

Assessing the National Logistics System of Vietnam



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Contents

I. Introduction	IV. Current Status of Logistics in Vietnam
II. Literature Review	V. Conclusion
III. Methodology	

Abstract

The purpose of this research is to present and analyse the current situation regarding the capability of the national logistics system in Vietnam. A national assessment framework for macro-logistics is utilised in combination with semi-structured interviews of key Vietnamese stakeholders to reflect on the current situation in the country. There are still numerous shortcomings in the Vietnamese logistics system. These shortcomings are not purely infrastructure based but also from a regulatory and commercial perspective. The presented national logistics system assessment framework can be replicated in other countries or regions when assessing national logistics capability. The findings can help foreign investors, international logistics providers wanting to provide their services in Vietnam to understand the logistics context within the country. These findings are also helpful for policy makers in Vietnam on how to improve their national logistics system. This study proposes a template to assess national logistics systems and provides an in-depth understanding of logistics in Vietnam, a country that has not been much studied in the literature.

Key Words: Vietnam, Logistics Assessment, National Logistics System

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I. Introduction

Over the past 20 years, Vietnam has achieved sustained economic growth. Vietnam has benefited from favorable geographical location, political stability as well as impressive investment in infrastructure, which are the key conditions for the rapid industrialization, increase in trade and stronger global connectivity. However, Blancas et al. (2013) also indicated that Vietnam's key challenge to sustain its economic growth is through within-sector productivity improvements. Better performing logistics can play a significant role in increasing productivity, as well as provide international and domestic investors with an environment where they can source products for export at a lower total landed cost than what they incur in other countries.

Considering the geographical characteristics of a North to South distance of around 1,650 kilometers long and 50 kilometers wide, the availability of and access to adequate transport and logistics services is critical for the strengthening and sustainability of the trade based development process of Vietnam as both domestic and international trade has shown impressive development and has proven to be engines of national growth over the last decades (JICA, 2010). It has been observed that the Vietnamese logistics industry is still fragmented and only partly capable of meeting traders' requirements (Banomyong et al., 2008). Sector specific developments are concentrated on freight transport infrastructure and services, but generally lacking the necessary integration.

Similarly, holistic, coherent government policies in Vietnam related to logistics have not yet been developed. The Vietnamese government understanding to logistics development has largely been one of providing infrastructure as reflected in national modal transport development plans for road, rail, air and water transport. The situation is quite understandable because logistics is not a separate mode of transport, but rather a system for facilitating the effective and efficient trading and movement of goods. Logistics is a beneficiary of improved transport infrastructure and transport services, but includes components that are outside a pure transport system.

Policy makers do need guidelines when trying to develop logistics related policies as logistics issues do not belong to a single ministry and inter-agency coordination is critical. It is important that policy-makers

receive a holistic picture of their national logistics system and not be confined by their respective functions.

The literature related to Vietnam's logistics system and capability has been very much derived from technical assistance reports written by international organizations such as the World Bank or the Asian Development or other donor organizations. These reports are mostly focusing on issues that are of interest to the donor community and are usually generated from fact findings missions combined with available secondary data. However, what is lacking is a coherent research approach to assess national logistics capability as depending on the donor organization different approaches are used depending on the intended outcome. It is important to present a more neutral approach that could reflect national logistics capability from a holistic perspective. There is also a lack of academic logistics research related to Vietnam even though the country plays an important role in global trade.

The purpose of this manuscript is therefore to present an assessment framework of the current logistics situation in Vietnam. Even though Vietnam is developing rapidly, its logistics system is still limited and may in the future hinder its continued economic growth. This manuscript is separated into five main sections. The first section introduces the paper and its objectives. The second section presents the literature review on national logistics systems and background related to logistics in Vietnam. The third section discusses the analytical framework used in the assessment of the Vietnamese logistics system while the fourth section presents the current status of logistics in Vietnam. The last section summarizes and provides further thoughts on the various issues.

II. Literature Review

In general, research on logistics systems at the macro level (i.e. national or regional level) is very limited, although ample research has been conducted on logistics systems at the micro or business level. The purpose of this literature review is to first differentiate between both forms of logistics systems, and therefore the necessity to perform isolated studies on national logistics systems. Thereafter, this literature review synthesizes

the existing frameworks that have been developed to evaluate the performance of national logistics systems.

At the micro level, a logistics system is defined as a system of technical and organizational means and people necessary for the flow of goods and accompanying information, which is specifically organized and integrated within a given business area. It consists of the following subsystems: supply subsystem, production servicing subsystem, distribution subsystem, transport subsystem, warehouse subsystem, and relations between them (Jacyna, 2013). Although the provided definition can be applied to various business contexts, it may not be suitable in defining national logistics systems. A few differences are noteworthy. First, the design and development of a national logistics system involve a greater number of stakeholders which connotes elaborated planning and trade-off considerations. Unlike business logistics systems whose decisions are mainly based on their own logistics tradeoffs among transport, inventory, and facility costs, national logistics systems also have to consider other non-economic tradeoffs such as social and environmental costs. For instance, port-city proximity, which is one of the decisions in developing national logistics systems, has a bipolar effect on economic cost, and social and environmental costs (OECD, 2014). Secondly, national logistics systems are the providers of infrastructures and spatial connectivity, whereas business logistics systems are the users. To a large extent, the competitiveness of business logistics systems is influenced by the connectivity and efficiency of national logistics systems. As a result, national logistics systems focus on developing and providing infrastructures whereas business logistics systems focus on optimizing supply chain decisions based on the infrastructures provided by national logistics systems.

In line with the discussion above, Fechner (2010) acknowledged that infrastructures are important in the development of national logistics systems and defined it as a system of land and water routes, airports, seaports and/or telecommunication networks located in a certain area. It was also emphasized that a system approach to logistics should recognize the linear and nodal infrastructures as components of the logistics infrastructure. Nodes are facilities in the national logistics system that act as a point of entry or exit for transported goods. They may also provide logistics activities such as handling, transshipment, storage, and delivery. Examples of nodes are ports, warehouses, logistics centers, and packaging

and sorting facilities. On the other hand, linear infrastructures are links that connect nodes in the national logistics system. They typically consist of pipelines, roads, waterways, and airways.

Although the provision of infrastructures is a key aspect of national logistics systems, Banomyong (2008) suggested that the assessment of national logistics systems should be holistic. The author proposed three additional dimensions to evaluate the performance of national logistics systems. They are shippers and consignees, service providers, and the institutional framework. The introduction of these dimensions further emphasized that a national logistics system should cater to and integrate with its users, which in this case refer to service providers, shippers, and consignees. In addition, institutional framework concerning imports and exports, financial regulation, registration and licensing of service providers, and customer procedures should be business-oriented and facilitates the movement and storage of freight on the existing infrastructures.

Meanwhile, logistics plays a key role in the national economy of Vietnam in two significant ways. First, logistics is one of the major expenditures for businesses, thereby affecting and being affected by other economic activities. Second, logistics supports the movement of many economic transactions; it is an important aspect of facilitating the sale of all goods and services (Grant et al, 2006). According to the World Bank's Trade and Transport Facilitation Assessment (World Bank, 2010), the logistics expenditure in Vietnam is estimated at about 20% of GDP.

Logistics is not just confined to within Vietnam's national border or market, as Vietnamese export and import firms face logistics attributes that differ from those experienced in their domestic market. International logistics management requires an understanding of the relative transportation efficiencies in different countries. It requires Vietnamese traders and manufacturers to understand the transportation capabilities and characteristics of the country's primary trading countries. According to Grainger (2007), there exist within international logistics a complex cross-border environment in which government actors play a critical part. Moreover, wasteful transaction costs arise in cross-border operations between business actors and government executive agencies.

The role of logistics related authorities in Vietnam need to be clarified as there is much confusion on national logistics development strategies (ADB, 2010). This is echoed in World Bank (2014) which identified

cumbersome and not easily understood government regulations, inconsistent interpretation, implementation, and enforcement of government regulations across provinces and among government officials among the top five most pressing challenges to increase logistics competitiveness in Vietnam. It is therefore necessary to present a clear picture of the current logistics situation in Vietnam. This should help governmental agencies in Vietnam to better understand their jurisdiction overlap related to logistics matters. The current institutional framework that deals with logistics is very complex and un-coordinated. There are a significant number of agencies as well as rules and regulations that impact on the efficient movement of freight movements and logistics operations both within the Vietnam and its connection with other countries in the region.

In Vietnam, logistics is still understood in a segmented manner and there is no single agency that oversees all logistics related activities. Coordination is lacking between agencies and the implementation of a formal coordination mechanism is much needed if logistics development is to be undertaken in a holistic manner. Vietnam's logistics system is therefore still under-performing due to current physical and regulatory constraints.

III. Methodology

The purpose of this section is to describe the research framework used in describing Vietnam's logistics system. This methodology is first based on the development of a national logistics framework that defines the scope of logistics from a policy perspective. The framework relates to the understanding of the Vietnamese logistics system "AS IS" situation based on the capability of four logistics related dimensions.

In this manuscript the scope of the research is exploratory and therefore focuses mostly on the "AS IS" conditions of logistics in Vietnam. There is no specific "TO BE" section as much will depend on Vietnamese policy makers and the donor community. However, the findings can be used as a starting to initiate a "TO BE" study of the possible future directions of logistics in Vietnam from a macro-perspective which can be explored through a scenario based approach.

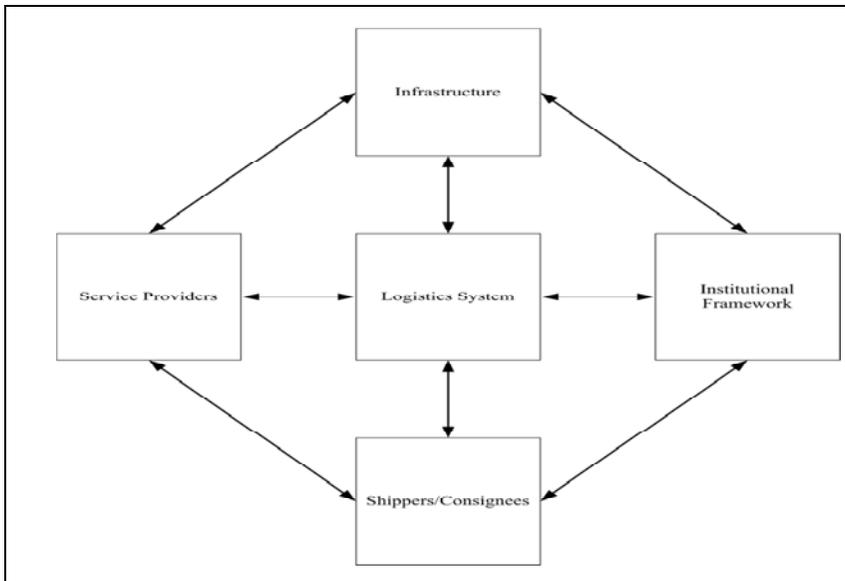
The "AS IS" assessment is a prerequisite that provides a reference to the current status of the Vietnamese logistics system. Bookbinder and Tan

(2003) proposed a methodology to compare logistics systems between Asia and Europe; however, Vietnam was not included in the analysis and a more country specific method was needed. It would be safe to assume that 10 years after the study of Bookbinder and Tan (2003) that Vietnam would have enough data to enable comparison within that methodology and that the country would probably have been included in the Tier 3 group of countries. The Tier 3 group of countries represents the countries that are less-developed in terms of logistics capability

Nonetheless, the main issue is that Vietnam is not a country that has been studied extensively in the logistics literature and more research is needed to understand the logistics environment in this fast emerging and developing country. Therefore it is important to understand the “AS IS” situation first. The analysis can be through the understanding of Vietnam’s national logistics system.

According to Banomyong (2008), a national logistics system is composed of (1) transport and logistics infrastructure, (2) the institutional and regulatory framework, (3) service providers, and (4) logistics service users as illustrated in Figure 1.

<Figure 1> Logistics system components



Source: Banomyong (2008)

The assessment of the Vietnamese logistics system can be based on these four strategic dimensions that are recognized as being the core components of a national logistics system and that interact in order to create a holistic and coherent structure (ADB, 2007; ADB, 2008a; ADB, 2008b; ADB, 2010). This standardized logistics framework is an important tool in understanding the Vietnamese logistics system and its relationship with these four logistics related dimensions. The current situation of logistics in Vietnam along and within these four dimensions is reflected in the section below.

In order to obtain in-depth data related to these four logistics dimensions, the authors further devised a number of semi-structured interview protocols. Semi-structured interviews is an overarching term used to describe a range of different forms of interviewing most commonly associated with qualitative research (Lewis-Beck et al, 2004). The defining characteristic of semi-structured interviews is that they have a flexible and fluid structure, unlike structured interviews, which contain a structured sequence of questions to be asked in the same way of all interviewees.

The structure of a semi-structured interview is usually organized around an aide memoire or interview guide. This contains topics, themes, or areas to be covered during the course of the interview, rather than a sequenced script of standardized questions. The aim is usually to ensure flexibility in how and in what sequence questions are asked, and in whether and how particular areas might be followed up and developed with different interviewees. This is so that the interview can be shaped by the interviewee's own understandings as well as the researcher's interests. Nonetheless, the success and validity of the semi-structured interview rests on the extent to which the respondents' opinions are truly reflected. Table 1 provides more information related to the semi-structured protocols used in this study.

The semi-structured interviews were mostly based on what was reported in the trade literature such as CSCMP's Supply Chain Quarterly, CILT's Logistics and Transport Focus, Supply Chain Asia, The Journal of Commerce, American Shipper, etc. The issues highlighted in the trade literature related to modern logistics practices were then asked if these practices were being implemented in Vietnam and what was the current

situation. The purpose of these semi-structured interviews questionnaires was to obtain a clearer picture of the current status of logistics-related sectors in Vietnam.

<Table 1> Interview themes

Theme	Key point	Objectives
Road Transport	Road infrastructure, legislation impact on road transport operators	Status of the road freight industry in Vietnam
Rail Transport	Rail infrastructure and management system	Status of rail operations in Vietnam
Inland Waterway Transport	River port facilities and operations on inland waterways	Status of river transport in Vietnam
Ports & Maritime Transport	Seaports capabilities and maritime connectivity	Status of maritime transport in Vietnam
Air Transport	Airport facilities and freight connectivity	Status of airfreight in Vietnam
Logistics service providers	Types of services offered by local service providers	Status of logistics services available in Vietnam
Customs	Compliance with World Customs Organisations standards	Current status of Customs practices in Vietnam
Institutional framework	Logistics activities regulations and overlaps in government agencies	Logistics authority framework in Vietnam
Exporters & Importers	Logistics performance of users of logistics services	Status of local logistics practices in Vietnam

The interview is the primary means of accessing the experience and subjective views of respondents (Whipp, 1997). The purpose of the interview was to elicit answers pertinent to the research hypotheses. In this case, the hypothesis is related to the current logistics capability of Vietnams and what the limitations were.

Interview formats do vary, at one extreme is the highly structured type where questions are asked in a fixed form and sequence. At the other end of the scale is the open or unstructured interview; it is particularly useful where subject matter is sensitive and especially during “elite” interviewing. Semi-structured interviews are based on lists of themes or key issues rather than set questions.

The organization of interview experts and their functions is presented in Table 2. Many of the respondents were policies makers with relatively high-government ranks in their respective administration, and access had to be negotiated constantly. Private sector respondents were at manager level in their organization or representing local trade associations such as the Secretary General of the Vietnamese Freight Forwarders Association –

VIFFAS (now being the Vietnam Logistics Association), representatives from the Vietnamese Chamber of Commerce and Industries (VCCI) and from the Vietnam Automobile Transport Association (VATA). They were selected based on their involvement with supply chain management issues, logistics development, transport infrastructure, transport policies, trade facilitation and international commerce.

The sampling method was non-probabilistic because of limited access, time, and available resources but at least two to three stakeholders responded to the semi-structured protocols for each logistics related sectors. It was therefore possible to obtain the perspective of both the private and public perspective on these issues. In this study, it was noticed that the less formal the interview, the more ‘open’ was the elite respondent. Confidentiality also supported respondents to be more candid.

<Table 2> The organization of experts and their functions

Respondent group	Name	Function	Expert number
Government	• Ministry of Planning & Investment (MPI)	Planning & Regulator	1
	• Ministry of Industry & Trade (MoIT)		2
	• Ministry of Transport (MoT)		4
	• Customs, Ministry of Finance (MoF)		2
Private Sector	• Vietnam International Freight Forwarders' Association (VIFFAS)	Industry Association	3
	• Vietnam Automobile Transport Association (VATA)		1
	• Vietnam Chamber of Commerce & Industry (VCCI)		2
Academia	• Foreign Trade University	Logistics Education	2
Other	• Japan International Cooperation Agency (JICA)	Technical Assistance	2
	• Asian Development Bank (ADB)		1
	• World Bank (WB)		1

IV. Current Status of Logistics in Vietnam

In Vietnam, logistics is a relatively new concept and as yet there is no official authority with total responsibility over logistics. Consequently, the

Vietnamese government has not yet been able to be in a position to formulate any comprehensive policy, strategy or orientation for developing logistics in the country.

There exists, however, a definition of logistics services in the 2005 Commerce Law as well as in the Decree 140/2007 ND-CP (5/9/2007) which reads as follow (translation):

“Logistics services means a commercial activity whereby a business entity organizes the implementation of one or more tasks, including receiving goods; arranging transportation, warehousing, storage, completion of customs formalities and other documentation procedures; providing consultancy to clients; packing goods and labelling them with their codes, and goods delivery or other services relating to goods in accordance with an agreement with clients in order to enjoy remuneration. The phonetic transcription of "logistic services in Vietnamese shall be: dich vu lo-gi-stic”

1. Transport and Logistics Infrastructure

This sub-section focuses on the existing infrastructure supporting trade and logistics activities in order to reflect current capability. The availability and quality of infrastructure is one of the key components in determining the logistics environment of a country (Price, 2006). In general, it can be observed that in terms of both infrastructure and services, each individual mode of transport in Vietnam suffers from limited capacity and capability. Nevertheless, there are important modal differences reflecting the degree to which they can contribute to the development of a national logistics system and logistics market. The share of different transport modes in total freight movements (in tons) in Vietnam is reflected in Table 3.

Table 3 shows the increasingly important role of road transport in cargo carriage in Vietnam with 75.28% of total volume of cargo in 2012 and this share has constantly been increasing since 2006 with the only slight decrease in 2009 (which was in line with the increase in the modal shares of inland waterway and sea transport). This slight decrease was because there has been an increase in coastal transport due to Vietnamese ship-owners suffering from the global shipping crisis deciding to bring

back their vessels to provide domestic shipping and offering very competitive rates on the North-South Vietnamese trade during that period.

<Table 3> Freight modal share (percentage of total tons) in Vietnam

Mode of transport	2006	2007	2008	2009	2010	2011	2012
Road	65.92%	68.6%	72%	70.6%	74.65%	73.86%	75.28%
Train	2.63%	2.4%	1.4%	1.15%	1.11%	0.82%	0.73%
Inland waterway	21.19%	18.93%	18.14%	19.4%	16.63%	18.08%	17.56%
Sea (Coastal)	10.23%	10.04%	8.44%	9.9%	7.58%	7.22%	6.41%
Air	0.03%	0.03%	0.02%	0.02%	0.03%	0.02%	0.02%

Source: General Statistical Office of Vietnam (2014)

Despite a long railway across the country from the North to the South, cargo volumes transported by rail are small and tend to decrease even further over the years. This is due to the inflexibility and unreliability of rail compared to other modes of transport such as road in Vietnam which discourage shippers from using rail freight service. Another important factor is that the investment in rail infrastructure has been slower than that of other modes, reflected in the number of new investment projects in the rail sector, which hinders the improvement in service quality of the sector. This is quite alarming for the future of rail freight operations as the ratio for 2012 continues to decline.

In 2009, even though a number of Vietnamese shipping companies reacted to the global crisis by transferring tonnage to the domestic coastal market (North-South transportation); it was observed that the share of Vietnamese coastal transport only increased to 9.9% of total cargo volume compared to 8.4% in 2008. Nonetheless, the share of coastal transport lowered down again to 7.58% in 2010, 7.22% in 2011 and 6.41% in 2012, which represented a significant drop in its modal share. It is also interesting to note that the share of inland waterway suffered a strong decrease in 2010 compared with the relative increase in 2009, from 19.4% to 16.63%. This reduction in the share of river and coastal is partly because of the reduction in trade cargo volume and also due to the improved road infrastructure that offered shippers another solution to

transport their cargo from the source of supply to the ports for export, and vice versa.

The Vietnamese government has approved a general transport development plan until 2020 and a vision for 2030. Each transport mode has even formulated its own strategic development plan:

- Master plan on the development of Vietnam's inland waterways transport for 2020.
- Master plan on the development of Vietnam's road transport for 2020.
- Master plan for Vietnam's Marine Transport for 2020
- Master plan on the development of Vietnam's air transport for 2020.

What is lacking, however, is the integration of the modal development plans both in terms of infrastructure and of service development. Investment, regulatory policies and sector promotion are not viewed in a holistic and coherent manner and are thus not conducive to the development of an integrated logistics infrastructure.

1) Port and Maritime Shipping

There is a general perception among logistics operators and users that ports in Vietnam are not well suited to cater for modern maritime transport due to existing physical constraints. This impression is translated in the urgency to further support deep-sea port development and improve port capability. Sea transport is the most important mode for the carriage of imports and exports of Vietnam. However, the maritime infrastructure of Vietnam (ports and vessels) is still insufficient and in need of further development (Thai and Grewal, 2005).

The national seaport system is comprised of three main groups of which the Southern one (Saigon, Vung Tau) is the most developed, handling around 70% of Vietnam's foreign trade. Saigon New Port is considered to be one of the best operated port facility in the country with the fastest vessel turnaround time. Table 4 provides an overview of the port and maritime infrastructure in Vietnam.

The majority of Vietnamese seaports were built before 1939. Their designs are now out-dated with water depth insufficient for large modern sea-going vessels and terminals generally not adapted to the requirements

of container handling. The physical structures are in a deteriorated state and there is little or no maintenance. However, some deep-water seaports with modern facilities, especially for container handling, have just started their operations. In early 2010, a new container port opened at Cai Mep, about two hours south of Ho Chi Minh City, and a number of ocean carriers have been adding the port to their international rotations.

<Table 4> Vietnamese ports and maritime infrastructure

Coastline	3260 km
Seaports	141 berths (terminal), 20 international berths
Fleet (National & foreign flags)	841 sea-going vessels (7,962,772 DWT)
Container vessel	65 container vessels (595,181 DWT)

Source: UNCTAD (2014), VINAMARINE (2014a), VINAMARINE (2014b)

In May 2010, Maersk Line began direct service to Cai Mep on the eastbound leg of its trans-Pacific 6 (TP6) service. In late April 2010, the Grand Alliance added a call at Cai Mep, Vietnam's first deep-water container port, to its trans-Pacific SCX service. Alliance carriers Hapag-Lloyd, NYK Line and OOCL also call at Cai Mep as part of the Asia East Coast Express service, which transits the Suez Canal. "K" Line and MOL also operate between Cai Mep and the U.S. East Coast via the Suez Canal. The SVE (South China-Vietnam-East Coast) service operated jointly by "K" Line and MOL, replaces an existing service operated by "K" Line. The New World and CKYH alliances also offer direct connections through Cai Mep. Cai Mep port has become a key deep sea port that will further support economic development and trade growth in Vietnam.

Other seaports such as Haiphong, Cai Lan, Saigon New Port, Vietnam International Container Terminal (VICT), and Danang are relatively well equipped and have the capability to handle modern vessels and containers but not the large vessels. Modern equipment and operating systems aimed at improving handling efficiency such as full truck scanners, automated gate entry, commercial information and communication technology systems, etc., are not yet widely available in Vietnamese seaports. The terminals at Saigon New Port and VICT are leading in that respect.

Ports in Vietnam are grouped based on geographic regions – north, central and south. Each region has designated major ports, small

subordinate ports and independent industrial private ports. In the North, Haiphong port is functioning as the main gateway port. However, because it is at the mouth of a river and frequently constrained by sedimentation, vessels of more than 10,000 DWT cannot call at the port. Cai Lan Port, located 40 km in the northeast of Haiphong is a deep-water sea port which can accommodate vessels up to 40,000 DWT.

In the centre of Vietnam, Danang port functions as a gateway for the centre of Vietnam and transit to and from Lao PDR (Banomyong and Beresford, 2001). Tien Sa Terminal in Danang can accommodate vessels of up to 30,000 DWT, with a throughput capacity of 4.5 million tons. The three other major ports serving the central coastline include Cua Lo, Quy Nhon and Nha Trang can only receive vessels of up to 10,000 DWT. The problem with ports in the centre of Vietnam is that scheduled liner services are scarce due to a limited hinterland that cannot generate enough cargo to attract main line operators.

In the South, the Saigon River is currently the busiest navigational route. The river has numerous ports that can accommodate various kinds of vessels with a maximum capacity of up to 20,000 DWT. The Vung Tau – Thi Vai port area is becoming a focal point for new deep-water sea ports in the South with Cai Mep as a key example.

The total design capacity of the Vietnamese sea port system in 2010 is 170 million tons. However, at the end of 2007, the total throughput already reached 190 million tons putting considerable strain on Vietnam's existing port system (VINAMARINE, 2014c). The Vietnamese government has therefore recently issued an adjustment of the master plan of the Vietnamese port system to 2020 with the vision for 2030 (Vietnam Cabinet's Office, 2014). The Vietnamese government has an aggressive infrastructure investment program for highways, railroads and seaports. Construction started in October 2009 on Van Phong container port complex that is located North of Ho Chi Minh city, designed to be a mammoth transshipment port in the south-eastern region of the country. The project is scheduled to be constructed in four phases, with completion planned for 2015. The latest news related to this project is that construction has stopped in 2010 due to a lack of funds and there has not been any decision to restart the project (The New Paper, 2014). This shows that even though there are numerous ports development projects in the country but their completion are still unsure.

There are more than 200 foreign shipping lines operating liner and container services to Vietnam both directly and indirectly through feeder networks with feeder containers vessels that link Vietnam to nearby hub-ports such as Singapore, Hong Kong or Kaohsiung, where containers are trans-shipped to worldwide destinations by mother vessels. In this connection, ports play an increasingly important role in the supply of integrated transport and logistics services. The development of ocean and river ports, inland clearance depots and logistic parks can be seen as an indispensable step for Vietnam to enable the promotion of domestic and international logistics services (JICA, 2010). While port development generally entails important infrastructure work, it is equally important that a framework be created for corresponding services to be provided of a quality required by Vietnam's business community.

Maritime connectivity, which includes the improvement of maritime service quality (Thai, 2008), can also be expected to play an increasingly important role in the further integration between the Association of South East Asian Nations (ASEAN) countries, a process which has, up to now, very much been land transport oriented. Vietnam based on its central location within ASEAN and its heavy reliance on trade with China and, albeit to a lesser extent, with Thailand has the potential to gradually develop into a maritime hub for intra-ASEAN and wider regional trade. For this to happen, however, it is essential that the above mentioned port related shortcomings be adequately addressed and the maritime sector be fully integrated into a broader logistics system.

2) Inland Waterway

With a length of 40,998 km of rivers and channels mainly in the Red River in the North and the Mekong Delta in the South, inland water transport plays a key role in cargo movement for those areas. In recent years, inland waterway transport has grown by an average rate of 1% per year. There are 109 inland waterways ports with 3,111 landing points throughout the country. Many of the terminals are capable of handling containers. Interestingly enough, none of their terminals are operated under concession agreements with private terminal operators. Due to road restrictions in some areas, such as in the Mekong Delta provinces, containers and foreign trade cargo are often moved by inland water

transport during the transport process that occurs before the main sea transport leg. Trade with Phnom Penh, Cambodia is largely carried by this mode of transport using barges.

The major routes linking seaports with the hinterland include those of Haiphong - Hanoi, Nam Dinh - Viet Tri in the North; Saigon - Rach Gia, Ha Tien, Saigon - Can Tho - Ca Mau in the South. Some inland waterways ports also have rail connectivity with services, however, are used to a limited extent only. Some major inland clearance depot around Haiphong and Hongai has distribution facilities or a Free Trade Zone located within or next to inland waterways terminals. These facilities include customs bonded storage where cargo can be stored for re-export or local distribution. Similar to maritime transport, inland waterway transport's carrying capacity is quite high and its cost is relatively low in comparison with other transport modes.

Although inland waterway transport of goods has increased over the last few years, Vietnam's river system, especially in the Northern area, has not been exploited to its potential. The Mekong river system is comparatively well developed. One reason is that only about 40% of the river system in Vietnam is regularly dredged and consequently navigable all year round. Difference in water level and permissible draft between the rainy season and the dry season is also very high, especially in the South, which adversely impacts cargo carriage during the year.

3) Roads

In 2009, the road network in Vietnam had a total length of 256,684 km which can be classified as reflected in Table 5. Currently, statistics data presented in Table 5 are the most update, since even the homepage of the Directorate General for Road in Vietnam contains no information about the country's current road networks.

<Table 5> Road classification in Vietnam

Road classification	Total distance (km)
Provincial road	17,228 km
District road	23,520 km
Communal and special road	49,823 km
Urban road	151,187 km
Others	8,492 km
Total	256,684km

Source: JICA (2010)

Road traffic accounts for more than 70% in terms of domestic cargo transport volume. In general, road quality needs to be improved in order to ensure un-impeded vehicle movement. Traffic density in major urban areas has led to general bans on trucks operating within the city limits, while limited capacity of bridges and bad roads are affecting cargo transport, especially container haulage. As an example, container movement by road is prohibited in many Mekong Delta provinces due to bridge limitations and poor road conditions. Road access to big seaports such as Hai Phong port, Da Nang port and Saigon ports needs to be rapidly rehabilitated and some must be newly built to help local logistics services providers expand their activities to neighboring countries for transit and border trade with China, Cambodia and Lao PDR.

As far as equipment is concerned, there are both trucks and articulated vehicles (8-14 wheel combination of tractor and semi-trailers). However, a significant portion of the commercial trucking fleet (6 wheels and above) is rather old (10 years or older). Despite capacity limitations and infrastructure shortcomings, road transport is highly flexible and remains by far the first choice of domestic consignors in Vietnam.

4) Rail

The national railway network in Vietnam is 2,600 km in length with 259 train stations. The railway network covers 31 out of 64 cities and provinces and is the least dense in the South of the country, especially in the Mekong delta. Rail modal share in freight transport is around 7 to 8 per cent per annum. The rail system consists of various operating lines that are 1.435 metre wide standard-gauge (5%), 1.00 metre wide narrow-gauge line (85%) and mixed gauge (10%). The maximum weight per freight wagon on standard gauge lines is 60 tons and the average for 1.00 metre gauge line is between 25 to 40 tons. Table 6 describes the rail infrastructure in Vietnam.

Most of the existing lines are sub-international standard, 44% of the lines are technical sub-standard with at least 25% of the lines needing replacement sleepers. There are many structurally weak bridges that limit operating speed. The average speed of freight trains is 15 to 20 km/hour. There are 430 locomotives with an average age of 20 years (236 diesel-steam ones; 101 diesel-electric ones and 61 steam engines) and locomotive traction power is limited to around 2000 horse power.

<Table 6> Rail infrastructure in Vietnam

Gauge specification	Total distance (km)
1000 mm-gauge	2,632.249 km
1435 mm-gauge	222.206 km
Mixed gauge	292.183 km
Total	3,146.638 km

Source: Vietnam Railway Authority (2014)

The railway network is mainly used for passengers and for domestic cargo movements. Carrying capacity of Vietnamese trains is still limited, both with regard to single wagon capacity as well as to train length and traction power. Tracking system particularly designed for freight transportation is not available. A central train control system for monitoring train movements with train identification and automatic route setting or other types of advanced train control systems have not been used but 24-hour freight train terminal operations are available in certain locations. Frequent service interruptions due to weather conditions can be observed especially in the central region of the country.

Container transport by rail is minimal, as Vietnamese shippers prefer road transport given rail inefficiency combined with long and unpredictable transit times. The Vietnamese railway has only 500 flat beds wagons designed for the carriage of containers among a total of 5000. The numbers of stations with container loading and unloading equipment are few. Container carriage by rail transport mainly takes place on two routes: Haiphong - Yen Vien - Viet Tri - Lao Cai and the North - South railway. There is now a greater demand for the Haiphong - Yen Vien - Viet Tri - Lao Cai route and vice versa as this is a difficult route for road transport. Specific statistics of container carriage measured in TEU are still not available, but the total movement has been estimated to some 8.4 million tons in 2008.

Vietnam's railway system has been connected to China through the Lao Cai border gate since 1996, after a service disruption in 1975. Since 1996, cargo volume transported between the two countries has slowly increased and trade with South China will require further rail support. There is the prospect of running trains in transit on this route from Haiphong seaport to Kunming (China) and vice versa, a connection which would eventually become part of the Singapore to Kunming railway line (SKRL) project. However, in December 2010, the Chinese authority stopped the usage of

the metre gauge and focus solely on standard gauge for rail transport between Hekou and Kunming. This would severely impact the railway connectivity between Lao Cai (Vietnam) and Hekou (China).

5) Air

At present, regular flight services are operating at all 20 civil airports operated under the Civil Aviation Administration of Vietnam. There are six international airports – Noi Bai (HaNoi), Tan Son Nhat (Ho Chi Minh City), Da Nang (Da Nang City), Phu Bai (Hue City), Cam Ranh (Nha Trang City), Can Tho (Can Tho City) and Cat Bi (Haiphong City). Table 7 illustrates the air service infrastructure in Vietnam

<Table 7> Air service infrastructure in Vietnam

Airports	22 airports, 7 international ones
National Airlines	Vietnam Airlines, VASCO, Jetstar Airways, Vietjet Air, Seagull
Airplanes	Mainly for passengers, 20% owned, other 80% dry chartered from foreign owners

Source: Civil Aviation Administration of Vietnam (2014)

Airfreight logistics services are performed mainly at the two main airports of Noi Bai in Hanoi and Tan Son Nhat in Ho Chi Minh. Import/export cargo for Da Nang and Hue must be trans-shipped via Noi Bai or Tan Son Nhat. Activities at these smaller international airports are mainly arranged for passengers and only a small proportion is for cargo transportation. In 2012, the volume of total air freight through airports in Vietnam was approximately 649,000 tons, corresponding to a growth rate of 6.32% over 2011, in which Vietnamese airlines account for about 201,000 tons (Civil Aviation Authority of Vietnam, 2012). In the two main airports, there are cold storage facilities for perishables cargo and storage facilities for dangerous goods located on the airport property but the capacity is limited. There is also a separate area of the airport providing warehousing and office space for freight operations.

The Vietnamese air fleet is mostly composed of chartered planes and there are no dedicated freighters yet. In 2008, the Civil Aviation Authority of Vietnam granted Trai Thien Air Cargo, a private specialised air cargo transport provider, a license to provide air cargo services in the country.

The carrier, which was expected to begin operations in 2010, would become the first cargo airline in the country. Trai Thien Air Cargo will initially provide services using a 737-300F aircraft. Government officials admitted that demand for air cargo is relatively low but have encouraged development of the cargo sector there for some time. However, the Ministry of Transport decided to withdraw the business license of Trai Thien Air Cargo in 2011 due to its failure to ensure operations to launch any services within the 12 months of receiving its business license (Vietnam Breaking News, 2011).

Only 10% of the airfreight is carried in freighters rather than as belly cargo in passenger aircraft. The rights to international air freight services are open to all ASEAN countries but turning to the on-airport freight operations, air cargo agents or third party providers are not allowed to offer storage within the airport and to have direct access to the aircraft loading area. Only the Airport Corporations (Southern, Northern and Centre) are responsible for these activities. However, competing parties are allowed to offer baggage handling and other services to the aircraft.

6) Inland Clearance Depots (ICDs)

In the North of the country, there are currently eight ICDs that were established to serve 50 main industrial zones that are spread along major trunk roads connecting between Hanoi and Haiphong port. This transport route is sometime referred to as the Northern Gateway Corridor or the Hanoi - Haiphong industrial belt.

In the South of the country, there are nine ICDs established to serve around 70 Industrial Zones spread geographically over Ho Chi Minh City, Dong Nai, Binh Duong, and the Ba Ria – Vung Tau area. Most of the established in the South have been developed and located around Saigon port. However, as the container traffic concentration point will drastically shift from near the city centre to Cai Mep area in coming years and down south to Vung Tau in the future, the strategic location suitable for logistics operations or location of ICD should be studied carefully for its capacity expansion to meet with increased demand of services in new locations.

The majority of ICDs in Vietnam were established between 2003 to 2008 and two relatively large scale ICDs were just commissioned in 2010 in the North (ICD Hai Duong and ICD My Dinh). The ICDs that were

established after 2008 were designed to be on par with international standards. The ICD function in Vietnam has been constantly changing to meet with enhanced logistic services demand. Not a single ICD in Vietnam is connected with the rail network. Most ICDs in the South are connected with road and inland waterway networks while those in the North are only accessible by roads. The development of ICDs in Vietnam is seen as “self-derived” development and thus they have not really functioned well as important nodes in the integrated logistics network (Transportation, 2013a).

The definition of ICD in Vietnam was clarified and determined by the Commercial Law bill which was passed in September 2007 as Decree 140/2007/ND-CP and its Article 233. Decree 140 set forth restrictions on foreign logistic service provider that is consistent with Vietnam’s commitment to the World Trade Organisation (WTO). This spells out that the foreign logistic providers can only operate under joint venture in which the foreign investor’s participation is limited. For maritime transport services, foreign investors are permitted to establish joint venture for operation of fleet by 2009. However, all these restrictions would be removed in 2014 to comply with the Vietnam’s commitment to becoming a member of the WTO as well.

2. The Vietnamese institutional and regulatory framework

In terms of logistics, there is a general administrative fragmentation in Vietnam which is reflected in a regulatory environment that at times is unclear if not contradictory. This applies to provincial, national regulations and to some extent also to the process of implementation of regional and multilateral agreements. The following shows in an exemplary manner the types of inconsistencies and potential difficulties encountered by both users and suppliers of logistics services in the country.

There is no specific logistics legislation in Vietnam. However, as mentioned above, logistics services are referred to in the Vietnamese Trade law of 2005 and Decree 140/2007/NĐ-CP (5/9/2007). For each mode of transport, Vietnam has a distinct legal framework, comprising, for instance the Maritime Code 2005, Civil Aviation Law 2006, Decree 125/ND-CP 2003 on multimodal transport, Law on Inland Waterway 2004, Road and Traffic Law 2001 and Railway Law 2005 (Meyrick & Associates, 2006).

There are potentially conflicting overlaps between the Decree 140/2007/ND-CP and the Decree 125/2003/ND-CP that might create difficulties for logistics service users and providers as illustrated hereunder.

Decree 140 classifies logistic services into three categories and sets out the conditions for both domestic and foreign providers for each of these categories. The three categories of logistics services defined in the Decree are as follows:

- (i) Primary logistic services; these include loading and unloading of goods including loading goods into containers; warehousing and yard storage of cargo; freight transport agency services including completion of customs clearance procedures and preparation for loading and unloading goods; and other auxiliary services such as receiving, archiving and managing information about transportation and storage of goods throughout the full service logistical chain.
- (ii) Logistic services related to transportation including marine, inland waterway, air, rail, road and pipeline transport services.
- (iii) Other related logistic services, which include technical checks and analysis; postal services; wholesale and retail services such as management of warehousing, collection, gathering, classification, redistribution and delivery of goods; and other services auxiliary to transport .

Thus, Decree 140 considers each element of the logistics chain separately. Under these conditions, "logistic services" do not necessarily refer to a full-service logistics chain, but can refer to a single service, such as the warehousing or storage of goods. According to Decree 140, firms who wish to be engaged in logistic services must have lawful business registration in accordance with the law of Vietnam. The Ministry of Planning and Investment is responsible for the registration. On the other hand, Decree 125 establishes registration (license) requirements for Multimodal Transport Operators (MTOs) with the Ministry of Transport.

Certain contradictions also exist with regard to the liability of logistics service providers (LSPs). Specifically, based on the Decree 140, any business entity engaging in logistic services business relating to

transportation shall be stipulated by the relevant law on limitations on liability in the transportation sector. However, road transport has no specific liability regime. The limitation on liability of any business entity engaging in logistic services business not within the scope of previous statement shall be as agreed by the parties. If the parties do not have any agreement, then the issue shall be regulated as follows:

- In a case where a client does not provide prior notice of the value of the goods, the maximum liability shall be 500 (five hundred) million dong applicable to each claim for compensation.
- In the case where a client provided prior notice of the value of the goods and this was verified by the logistics service provider, then the limitation on liability shall be the entire value of such goods.
- In the case where a logistics service provider organises a number of work stages which stipulate different limitations on liability, the limitation on liability of a work stage shall be the highest limitation of any one work stage.

On the other hand, Decree 125 sets the liability limitation for MTO which is 666.67 Special Drawing Right (SDR) per package or two SDR/kg which is based on the Hague-Visby 1979 protocol maritime liability rules. Therefore, it is necessary to revise the contents of these regulations in detail in order to assure the unity of the legal and institutional framework for logistics activities in Vietnam in the future.

International agreements such as the ASEAN Framework Agreement on the Facilitation of Goods in Transit, ASEAN Framework Agreement on Multimodal Transport, the ASEAN Framework Agreement on the Facilitation of Inter-State Traffic and the GMS Cross Border Transport Agreement (CBTA), to which Vietnam is a party and which aim at reducing or eliminating trade obstacles, have impacted on logistics activities in Vietnam. Bilateral agreements as well as annexes and protocols to the CBTA, grant traffic rights to foreign vehicles and permit trucks and containers to cross the border to deliver/collect exports/imports without requiring transshipment at the border.

In ASEAN, Vietnam has taken the lead in terms of its commitments related to logistics service market access in comparison to other ASEAN

countries has illustrated by table 6 hereunder. It is probable that due to its WTO commitments, these ASEAN commitments under the priority integration sector roadmap for logistics integration were relatively easy to fulfil. The table hereunder provides more details of the current compliance status with regards to the ASEAN logistics sector integration roadmap.

Customs clearance procedures are based on specific facilitation instruments such as the Single Administrative Document (SAD), the World Customs Organisation (WCO) Harmonized System Code, and WTO Customs Valuation agreement. The automation and modernisation of the customs clearance process based on a domestically developed automation system has been partly implemented, aiming at simplifying and expediting clearance processes. For example, shipping lines can submit their Inward General Manifest (IGMs) electronically directly to the customs authorities. Customs clearance is based on risk management facilities, including the use of green channels for cargo clearance without inspection or yellow channels for document control only which reduces the time for customs clearance significantly.

Logistics and multimodal transport can benefit from customs bonded warehouses located inland from the borders and ports (including inland clearance depots and free trade zones) at which goods can be customs cleared based on national transit procedures. Customs is addressing shortcomings in clearance and related procedures through a Customs Action Plan that was subsequent to a WCO audit.

3. Logistics Service Providers

Vietnamese logistics service providers are active both in the areas of domestic and international logistics. They are the driving force of the industry and their capabilities determine the prospects of logistics to act as catalyst for national and international trade of Vietnam. There are, however, considerable differences in the domestic and international subsectors, particularly due to the presence of multinational service suppliers in the international logistics market.

All local logistics service providers (LSP) offer domestic container services for inland movement of goods. Service quality of the local trucking industry is still considered rather low and at times unpredictable. Tracking and tracing are still uncommon in road haulage. In other words, it

has not been considered as an essential success factor in enhancing Vietnamese LSP's performance. The monitoring of freight flows or the development of track and trace capability for cargo would be beneficial to Vietnamese traders and manufacturers but currently not many logistics service providers in Vietnam are able to offer such a service.

All of the local LSP can issue their own bills of lading (House Bill of Lading), but only a few are able to issue combined or multimodal bills of lading, reflecting limited commercial capabilities, insurance coverage, etc. of these companies. According to a survey conducted in April 2009 by the Foreign Trade University in Hanoi, local LSP believe that they can guarantee the issuance of documents without errors. There is also a common optimistic view about the level of logistics service quality and the ability to provide global/regional coverage. Most of the local LSPs claim to be able to guarantee their, albeit limited, level of service, which they plan to extend to give regional/global coverage in the future. This, however, is only a reflection of the domestic industry's perception, the realization of which will definitely be subject to qualitative improvements with regard to know-how, financial capabilities and international networking.

According to Vietnam Freight Forwarders Association (VIFFAS), there are approximately 1,200 freight forwarders in Vietnam but the current sources of manpower supply can only accommodate about 30% of the demand of employees with specialised logistics knowledge (Transportation, 2013b). Most of them are small-and-medium-sized private companies (SMEs) with very limited owners' equity. State owned companies often lack know-how, technology (IT) and effective business plans but have been found to be on par with private firms in the country (Nguyen and Crase, 2011). Thus, a number of state owned companies with up to 30-year-experience, huge capital, well-equipped facilities, large warehouses and abundant staff still do not have sufficient capability to provide value-added logistics and multimodal transport service. In general, Vietnamese logistics companies have only limited service and lack international competitiveness. Given this situation, it is difficult for Vietnam's LSP to provide competitive logistics service even within the domestic market, not to speak of in international or global markets.

<Table 8> Comparative compliance to ASEAN logistics sector roadmap

Sector	Brunei	Cambodia	Indonesia	Lao PDR	Malaysia	Myanmar	Philippines	Singapore	Thailand	Vietnam
Maritime cargo handling services	✓		✓		✓	✓	✓		✓	✓
Storage & warehousing services	✓	✓	✓	✓	✓	✓	✓		✓	✓
Freight Transport agency services	✓				✓	✓	✓	✓	✓	✓
Other auxiliary services										✓
Courier services		✓		✓		✓				✓
Packaging services	✓	✓	✓	✓	✓		✓	✓	✓	✓
Custom clearance services									✓	✓
Maritime International freight transportation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
International rail freight transport services	✓		✓				✓			✓
International road freight transport services		✓	✓		✓		✓	✓	✓	✓

Source: Author (2015)

Implementation of WTO market access commitments is putting further pressure on local companies to improve service qualities and to be more responsive to market requirements. One of the most crucial, if not the most crucial, problem that adversely impacts on the efficiency and competitiveness of Vietnamese service providers is the shortage of trained manpower at all levels of the management and operations, from different management levels down to warehouse workers. Based on a VIFFAS assessment, the logistics market supply side is generally not concentrated but rather characterized by a certain degree of segmentation:

- Freight forwarding concentration: the freight forwarding industry is not dominated by a handful of freight forwarders. Vietnam's LSPs mainly provide service for domestic logistics activities but none of them can dominate the market while some big foreign LSPs such as Damco, NYK logistics, etc., are engaged in international logistics activities. The market is quite open but very price conscious.
- Trucking industry concentration: the trucking industry is not dominated by a few trucking companies. Up to now, there is no trucking company which is large enough to dominate the market as most trucking companies on average have about only two to five trailers.
- Foreign logistics provider concentration: as stated above, only the international logistics activities are dominated by international companies. However, with the implementation of WTO liberalization commitments by Vietnam, further influx of foreign LSPs providing international logistics services can be expected.

As an illustrative example, Kerry Logistics, a Hong Kong based company opened in April 2010 its third facility in Vietnam, which was a logistics centre in Danang. Kerry Logistics has been operating in Vietnam as a wholly owned foreign company since 2006, and has a comprehensive network of distribution centres and integrated logistics facilities in the major commercial centres throughout the country. From a regional point of view, Danang will support Kerry's growth across Southeast Asia. This is because Kerry operates an ASEAN cross-border trucking service, Kerry Asia Road Transport (KART) that connects Thailand, Malaysia, Singapore, Vietnam, Laos and Cambodia with

door-to-door service. KART connects to a nationwide network within China at the company's hub in Kunming.

It is expected that many more foreign logistics services suppliers will expand their activities even more in Vietnam with improved access to the domestic logistics market (Lieb, 2007). Full market access would be realised by 2014 as part of Vietnam's WTO commitment. Access for foreign companies to the Vietnamese logistics markets has been eased over the years, particularly in response to liberalisation commitments entered into by Vietnam upon accessing to the WTO. Processes are set in place for further liberalization. With regard to opportunities for establishment/commercial presence, the situation is as follows.

In the case of cargo handling, in warehousing services and in freight transport agency services, foreign service providers are only permitted to establish a joint venture company in which the foreign investor's participation is limited (50% for loading and unloading services; 51% for warehousing, freight transport agency services; the limitation of 51% shall be eliminated in 2014 when the full accession to the market takes effect according to WTO commitment). As for other auxiliary services, the foreign business entity shall operate under a joint venture company in which the capital contribution ratio of the foreign investor does not exceed 49%; this restriction shall be 51% as from year 2010 and shall also be eliminated in 2014.

In the case of marine transport services, foreign investors are only permitted to establish joint ventures for operating fleets as of 2009, although the foreign investor's participation cannot exceed 49% (or 51% for international marine transport services), a restriction that has been removed in 2012. For inland waterway and rail transportation services, a foreign business entity shall only be permitted to establish a joint venture company in which the capital contribution of the foreign investor does not exceed 49%.

Road transport services can only be established as joint ventures in which the foreign investor's participation does not exceed 49%, with foreign participation increasing to 51% in 2010. Foreign participation in postal, wholesale and retail services is still subject to limitations set out in relevant regulations.

In summary, the quality of logistics services provided by Vietnam's local LSPs is still rather low, without real ability to compete with foreign

logistics service suppliers. At the moment, domestic operators tend to provide only specific elements of the chain, rather than being able to provide integrated services. Know-how transfer and capital injection will be required to remedy the situation, irrespective of whether these companies act as independent suppliers or as partners of international companies' activities in Vietnam.

As far as international logistics services are concerned, the presence of global operators facilitates traders' access to foreign markets. However, these operators face problems of a lack of adequately trained manpower that would be required to ensure efficient operations. Competitive pressures based on the presence of foreign companies will further increase once market access restrictions have been gradually taken back or relinquished (Andersson and Banomyong, 2010). Some areas, however, will continue to see access limitations, such as, for instance, inland waterway transport or domestic railway, etc. based on regulations established by Decree 140.

4. Logistics Service Users: Traders and Manufacturers in Vietnam

Vietnamese trading companies are generally not aware of the importance of managing logistics and the supply chain as well as the potential benefits associated therewith. As a result, logistics is often equated with transport and the outsourcing of non-transport services the exception rather than the rule (Razzaque, 1997). The situation will probably gradually change as outsourcing of end-to-end logistics activities is newly emerging. As the management of the supply chain becomes more complex, the trend for outsourcing is expected to develop in Vietnam in the near future.

According to a survey carried out recently in Vietnam (SCM Consulting and Research Services, 2008), traditional logistics activities including transportation, warehousing, customs clearance and forwarding are still the most outsourced activities. The most services in-sourced are reverse logistics, cross-docking, supply chain consulting, custom clearance and distribution. The trend of outsourcing by Vietnamese companies is still low as most local traders have no awareness of logistics service providers' capabilities. For those who do not outsource their logistics activities, 50% of respondents stated they would outsource, 38 stated would consider

outsourcing possibilities in the near future while 12% of respondents would not be willing to outsource logistics activities because they believed that it did not reduce costs. Furthermore, service quality of service provider was also an important concern causing reluctance to outsource their logistics activities. Nonetheless, respondents revealed that outsourcing logistics services contributed, on average, to a decrease of 13% in logistics costs.

The procedural environment for international trade is reflected in the data on the ease and cost of export and import as well as the number of documents required provided by the Doing Business Indicators of the World Bank. The database looks at both the cost and time taken for key export and import activities. Table 9 provides an illustration of the indicators available for Vietnam.

The performance of traders can be examined based on their cost and time competitiveness. As illustrated in Table 9, the time for both export and import procedures are nearly the same (21-22 days) and has not changed from between 2010 to 2013 but the export and import costs differ considerably. For example, in 2010, the cost for exporting a TEU (not including freight) was \$756 and \$940 for imports while in 2011 this cost was reduced to \$555 for export and \$645 for import. Meanwhile, the cost for export increased again in 2013 (\$610), mainly relating to documents preparation although its causes were unclear, but reduced to \$600 for import. The fluctuation in costs involving exporting and importing over the years indicates the inconsistency in the outcomes of business transaction improvements and implies more effective effort from the Government. In terms of an international/regional comparison, Vietnam compares rather relatively unfavourably with East Asia and the Pacific. Consequently, any attempt to address shortcomings in competitiveness will have to tackle these elements and create a more facilitative environment for Vietnamese traders and logistics suppliers.

<Table 9> Trading across border – cost & time

Nature of Export Procedures	2010 Time (days)	2011 Time (days)	2013 Time (days)	2010 Cost (\$)	2011 Cost (\$)	2013 Cost (\$)
Documents preparation	12	12	12	107	125	160
Customs clearance and technical control	4	4	4	100	100	100
Ports and terminal handling	3	3	3	369	150	150
Inland transportation and handling	3	3	2	180	180	200
Total	22	22	21	756	555	610
Nature of Import Procedures	2010 Time (days)	2011 Time (days)	2013 Time (days)	2010 Cost (\$)	2011 Cost (\$)	2013 Cost (\$)
Documents preparation	12	12	12	70	95	130
Customs clearance and technical control	4	4	4	89	95	95
Ports and terminal handling	4	4	4	431	175	175
Inland transportation and handling	1	1	1	350	280	200
Total	21	21	21	940	645	600

Source: International Finance Corporation (IFC) and the World Bank (2014)

V. Conclusion

This paper presented a detailed analysis of Vietnam’s national logistics system based on the four key dimensions of infrastructure, service providers, shippers/consignees, and institutional framework. It is based on a comprehensive review of related literature, secondary data in reports from international and national agencies as well as carefully conducted semi-structured interviews with key players representing dimensions of Vietnam’s national logistics system. It was found that Vietnam’s logistics system capability is subject to constraints in all of the key logistics dimensions. Specifically, the infrastructure is still lacking, especially facilities that could facilitate domestic and international freight storage and movement specifically in the rail freight sector. The institutional framework is segmented with state agencies understanding logistics based on their respective perspective. A holistic understanding and approach to logistics policy is therefore needed to integrate all logistics approaches. Local logistics service providers still suffers some limited capability and would require higher level of technical know-how in order to better

compete in an increasing liberalised logistics market. Meanwhile, local users of logistics services still needs to understand the benefit of outsourcing and the competitive position offered when in partnership with a LSP. It may seem that things have not improved much in Vietnam since 2000 when Goh and Ang (2000) described the limitations of logistics infrastructure of Vietnam and the region. Specifically, these authors pointed out that even though Vietnam had the most extensive road system and probably the best logistics infrastructure in Indochina, the country still suffer from limited logistics capability. This observation is still a reality, as evidenced from this research, because of the rapid growth of the Vietnamese economy that outpaced the capability of the country to develop the required logistics infrastructure and environment. It can be said that the overall situation has improved but the logistics infrastructure and environment has found it difficult to develop fast enough in order to meet the ever increasing demand for enhanced logistics services. The pace of demand has continuously outgrown logistics supply capability.

This research has several academic and managerial implications. In terms of academic contribution, this research empirically validates the analysis framework of national logistics system developed by Banomyong (2008) in the case of Vietnam, an important country in South East Asia in which little research on logistics has been done. The application of this framework therefore has a spillover effect as it will stimulate further research to be carried out on the topic of analyzing national logistics systems as well as comparative analysis of logistics systems across countries.

The managerial implications of this research are of multi-folds. First, foreign investors, especially those through international funding agencies, will have a clearer picture of Vietnam's national logistics systems in all key dimensions and this would highlight areas of priority for their investments. For instance, a particular area of interest is the development of rail freight infrastructure projects that would help alleviate the workload of the national road system. For international LSPs, findings from this research will also facilitate their understanding of advantages and disadvantages of doing business in Vietnam and can thus focus their resources on areas in need of improvements. For example, the source of supply of qualified and well trained local logistics professionals in Vietnam is still limited which can hinder the effective operations and

growth of those LSPs; hence, they may consider establishing joint venture with local education and training providers to develop the workforce.

For policy makers, the current status as analysed and highlighted in this research can lead to actions needed to enable a future state that could reflect an improved overall Vietnamese logistics system. For instance, to overcome the flaws in the current institutional framework, the Government may consider establishing a national research institute which acts as a government's think-tank and works closely with relevant government agencies and national logistics and shippers associations so as to devise a roadmap for national logistics development – the future state. This future state will also need to be aligned with global and regional logistics related development. Specifically, reference will need to be made to ASEAN and GMS logistics development policies and directions as both impacts directly on Vietnam's logistics future development. There are obviously many improvements to be done in Vietnam in preparation for the country as part of the ASEAN Common Economic Community. Therefore, future research on developing measures to enhance the national logistics system in Vietnam is recommended.*

* Date of Contribution ; December 19, 2014
Date of Acceptance ; March 1, 2015

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