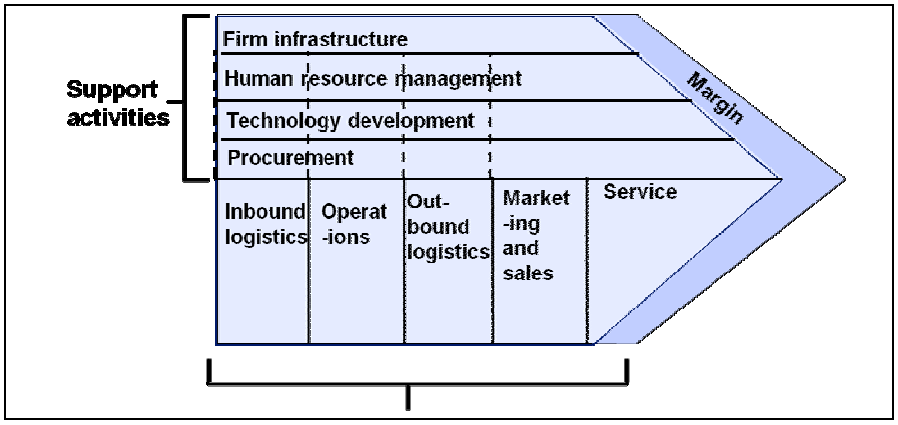

Figure 2. Primary and support activities in value chain. Source: R. D. Fred (2011), Strategic Management: Concepts and Cases.

Each activity in value chain covers some particular sub-activities related to specific phases in business processes (Table 2).

Table 2

The Detail Activities in Value Chain

Primary activities	Inbound logistics	Receipt and storage of materials (inputs) Stock control and distribution of inputs
	Operations	Transformation of inputs into final product
	Outbound logistics	Storage and distribution of finished goods
	Sales and marketing	Making the product available to the market and persuading people to buy
	Service	Installation and after sales support
Support activities	Procurement	Purchasing of resources
	Technology development	Product, process and resources development
	Infrastructure	Planning, finance, information systems, management
	Human resource management	Recruitment, selection, training, reward, and motivation

Source: R. D. Fred (2011), Strategic Management: Concepts and Cases.

The Significance of Port Logistics Sector in Value Chain

Port logistics plays an important role in the management and coordination of materials and information flow, as the transport is an integral part of the entire value chain (Carbone, 2003). It becomes the significant node connecting between the sender of goods and the receiver of goods throughout whole value chain. In the trend of globalization of value chain, the goods are added more value through chain of logistics activities, especially port logistics such as assembling, marking, packaging, consolidating, deconsolidating, etc. (illustrated in Figure 3).

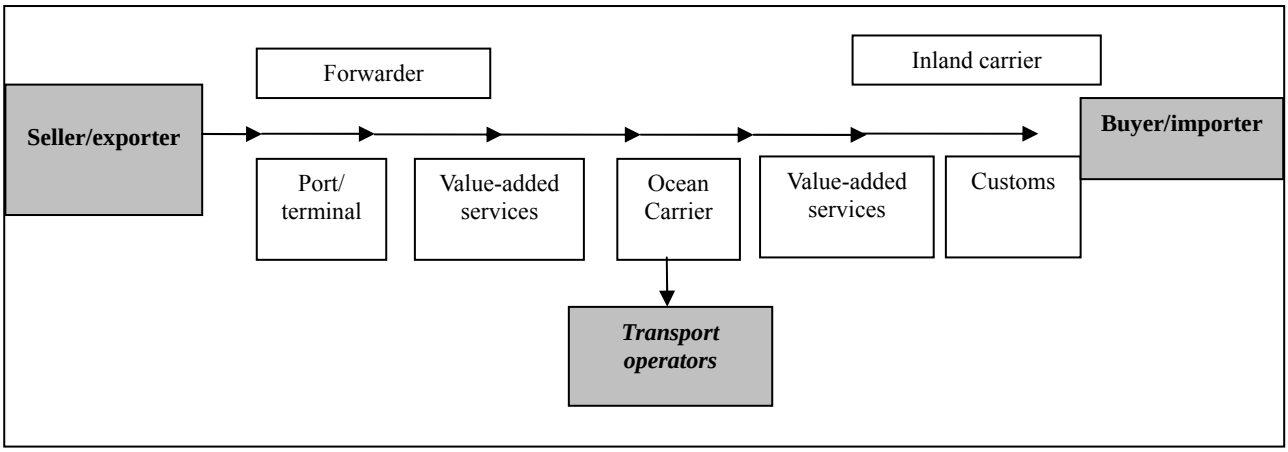

Figure 3. Process of shipment in transportation chain for export goods. Source: developed for this article.

In order to improve themselves as a key logistics component, ports have to take into account the requirements of the senders and receivers of goods as they have been becoming important business partners with vertical collaboration beside horizontal collaboration with traditional partners such as the shipping companies, terminal operators, forwarding companies, warehouse operators, etc. (Figure 4). As a result, the requirements for port logistics services are growing rapidly with more complex services, more added-value services and more integrated to value chain with more efficiency to satisfy customers' expectation.

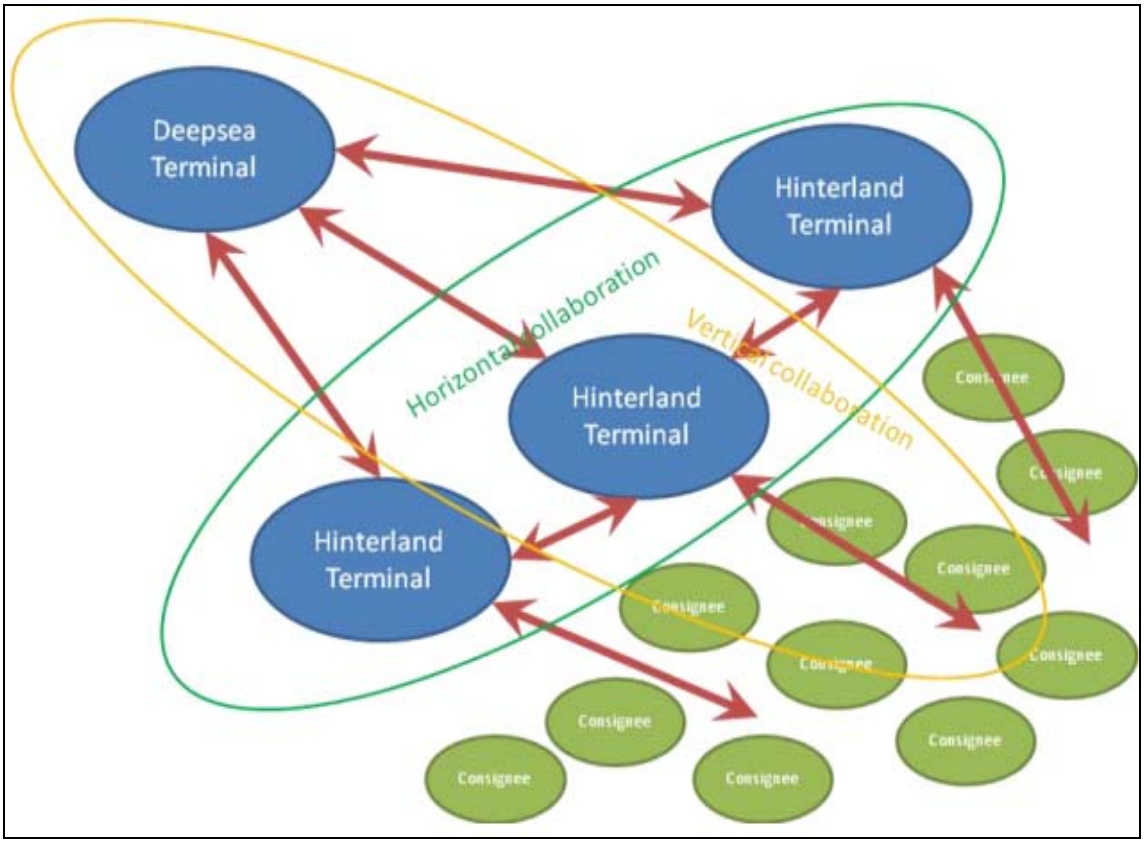

Figure 4. Positioning of horizontal and vertical collaboration. Source: Ham, P., Nater, J., Zoeter, P., Langen, P., & Merckel, S. (2010), Ultimate-Efficient Multimodal Hinterland Networks—New Concepts for Design and Operations.

In the trend of globalization and economic integration, value chain of a country will be affected by many factors including port logistics. The WB report "Efficient logistics: a key to Vietnam's competitiveness" (Blancas, 2014, p. 3) pointed out that currently in Vietnam the port and marine terminal system is highly fragmented, as planners have emphasized quantity over quality, leading to overcapacity (most notably in the southern port range), multimodal corridor approach and with little regard to supply-demand considerations. However, this report did not concentrate on the issues of port logistics as well as particular suggestions to improve value chain by efficient port logistics. Therefore, in this paper, the authors refer to analyse the impact of port logistics, the current situation of both LSPs and BCOs, based on these, the recommendations will be drawn for levels at micro and macro management.

Research Methodology

In order to evaluate the reality of Vietnam logistics and port logistics sector, a questionnaire-based survey conducted from April to May 2014 by the authors.

Survey methodology and sampling frame: The process to do this research followed the steps as indicated in Figure 5:

A questionnaire was designed to collect primary data from both Vietnam logistics service providers (LSPs) and Vietnam logistics service users in terms of significant issues related to the reality of Vietnam logistics sector. Collected data are processed and analysed by SPSS software. The details of questionnaire survey and data analysis are presented in Table 3:

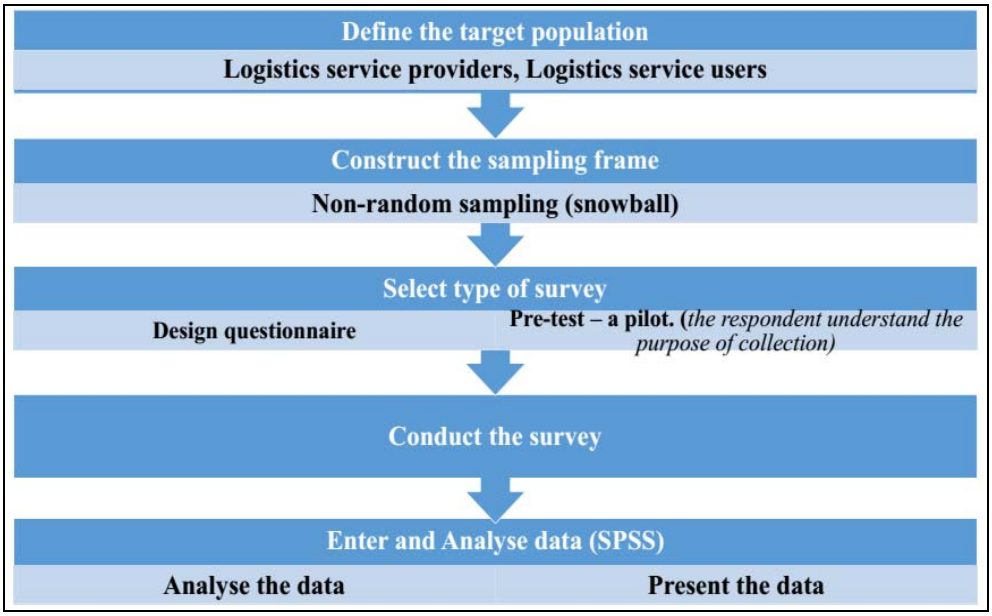

Figure 5. The research process.

Table 3

The Detail of Questionnaire Survey and Data Analysis

No	Items	Contents
1	Survey method	Questionnaire survey
2	Sampling method	Non-random sampling (snowball)
3	Assessment method	Quantitative, qualitative
4	Types of response format	- Yes/No - Multiple choice - Open-ended
5	Survey time	April-May, 2014
8	Number of respondents	Logistics service users: 61 Logistics service providers: 60
9	Data processing and analysis tools	SPSS (Statistic Package for Social Science)
10	Reliability analysis	Cronbach Alpha factor (α): $0.6 \leq \alpha < 0.7$: Acceptable $0.7 \leq \alpha < 0.8$: Good $0.8 \leq \alpha \leq 1.0$, $\alpha \geq 0.8$: Very good

Source: Ho, Thi Thu Hoa (from Dec 2013 to July 2014) Research project "Some solutions to improve logistics service chain quality of Vietnam—a case of Ho Chi Minh City."

Research Results

Overview of Logistics Sector in Vietnam

From 1990s, Vietnam logistics sector has been growing nearly three decades with many changes and success. The overall results of Vietnam logistics sector can be summarised as follows in Table 4:

The annual report of World Bank "*Connecting Compete: Trade Logistics in the Global Economy*" ranks LPI (logistics performance index) Vietnam logistics as 53rd/155 position (for the years 2007, 2010, and 2012); 48th/160 position in the year 2014, 64th/160 position in the year 2016 and based on the criteria such as customs, infrastructure, international shipments, logistics quality and competence, tracking & tracing, and timeliness. The ranking of these criteria in the years 2007, 2010, 2012, 2014, and 2016 of Vietnam listed in detail in Table 5.

Based on Table 5, it can be seen that Logistics competence and service quality indicator extremely fluctuated from the place of 82nd in the year 2012 to the place of 49th in the year 2014. However, Timeliness indicator changed from the place of 38th in the year 2012 to the place of 56th in the year 2014 and Infrastructure indicator in 2016 reduced to the 70th rank from the place 44th in 2014.

Table 4

The Results of Vietnam Logistics Sector

Indicators	Value or percentage (approximately)
Contract logistics	4%
Growth rate	20% (2012: USD 30 billion) 2014: approx. USD 43 billion
Number of logistics companies	2007: 800-900 2016: more than 2,000 (Ho Chi Minh City: 70% of total)
Vietnamese logistics companies (e.g. Vinatrans, New Port Logistics, Indotrans, etc.)	20-30% (total logistics turnover)
Foreign logistics companies (e.g. APL, Maerk Logistics, NYK Logistics, DHL, Schenker, TNT)	70-80% (total logistics turnover)

Source: Vietnam Logistics Business Association, 2014 & 2016.

Table 5

Logistics Performance Indicators of Vietnam Logistics Sector

Indicators	2007		2010		2012		2014		2016	
	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank
LPI	2.89	53	2.96	53	3.00	53	3.15	48	2.98	64
Customs	2.89	37	2.68	53	2.65	63	2.81	61	2.75	64
Infrastructure	2.50	60	2.56	66	2.68	72	3.11	44	2.7	70
International shipments	3.00	47	3.04	58	3.14	39	3.22	42	3.12	50
Logistics competence & service quality	2.80	56	2.89	51	2.68	82	3.09	49	2.88	62
Tracking & tracing	2.90	53	3.10	55	3.16	47	3.19	48	2.84	75
Timeliness	3.22	65	3.44	76	3.64	38	3.49	56	3.5	56

Source: World Bank (2007, 2010, 2012, and 2014), Connecting to compete: Trade logistics in the global.

Legend: The LPI and its indicators are given on a numerical scale, from 1 (worst) to 5 (best). 2007-2012: 155 countries; 2014&2016: 160 countries.

The ranking of these criteria in the years 2007, 2010, 2012, and 2014 of Vietnam and some other countries in the region is listed in detail in Table 6:

Table 6

Country Rankings on the Logistics Performance Index (LPI) and Its Indicators (2007, 2010, 2012, and 2014)

Country	LPI	Customs	Infrastructure	International shipments	Competence	Track & trace	Time
Indonesia	43 (75)	44 (72)	45 (69)	44 (80)	50 (92)	33 (80)	58 (69)
	59 (53)	75 (55)	85 (56)	57 (74)	62 (41)	52 (58)	42 (50)
Hong Kong	- (13)	- (8)	- (13)	- (6)	- (14)	- (17)	- (26)
	2 (15)	3 (17)	7 (14)	1 (14)	5 (13)	5 (13)	4 (18)
Malaysia	27 (29)	23 (36)	28 (28)	26 (13)	26 (31)	28 (41)	26 (37)
	29 (25)	29 (27)	27 (26)	26 (10)	30 (32)	28 (23)	28 (31)

Table 6 continued

Country	LPI	Customs	Infrastructure	International shipments	Competence	Track & trace	Time
Singapore	1 (2)	3 (2)	2 (4)	2 (1)	2 (6)	1 (6)	1 (14)
	1 (5)	1 (3)	2 (2)	2 (6)	6 (8)	6 (11)	1 (9)
Vietnam	53 (53)	37 (53)	60 (66)	47 (58)	56 (51)	53 (55)	65 (76)
	53 (48)	63 (61)	72 (44)	39 (42)	82 (49)	47 (48)	38 (56)
South Korea	25 (23)	28 (26)	25 (23)	24 (15)	22 (23)	25 (23)	30 (28)
	21 (21)	23 (24)	22 (18)	12 (28)	22 (21)	22 (21)	21 (28)
China	30 (27)	35 (32)	30 (27)	28 (27)	27 (29)	31 (30)	36 (36)
	26 (28)	30 (38)	26 (23)	23 (22)	28 (35)	31 (29)	30 (36)
Japan	6 (7)	11 (10)	6 (5)	9 (12)	5 (7)	7 (8)	6 (13)
	8 (10)	11 (14)	9 (7)	14 (19)	9 (11)	9 (9)	6 (10)

Source: World Bank (2007, 2010, 2012 and 2014), Connecting to Compete: Trade Logistics in the Global Economy.

Note. "-": no value, figures in first brackets are for the year of 2010, figures before first brackets are for the year of 2007 & figures after first brackets are for the year of 2012 and the remains are for the year 2014.

Based on this table, the customs and time are the main issues need to be improved if Vietnam logistics sector wants to be more competitive in the global market.

The Reality of Vietnam Logistics and Port Logistics Sector

The reality of logistics sector in Vietnam from the side of logistics service providers.

+ Transport service: almost logistics companies have been providing sea (83.3%), road (76%), air and intermodal transport services (45%) (Figure 6).

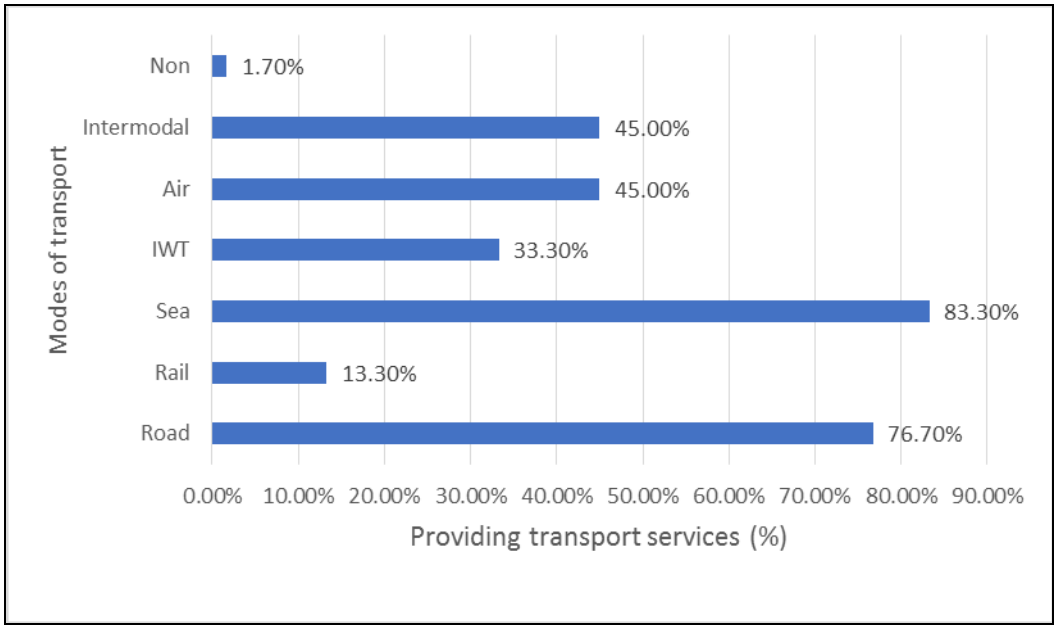

Figure 6. Modes of transport services provided for logistics users.

+ Types of logistics service users: import and export companies (61.6%), garment and textile companies (51.7%), and agriculture companies (48.3%) are the major logistics service users.

+ The main reasons for outsourcing logistics services: customer service (78.3%), professional (73.3%), reliability (70%), quality (65%), and price (58.3%).

+ The main logistics services: the majority of respondents have been providing traditional services such as customs clearance (81.7%), inland transport (80%), forwarding (78.3%), export and import procedures (73.3%), and international transport (71.7%). Meanwhile, modern logistics services are provided by very few logistics companies, i.e. warehousing services (55% logistics companies), and value-added logistics services such as labeling, marking, packaging (28%), assembling and demand forecasting (only 5%, 6.7%).

All are illustrated in detail (Figure 7).

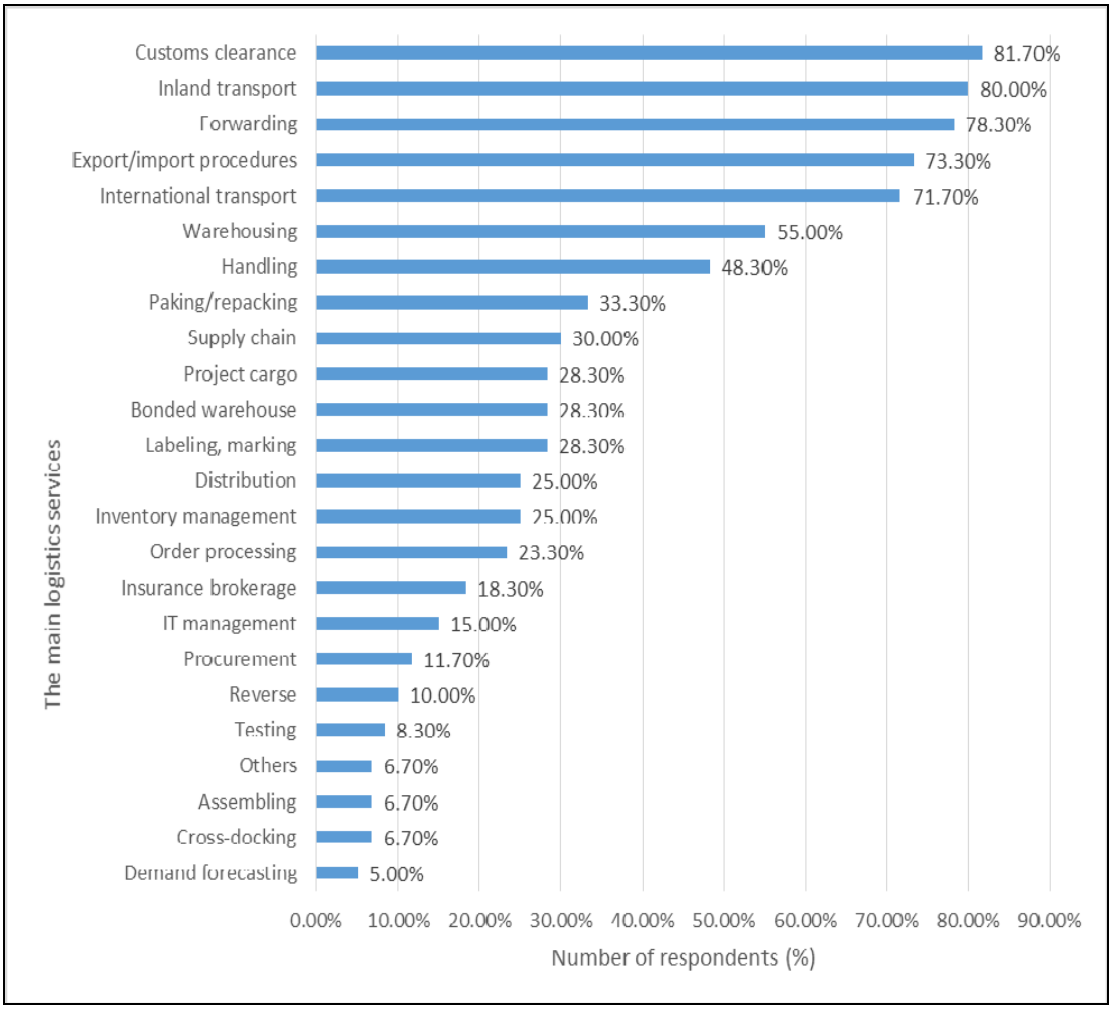

Figure 7. The main logistics services.

+ ICT application: The ICT application in logistics sector is still not popular and professional, almost companies only uses ICT in transport management (58.3%), warehousing management (41.7%), or tracking and tracing (28.3%). The application of RFID and barcode are really not popular (only 10% companies).

+ Logistics network expansion: logistics companies only concentrate on domestic market development (54.5%), Asia (40%), while only 27.3% companies intend to develop Europe market.

+ Logistics costs: 53.3% logistics companies satisfy with current logistics costs, while 36.7% respondents complain about high logistics costs.

+ New logistics services: procurement (29.3%), warehouse (27.6%), bonded-warehouse (25.9%), labeling & marking (20.7%).

+ Port logistics:

– Port logistics services: Currently, Vietnam seaports only provide conventional port services such as cargo stevedoring, packaging, storing, forwarding, warehouse, customs clearance, inland and marine transportation, tugboat services, pilotage and tugboat services, container/vessel sanitation and repairing, ship chandlers services, vessel and shipping agent, etc. Table 7 indicates the main services provided by some key Vietnam ports.

Table 7

The Main Services Provided by Some Key Vietnam Ports

Ports	Services
Hai Phong	• Cargo handling, Taillying, Forwarding and Storage • Ship Towage and Assistance • International Cargo and Container Transshipment • Transporting and freight forwarder • Logictics Service with a specialised train for transporting containers from Port of HaiPhong to LaoCai Province and vice versa • Bangging, Packing and Transporting of Cargoes by national highways and inland waterway • Shipping and Marine Brokerage Agent
Da Nang	• Cargo handling, delivery/taking delivery services • Storage and warehouse services, wharves services, passenger ship services • Towage, fuel supply, repairing means of transport, other marine services
Quy Nhon	• Cargo handling, warehousing • Tug boat service • Cargo transportation by waterway • Agency for transportation • Supplying facilities for port operation • Food service and Ship chandler • Oil business • Mechanical products processing. Repairing machine, equipment and means of transport on land and by waterway • Wharf repairing • Assembly of berth equipment
Sai gon Newport	• Terminal/Yard/Warehouse services • Inland clearance depot (ICD) services; Cargo stervedoring/packaging/storing/forwarding services • Logistics services; customs clearance services • Inland & marine transportation; tugboat services • Pilotage & tugboat services • Container/vessel sanitation & repairing; ship chandlers services • Maritime services; marine brokerage; vessel agent; shipping agent • Education and training in marine and logistics
Ben Nghe	• Cargo stervedoring, Terminal/Yard/Warehouse services • Bonded warehouse, inland transport, customs clearance, logistics services
VICT	• Vessel Berthing—Unberthing, Ship Planning, Cargo/Container Storage • Container Freight Station (CFS), Reefer Connection and Monitoring • On-site Customs Offices, Container Washing and Repairs • Terminal Security, Power Backup

Source: Collected from sea ports' websites.

Among top 20 logistics suppliers of Vietnam, Saigon Newport with the cargo throughput in 2015 achieving 5.37 million TEUs (account for 50% market share of national export and import container throughput) has established the logistics center since 2013 with the expectation to expand more port logistics services to match with the trend of logistics development in Vietnam generally and in seaport sector particularly and contribute into the improvement of Vietnam export goods value chain.

– Hinterland connection: The means of connection between ports to its hinterland include road (highway), railway and inland waterway. Since a port can be connected with its hinterland by road, rail or inland waterway, the total logistics costs of the shipment are affected by factors including road conditions and any hindrances, such as toll stations and traffic congestion status that will affect the shipment transit time and costs. Table 8 indicates the connection of some Vietnam key ports to their hinterlands (Wann Shang Jye, 2006).

Table 8

Hinterland Connectivity of Key Vietnam Ports

Ports	Connections to hinterland		
	Highway	Rail	Inland waterway
Hai Phong	√	√	√
Da Nang	√		√
Quy Nhon	√		
Sai Gon	√		√
Saigon Newport (Cat Lai)	√		√
Ben Nghe	√		√
VICT	√		√

Source: W. S. J. Joseph (2006), Vietnamese Port Facilities and Logistics Development Overview.

Hai Phong Port, a port group in HaiphongCity (Vietnam) serving Northern Vietnam, has good connections with Highway No. 5, 10, and 37 and the railway linking Hai Phong and Ha Noi. Currently, Hai Phong Port, the only seaport in Vietnam, can provide transport connection with the hinterland by rail transport (Hai Phong port, 2014).

Quy Nhon Port, the gate to East Sea of South central of Vietnam, West Highland and countries in Mekong delta, is located next to international maritime route is the convenience for ships sailing in and out. At 0 km of the national road 19th and connecting to national road 1A and 14th (4-6 lanes), Quy Nhon Port is in central of Quy Nhon city. It is about 260 km away from Duc Co border gate (Vietnam-Cambodia) and 310 km away from Bo Y border gate (VN-Laos), 15 km away from Dieu Tri Train Station and 30 km away from Phu Cat Airport (Quy Nhon Port, 2014). However, road is the only transport mode to connect Qui Nhon Port with its hinterland.

No rail connection is among disadvantages of ports in the Ho Chi Minh City area (including Sai Gon, Cat Lai, Ben Nghe, and VICT), however all of them are linked with the national waterway network of the Mekong Delta and to Cambodia. Ports in the Ho Chi Minh City area suffer heavily from traffic congestion, however, in recent years, road transport infrastructure gradually improved. The environmentally-friendly mode of transport to connect between the Ho Chi Minh City area to Dong Nai and Binh Duong provinces is by barge, though it is still time consuming and not as flexible as road transport. In Master plan to develop Vietnam transport till 2020, orientation to 2030, inland waterway and rail transport are planned and encouraged to be two modes of transport playing the vital role to connect ports in the Ho Chi Minh City area to its hinterlands.

The Reality of Logistics Sector From the Side of Logistics Service Users

+ Annual expenditure for logistics/total revenue: Upon on types of logistics services used, companies' expenditure for logistics activities is different, however, almost logistics service users (60.7%) spend from 10-20% total revenue for logistics services outsourced (Table 9). This result reflects accurately the total logistics expenditure in Vietnam (approximately 25% GDP).

Table 9

Annual Expenditure for Logistics/Total Revenue

	Respondents	Weight (%)
Less than 10%	17	27.9
10-20%	37	60.7
21-30%	7	11.5
Total	61	100.0

+ Ratio insourcing and outsourcing logistics services: Beside outsourcing some logistics services such as transport and handling, almost companies insource logistics services related directly to core business, i.e. warehousing (60.7%), material procurement (60.7%), labeling and marking (45.9%), order processing (55.7%). Ratio outsourcing and insourcing (1 PL) is about 70-80% (outsourcing) and 20-30% (insourcing) (Table 10).

Table 10

Ratio Outsourcing and Insourcing (1 PL)

Ratio	Number of respondents	(%)
Insourcing 10%-Outsourcing 90%	4	6.6
Insourcing 20%-Outsourcing 80%	10	16.4
Insourcing 30%-Outsourcing 70%	10	16.4
Insourcing 40%-Outsourcing 60%	8	13.1
Insourcing 50%-Outsourcing 50%	6	9.8
Insourcing 60%-Outsourcing 40%	4	6.6
Insourcing 70%-Outsourcing 30%	10	16.4
Insourcing 80%-Outsourcing 20%	6	9.8
Insourcing 90%-Outsourcing 10%	3	4.9
Total	61	100.0

Some Issues of Value Chain of Vietnam Export Goods

Vietnam's export-driven economy has been among top world exporters with many remarkable achievement such as the second largest rice exporter, second largest coffee exporter, top pepper exporter, the 12th largest electronics exporter in the world (GSO Vietnam, 2014), etc. However, export value of Vietnam goods are not as high as main competitors, i.e. in February 2015 prices for Thailand's 5-percent brokens were quoted at $405 per ton for the week ending February 9, while prices for Vietnam's double-water-polished milled-rice with 5-percent brokens were quoted at $355 per ton (lower than 13%) (Childs, 2015).

Vietnam brand names are also very weak in global market when majority of Vietnam exporters approach international markets through the manner of raw material export, semi-or finished products processing with F-export terms according to Incoterms. According to survey results, logistics service users have been still applying conventional export terms such as FOB (67.8%), CIF (49.2%), while modern terms which matching the requirements of value chain especially with the trend of containerisation or when exporters have more power in logistics chain used very few such as FCA (6.8%), CIP and CPT (1.7%), DAT (3.4%), and DAP (10.2%).

High logistics cost is among disadvantages of Vietnam value chain which decreasing competitiveness of Vietnam export goods in global market.

Research findings pointed out that warehousing cost is account for under 10% (64.3% respondents), more than 10% (35.7%) (see Figure 8).

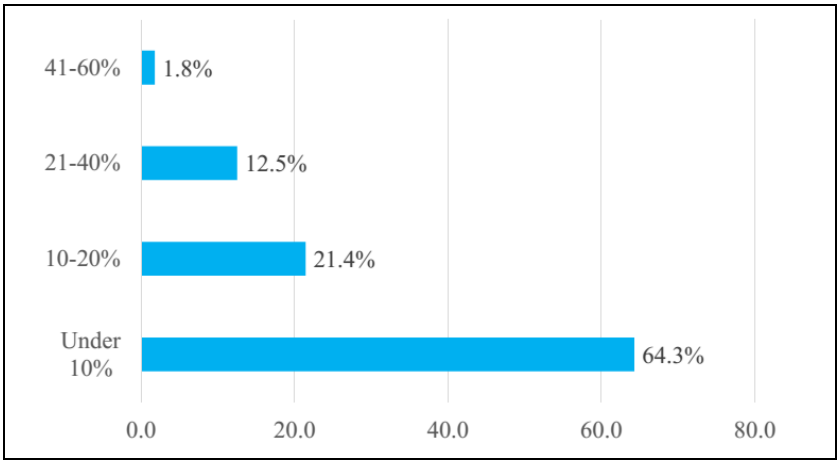

Figure 8. Ratio between warehousing cost and total logistics costs.

Transport cost is also one issue need to be improved of logistics sector in Vietnam when only 20.6% total respondents agreeing that their transport cost sharing under 20% total logistics costs, while about 79.4% total respondents counted more than 20% total logistics costs used for transport cost (Figure 9).

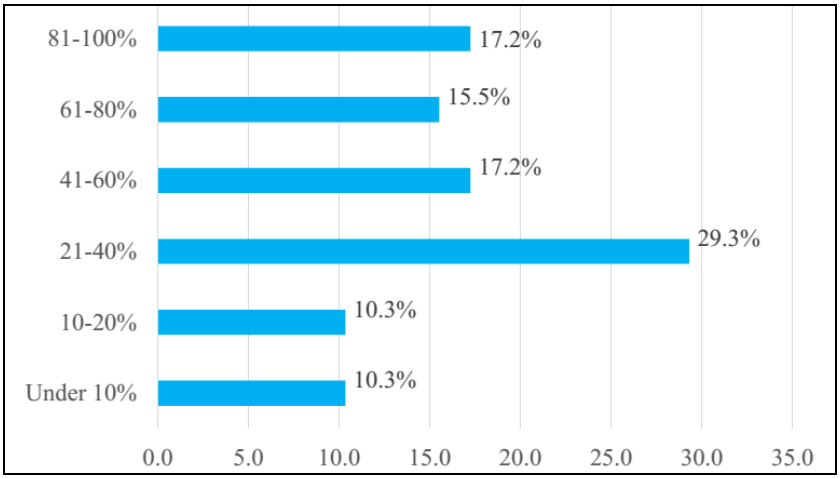

Figure 9. Ratio between transport cost and total logistics costs.

How to imptove Vietnam value chain for export goods is a very important question need to be considered to answer for both logistics sector and port logistics sub-sector.

Discussion

Some Suggestions to Improve Value Chain of Vietnam Export Goods Through Efficient Port Logistics

ASEAN Economic Community (AEC) and the Trans-Pacific Partnership (TPP) Agreement in the end of 2015 may bring not only opportunities but also challenges for value chain of Vietnam export goods.

In order to improve value chain of Vietnam export goods, there are many logistics solutions need to be implemented. In the context of this article, some suggestions related to port logistics recommended (shown in Figure 10):

The detail solutions for each solution group above can be suggested as follows:

+ Infrastructure:

• Upgrade and invest more efficient to improve port logistics infrastructure by PPP (public private partnership) to reduce capital pressure on government budget (especially improving connection between rail and inland waterway transport to whole transport system).

• Increase using of intermodal transport to utilize the advantages of all modes of transport and create transport network integrated closely with ports gateway.

• Establish port logistics centers matching international standards to provide integrated logistics services.

+ Logistics quality (i.e. time, cost and reliability):

• Reduce warehousing cost, improve delivery time: i.e. encourage "cross-docking" model in warehouse operation.

• Increase cost-effective in logistics activities (i.e. trade-off).

• Set up KPI (key performance indicators) for port logistics services to increase logistics performance.

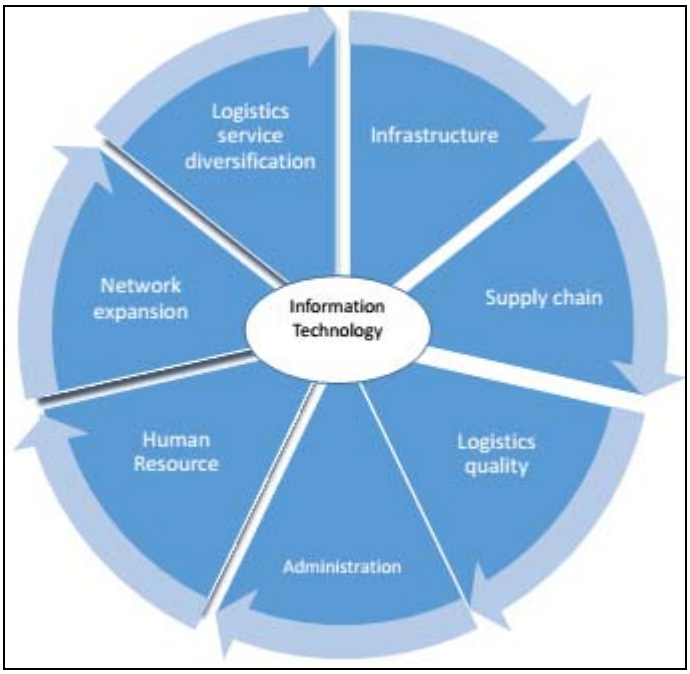

Figure 10. Some solutions to improve port logistics performance in Vietnam. Source: Developed for this article.

+ Administration:

• Simplify administrative procedure, such as e-customs (i.e. e-signature, e-B/L).

• Improve customs procedure (i.e. VNACCS/VCIS).

+ Human resource:

• Formulate and implement development strategy of port logistics human resources.

• Build sustainable relationships with international logistics education institutes to improve level of professionals both in knowledge and practical (i.e. case study of Saigon Newport from Vietnam in collaborating logistics training programmes with foreign partners such as the Netherlands and Germany).

• Improve logistics human resource competence to be more skilled, professional, and strategic.

+ Supply chain:

• Improve bottle neck of supply chain by improving capability of sea ports, warehouses and depot.

• Establish eco-friendly supply chain (Sourcing, Procurement, Manufacturing, Delivery, Reused).

- Create more hinterland connections through port logistics services.

+ Information Technology:

- Apply more efficient information technology applications in logistics such as customs procedures (e-customs), e-documents, electronic data interchanges (EDI), e-logistics.
- Increase using e-customs in processing export and import documents.
- Use hi-tech (barcode, RFID) in tracking & tracing, and warehousing management.
- Combine all partners in logistics chain though e-logistics or e-supply chain management.

+ Network expansion:

- Expand ports network not only in domestic but also in regional areas to create the bridge which connects all logistics services from exporters to importers.
- Establish network of port logistics providers to create the unbroken logistics service chain.

+ Logistics services diversification:

- Diversify more types of logistics services, especially value-added services, inland transport, intermodal transport and distribution center.
- Coordinate logistics services smoothly to create the convenience, time and cost-effective for logistics users.

Conclusions

The research found out some issues of Vietnam port logistics need to be changed to improve value chain of Vietnam export goods as follows:

- Port logistics services are still at simple level (traditional logistics) such as forwarding, inland transport, customs clearance; lack of integrated logistics in the entire supply chain with logistics contracts, value-added services, distribution.
- ICT application in logistics services is still at simple; lack of RFID, barcode, EDI application.
- Sea transport shares the majority of international shipments.
- Value chain of Vietnam export goods still face intensive competition in global market.

In the globalization trend of logistics sector, though Vietnam port logistics sub-sector faces many challenges but also takes many opportunities from export-driven economy and the largest share of export goods transported by sea transport. More efficient Vietnam port logistics, more competitive Vietnam value chain in global market. As a result, port logistics service sub-sector in Vietnam has to be more efficient and effective to improve value chain of Vietnam in global market.

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