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2005

Thai, V. V. & Grewal, D. (2005). An analysis of the efficiency and competitiveness of Vietnamese port system. *Asia Pacific Journal of Marketing and Logistics*, 17(1), 3-31.

<https://hdl.handle.net/10356/95019>

<https://doi.org/10.1108/13555850510672269>

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# AN ANALYSIS OF THE EFFICIENCY AND COMPETITIVENESS OF VIETNAMESE PORT SYSTEM

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## **Abstract**

Ports, as one of the important links between different modes of transport within the logistics chain, have special essence since their efficiency and competitiveness will certainly have an impact on the chain, and hence the national and regional economy. Vietnam, as a developing country gradually integrating into the regional and global economy, is rationalizing its economic sectors, including transportation. In this environment, ports play a vital role for the purpose of achieving comparative advantages in the international market. However, the Vietnamese port system is burdened with outdated work practices, low efficiency and poor competitiveness compared to other ports in the region. This paper identifies some of the problems in the Vietnamese port system and proposes strategies to address them.

**Key words:** *Vietnam, port, efficiency, competitiveness, analysis*

## **INTRODUCTION**

The paper is organised in four main sections. The first part sets the general background and overview on port geography in Vietnam. The second section addresses the issues of efficiency

and competitiveness of the Vietnamese port system. The third part proposes some development strategies based on previous discussions, followed by the last section that sums up the paper.

## **General background**

Vietnam is located in the Indochina peninsula in South East Asia and shares the borders with China in the North, Laos and Cambodia in the West and has her East coast facing the South China Sea. The country is situated within the tropical zone and has a tropical monsoon climate. As Vietnam is a narrow and long country stretching from the south of China down to the Gulf of Thailand, the seasons also vary from the north to the south of the country. In the north, there are visibly four seasons; however, the southern part of the country experiences only two seasons all year round, namely the tropical dry and the tropical wet. As far as tidal regimes are concerned, ports in the north see mainly the diurnal tidal regime while in the central region there is a combination of semi-diurnal, irregular semi-diurnal and irregular diurnal regimes. In the south, the tidal regimes in existence are semi-diurnal and irregular semi-diurnal.

The port system in Vietnam dates back to 1860 when the country was under French rule. At that time, the French army first constructed Hai Phong port in the north and Saigon port in the south as their naval bases so as to launch military campaigns. As a matter of fact, most of main commercial ports of Vietnam today, like Hai Phong and Saigon, are situated upstream and almost within the cities' centre. Nevertheless, the country possesses several seaports with wonderful natural conditions such as Cam Ranh port in the centre of the country where vessels can enjoy a deep water draft and sheltered conditions. This port, however, has long been used as a naval base. It will be converted to commercial operations in the near future.

Ports in Vietnam do not have such an advantage of geographical location that other ports like Singapore experience. However, they are located in a quite close proximity to major maritime

routes, such as the Trans-Pacific and North-South Asia trade lanes. If the project of Kra canal of Thailand, which cuts across the Kra Isthmus in southern Thailand and enables shipping to bypass the Strait of Malacca and head directly into the South China Sea and vice versa, is feasible, ports of Vietnam, especially those in the south may well find themselves in advantageous locations (Kra Canal Project, 2003). If this happens, the issue of efficiency and effectiveness of Vietnamese ports is even more critical.

### **Brief overview on port geography in Vietnam**

Vietnam has more than 3,000 kilometres of coastline stretching from north to south of the country. The Vietnamese port system consists of both ports along the coastline and the ones located on rivers. According to Vietnam Maritime Bureau (VINAMARINE, 2003), there are currently more than 90 ports which can receive vessels on international voyages and several dozen of other ports for internal trade. The Vietnam Port Association (VPA), which now has 40 members all of whom are capable of serving vessels on international voyages, has the annual cargo throughput of more than 80% of the country's total.

The Vietnamese port system can be divided into three main regions - the north, the centre and the south, serving broad areas of hinterland. In the north, Hai Phong port is the main port and plays an important role as the gateway to the northern part of the country. The hinterland of ports in this region is the Red River Delta of Vietnam and, to some extent, the Yunnan province of China as it is considered the shortest and most economical way by using barges to transit cargo from ports like Hai Phong of Vietnam to this province (Vietnam News Agency, 2003). In the centre, Da Nang and Qui Nhon ports are the major ports serving the import and export demand of the region. Ports in this region not only serve the Centre Delta, but also the highland of Vietnam and Laos. Being a land-locked country, the import-export activities of Laos are conducted through a number of port gateways, either in Thailand or Vietnam. The ports of Vung

Ang and Da Nang in the centre of Vietnam are currently serving this hinterland with relatively large volumes of transit cargo every year. In the South, ports in Ho Chi Minh City area are the main gateways of the whole region and account for nearly 60% of total cargo handling volume of all kinds and about 75% of total container handling throughput through the whole port system of the country (VPA, 2004). The main ports in Ho Chi Minh City are New Port, Saigon Port, Ben Nghe Port and Vietnam International Container Terminals (VICT). They play the major role of gateways for the Mekong Delta region and transit cargo to and from Cambodia. Figure 1 and 2 show the cargo handling volume through VPA's ports over selected periods.

**(INSERT FIGURE 1 HERE)**

Vietnam is a developing country and relies heavily on seaborne trade. That is why maritime transport plays a key role in Vietnam's economy, and the Maritime Dependence Factor, meaning the share of country's international seaborne cargo in value in its GDP, is always greater than 60% (UNESCAP, 2002a).

**(INSERT FIGURE 2 HERE)**

## **ANALYSIS OF THE VIETNAMESE PORT SYSTEM**

In this part of the study the efficiency and competitiveness of the Vietnamese port system will be analysed and discussed. The main issues involving port institutional and administrative regimes, as well as port operation and management will be covered to reveal the contemporary problems as far as efficiency and competitiveness are concerned. Where necessary, comparison will be conducted between the Vietnamese ports and some others in the ASEAN and ESCAP region to further illustrate the analysis and discussion.

### **Institutional and administrative issues**

From a holistic point of view, the institutional and administrative issues of a port system are very important to provide initial information about its efficiency and competitiveness. In this

section, different categories of port management body as well as the role of port authorities in Vietnam will be analysed and discussed.

### **Port management body in Vietnam**

The port management system in Vietnam is very diversified. Examples include:

- VINAMARINE, which is under direct control and management of the Ministry of Transport, manages three ports - Nghe Tinh Port, Qui Nhon Port and Nha Trang Port.
- VINALINES (Vietnam National Shipping Lines), which is also under direct control and management of the Ministry of Transport, is the state-owned company responsible for shipping activities in Vietnam. It manages: Hai Phong Port and Quang Ninh Port in the north, Da Nang Port in the central, Sai Gon Port and Can Tho Port in the south.
- Local governments, such as cities and provinces, also take part in port management. For instance, Ben Nghe Port is directly under supervision and management of Department of Transport and Public Works of Ho Chi Minh City.
- State-owned corporations under other central government ministries are also another type of management body in Vietnam. Ports which belong to this category are listed below:

#### **(INSERT TABLE 1 HERE)**

- Some state-owned corporations, which are under control of provinces and cities, also manage ports. This is the case of Hon Khoi Port managed by a salt company under control of People's Committee of Khanh Hoa province.
- The participation of private sector in port management in Vietnam is still very limited. Nationally, there are only two ports that have the private sector's participation so far: Ba Ria Serece in Phu My (Vung Tau province) as the joint-venture between Norway, French and Vietnamese partners; VICT as the joint-venture between NOL of Singapore, Mitsui & Co. of Japan and Southern Waterborne Transport Company of Vietnam. These ports are under direct

control and management of both Ministry of Transport and Ministry of Planning and Investment.

**(INSERT TABLE 2 HERE)**

The practice of diversified port management system in Vietnam has resulted in some basic problems. These include:

- Due to the fact that port administration in Vietnam falls under the control of different government ministries and/or local agencies, the focus on port investment is dispersed unequally between ports. This leads to the situation where a port that is considered very important to enhance economic growth of a region or nation is in lack of investment. On the other hand, a port can have a lot of investment which is not justified by the demand for its services. Ports which belongs to different ministries can have their own development plans on the basis of specific requirements of respective ministry. Hence, a misguided strategic investment can occur. Take New Port, which belongs to Ministry of Defence as an example. In terms of geographical location, this port is situated totally within the inner of Ho Chi Minh City. Being the first port in Ho Chi Minh City area to receive container vessels, the port has so far been the leader in terms of market share of container port traffic. However, due to its location the port also faces serious congestion with the increasing urbanisation of Ho Chi Minh City. Since the port belongs to the Ministry of Defence and its economic contribution to the Ministry is important, it is not easy for the Ministry of Transport, as the supposed-to-be state agency responsible for all transport issues of the country, and Ho Chi Minh City to conduct a smooth city re-designing and planning by, for instance, relocating such a port downstream to the city's outskirts. In this case, a clear separation of management scopes between the two ministries as far as the port's military and commercial duties are concerned would be beneficial for the port's strategic direction.

The special presence of the Ministry of Defence in port operation and management in Vietnam, such as the case of New Port, is also worth considering. One can reason for this as the economic duty of the army to supplement for the lack of national defence budget, yet it also raises the question of how fair is the competition on purely commercial basis between ports, as companies with military background and support receive privileges. China has recently banned the army participating in commercial business activities. Vietnam may consider corporatising all military-based firms. In the scenario of economic integration today, military-based firms should compete equally with commercial ones.

- While it is natural that a certain sector establishes an administration system for its own benefits and convenience under specific political and social systems of the country, international requirements are also essential factors for the port sector administration. No matter who the owners of ports are, shippers, consignees, shipping lines, forwarders, trucking companies etc, are attracted to a port which is well-run and managed by a simple and transparent administration system so that they can easily and effectively coordinate their business activities.
- The participation of VINAMARINE as the direct supervisor and manager of three aforesaid ports can be described as another typical example of a popular phenomenon in Vietnam in that one can act both as a referee and player in the same field. It is worth pointing out that VINAMARINE is not only a state administration agency of the government but also oversees the commercial activities of the industry. To some extent, this indicates clearly the overlap in arrangement and delegation of government's functions and responsibilities in maritime sector.

### **The role of Port Authority**

The definition of term 'port authority' and its functions in Vietnam is very different from other countries in the world. In 1977, a port authority was defined as 'State, Municipal, public or



private body, which is largely responsible for the tasks of construction, administration and sometimes the operation of port facilities and, in certain circumstances, for security' (World Bank Port Reform Toolkit, 2001). This definition is sufficiently broad to accommodate the various port management models existing in the world. It also indicates that the port authority plays an important strategic role with wide responsibilities. In most cases, the port authority is the landowner and it can work out general guidelines for strategic development of owned ports and terminals.

In Vietnam, the port authority simply executes procedural documentation for ships entering and exiting Vietnamese waters and to ensure safety and environmental protection in the supervised areas. They are neither landowners on behalf of the government, nor infrastructure developers for commercial operation of ports and terminals. In general, port authorities in Vietnam are not involved in development planning, or in daily operational and commercial management activities of ports and terminals.

In the past, when all ports belonged directly to VINAMARINE, the port authority participated directly in berth allocation. Since VINAMARINE transferred major ports to VINALINES and separated port authorities from commercial activities of ports, there have sometimes been some overlapping functions between them. This has the potential to develop management bottlenecks for the port operations as a whole. A typical example for this is Qui Nhon Port. An interview with some operation supervisors, as well as the manager of P&O Nedlloyd Line has showed that besides the weather, the reasons for ships' waiting time at this port include the slow process of berth allocation due to poor coordination between the port and port authority.

A study of the current model of port authority and its functions in Vietnam reveal some weaknesses. The most important and visible weakness, in addition to the diversified port

management practice, is the lack of government's general long-term planning and strategic vision.

### **Port management models**

Various port management models and their respective functions are identified by World Bank (2001) as in Tables 3 and 4:

**(INSERT TABLES 3 & 4 HERE)**

With the exception of VICT and Phu My Port which have the same management model as private service ports, all the other Vietnamese ports are public service ones. However, the port authorities, as mentioned earlier, do not own the land on behalf of the government and the port administration is shared by various government bodies. VICT and Phu My port themselves do not have the right of land ownership, but have to pay the land rental to the government.

### **Port operation and management**

In parallel with institutional and administrative issues identified above, various operational and management problems at selected key ports can also be identified.

### **Pricing policy**

The practice of maritime dues and fees at ports in Vietnam is also as diversified as the port administration and management system. Current framework of fees and dues are regulated by different government agencies as follows:

- The Ministry of Finance regulates rates for tonnage fee, aids-to-navigation (ATN) fee, wharfage and documentary fee.
- The Government's Pricing Committee regulates rates for pilotage, tug service, mooring and unmooring, wharfage (elaborated from rates regulated by Ministry of Finance), opening and

closing hatches, cleaning of hatches, rubbish collection, water supply, tallying, cargo handling charge, cargo storage charge and equipment hire/leasing.

Of these, it is suggested that tonnage fee, ATN fee and documentary fee should be collected by the port authority and later transferred to the Ministry of Finance, while other fees and charges should be paid directly to port operators. Wharfage is a special item, since it is regulated by both aforesaid agencies and in practice is collected by respective port operators.

Such a system is not “user-friendly”. For comparison, the case of Thailand is taken. In the key ports of Thailand, namely Bangkok and Laem Chabang, fee and charges are all regulated by Port Authority of Thailand (PAT), from tug service to container handling charge. It is clear that with the increased competition among ports today, ports should move in the direction of more harmonised policies based on economic principles in order to be competitive (Heaver, 1995).

The differential pricing policy, meaning the differential service tariff for local and foreign investment enterprises, has existed for a long time in Vietnam’s tourism, and the government has tried to eliminate this to improve the image of Vietnam. This policy is still effective in the maritime transport industry in Vietnam. In the pricing regulation of Ministry of Finance and Government’s Pricing Committee, there is a differential between port fees and charges for domestic and foreign ships. It is worth noticing that although many countries still maintain cabotage so that only domestic ships are allowed to carry cargo between national ports, Vietnamese ports implement discriminatory port’s fees and charges between domestic and foreign ships. Table 5, based on the reports of some countries in the UNESCAP’s regional seminar on liberalisation of maritime transport services under WTO GATS, illustrates this.

**(INSERT TABLE 5 HERE)**

Such discrimination is not only for foreign ship operators, as mentioned above, but also for shippers/consignees using facilities and services in Vietnamese ports. This discrimination is illustrated in the service tariff for shippers/consignees of local and foreign investment companies. The following comparison regarding service tariff was made at Hai Phong Port, Chua Ve Container Terminal. The findings are as follows:

**(INSERT TABLE 6 HERE)**

This clearly shows that such a practice is not harmonised with the tendency of economic integration and globalisation today, especially when Vietnam joins AFTA and WTO. According to these figures, foreign companies stuffing/unstuffing cargo at Chua Ve Container Terminal can expect to pay at least 28% more than local enterprises.

### **Tariff analysis**

The following tables indicate a comparative analysis between two cases of 3,000 TEU class ship and 1,100 TEU class ship visiting ports in the ESCAP region. Port tariff is compared in terms of both nominal exchange rate and purchasing power parity.

**(INSERT TABLE 7 & 8 HERE)**

It is seen from tables 7 and 8 that the tariff at Vietnamese port in terms of nominal exchange rate is not that much more expensive than at other ports in ASEAN and the ESCAP region. In terms of purchasing power parity, however, port tariff in Vietnam is ranked as one of the most expensive in the ESCAP region. This implies that the tariff at Vietnamese ports is not attractive and competitive on a comparative basis.

### **Productivity**

In order to further examine the efficiency of current Vietnamese ports, it is necessary that some key performance indicators are analysed. The following records indicate current handling productivity in normal working conditions:

**(INSERT TABLE 9 HERE)**

It can be clearly seen from the above that handling productivity at key Vietnamese ports, with the exception of VICT, is still relatively low compared with other ASEAN ports in the region which can reach about 25 boxes per unit crane per net working hour. This can be partly explained by the absence of specialized handling equipment like ship-to-shore gantry cranes at some ports, skills of crane drivers, as well as internal management problems. Handling productivity at the quay is very important since it directly relates to the vessel's turnaround time in ports, meaning the economic justification for ship operators. However, ports also have a responsibility to ensure efficiency in their landside operations to sustain any benefits of efficiency in quayside operations.

In practice, the efficiency of port operation cannot be judged only by handling productivity. Utilization of terminal facilities can also be a good indicator. For this study, a comparison is made between key Vietnamese ports together with selected ASEAN ones. Table 10 shows the findings of such a comparison with the base data in 2001.

**(INSERT TABLE 10 HERE)**

**(INSERT FIGURES 3 & 4 HERE)**

The above indicators can be put into a standard format as follows:

**(INSERT TABLE 11 HERE)**

As can be seen from table 10 and figures 3 and 4, terminal facilities at Vietnamese ports are not as productively utilised when compared with other selected ASEAN ports. VICT is the exception, since its throughput per berth-meter is very close to other foreign ports, and its quay-crane utilization level is as high as Laem Chabang and Jakarta and even higher than Manila and Port Klang. VICT is the first dedicated container terminal in Vietnam with foreign-capital involved, and commercially operated on the service quality basis.

## **Administrative procedures**

Vietnamese ports are known for their cumbersome administrative procedures for ships using their services. Before the Prime Minister's Decree No. 55/2002/QĐ-TTg dated 23/04/2002 on reform of administrative procedures at seaports came into effect on 01/07/2002 with experimental application at Sai Gon Port, the ship's agent needed to gather more than 30 types of documents for a ship to visit Vietnamese ports. Moreover, it was also time-consuming since he had to arrange himself to pick up all related agencies such as port authority, customs, immigration, medical officer etc for the same ship and take them onboard. In practice, it took about half day to gather all necessary related agencies, and about the same amount of time to bring them onboard and finish the job. This lengthened the ships' waiting time.

The reform of administrative procedures at seaports stipulated that the port authority is the agency to coordinate with all other related agencies, and the ship's agent only needs to submit necessary documents to the port authority. As a result of these reforms, in Ho Chi Minh City area, the number of vessel calls has increased by 30% after one year of implementation. However, such a reform has to be extended to all other ports.

## **Equipment and facilities**

Facilities and equipment make up the "hard ware" of any ports and terminals. Although they cannot provide an actual judgment as productivity and utilization indicators they are still important factors to evaluate the suitability and capacity of ports and terminals in response to customers' requirements. The following table provides a summary of facilities and equipment at selected key ports.

**(INSERT TABLE 12 HERE)**

Vietnam is still at the preliminary stage of containerisation compared with other ASEAN ports in the region, and the average share of containerised cargo at ports is still modest (about 30%).

The ratio of containerised cargo through Vietnamese ports in 1995 was merely 18.7%, yet it has increased to 25.8% in 2000 and 28.2% in 2001 (ASEAN, 2002). If we compare this tendency with current investment in specialized handling equipment for container operation at ports, there appears non-equivalence between growing demand and current capacity. As can be seen from table 9, there are only eight ship-to-shore gantry cranes and 21 RTGs for yard handling at the moment in Vietnam, nationwide. Equipment for handling break-bulk and general cargo is out-of-date and delivers low productivity; some of them, such as KIROV cranes at Hai Phong Port, have been in operation for decades.

Most of the Vietnamese ports were built to serve break-bulk and general cargo. Today, with the exception of VICT and Chua ve Container Terminal of Hai Phong Port, no other port has the standard layout and design for a modern and efficient container handling system. At New Port, for instance, traditional warehouses are still located at quay-side and hamper the quay transfer operation. This obviously affects the handling productivity of the whole operation chain from ship handling to yard handling. These are just examples of the need for a greater development with regards to facilities and equipment at Vietnamese ports for future efficient operations and management.

### **Software: IT and EDI application**

Today, IT and EDI in shipping and port operation and management are vital and make up the “soft-ware” or the “Information structure” of any port or terminal. The advantages of such software are to eliminate human error, save time, simplify procedural documents and to enhance overall efficiency by the accurate relay of information and data. Moreover, IT and EDI also bring about the tangible advantage of laying the foundation for e-commerce and business in ports and terminals. The application of IT and EDI in ports and terminals can be broadly identified at two levels:

- Internal management system: this means all related departments and sections within a port are linked with each other. Information and data from all users and clients of the port enters a gate and is relayed to relevant areas for further processing/planning. The system allows all operational activities to be planned from one source of information.
- Links with users and clients, such as customs, shipping lines, forwarders, shippers, consignees, and external logistics providers. In this sense, multiple entry and errors are, as much as possible, eliminated since all documents are transmitted electronically, and each user is able to access information as needed. This includes pre-arrival information like cargo manifests, crew lists, etc to be submitted to the port and customs.

The pattern of information transaction between the port and its users/clients with the ‘Information structure’ can be illustrated as follows:

**(INSERT FIGURE 5 HERE)**

The current practice information structure at selected key Vietnamese ports is found as follows:

**(INSERT TABLE 13)**

At Chua Ve Container Terminal, for example, it is found that the terminal has, in fact, installed the internal management system in that containers are computer-managed at the yard with specific location, and Equipment Interchange Receipt can also be printed out for management purposes. However, the main contacts between the ship’s agent and the terminal (for instance, submission of cargo manifests) are still traditional, i.e. by hard copy, and hence the terminal’s staff have to input manually into their system. In other words, EDI is still not in place at the most modern container terminal in the North.

In Qui Nhon Port, yard management is not supported by IT, and the stacking of containers in the container yards follows shipping lines sections. For the time being, due to small volume of



containers at Qui Nhon Port (25,532 TEUs in 2003) this method is working. As soon as the throughput of container increases at this port, there will be a management problem in achieving efficient yard processes, and the need for IT application will become more prominent.

Sai Gon Port (Khanh Hoi Stevedoring Company) and New Port are actually using IT and simple EDI, in which not all stages of the handling chain are linked with each other. At Khanh Hoi terminal, for example, data on containers discharged from vessel still need re-keying into a yard management software which is separated from the ship handling one. VICT is, again, an exception since the Terminal Management System (TMS) in place at this terminal is a specialised port operation and management system in which all activities are computer-linked. Shipping lines can also transmit their data electronically into VICT's system, which, in turn, can report data from the terminal to shipping lines.

### **Hinterland connection**

The port's hinterland is defined as the area behind the port in which total logistics cost for the shipment coming to/from it is the minimum compared with other rival ports. This area is also shaped by customer bases which are attracted by the efficiency of the ports' services. The means of connection of a port to its hinterland include road (highway), railway and Inland Waterway (IW). Since a port can be connected with its hinterland by road, rail or inland waterway, the total logistics cost of the shipment is influenced by the following factors:

- The road condition and any hindrances (toll stations, traffic congestion status) that will affect the shipment's transit time and costs
- Whether the highway, railway and IW to the port are linked with the regional or national traffic networks
- The competition levels between modes of transport

- Regulatory requirements on the modes of transport (environmental, operational, societal, etc)

The following table indicates the connections to their hinterland of some selected key Vietnamese ports:

**(INSERT TABLE 14 HERE)**

Hai Phong Port and Da Nang Port are the only two ports in Vietnam with full connection to their hinterland by road, rail and IW. Hai Phong Port has good connections with Highway No. 5 and the railway linking Hai Phong and Ha Noi. In Qui Nhon Port, road is the only transport mode to connect with its hinterland. No port in Ho Chi Minh City area has the rail connection, but all of them are linked with the national waterway network of the Mekong Delta and to Cambodia. Ports in Ho Chi Minh City area suffer heavily from badly maintained roads, and the only cheap and environmentally-friendly mode of transport to reach Dong Nai and Binh Duong provinces is by barge, yet it is time-consuming and not as flexible as road transport. In these conditions, IW should be promoted as the main transport mode to connect the ports' hinterlands in Ho Chi Minh City area. Railway links also need to be developed.

### **Coordination of activities**

One of the main indicators used to evaluate the flexibility and reliability of a port is the coordination of related activities, such as tug operations, pilotage, cargo operations, banking, logistics and emergency services. The business process flows of these activities must be linked with a normal day's operations. From this, respective activity with non-coordinated time can be identified, and this can partly reflect the flexibility and reliability of a port.

Ports in Ho Chi Minh City area contribute about 75% of the national container throughput annually, and they are competing fiercely to gain more market share. This high level of

competition has led these ports to develop similar business and work procedures, relative to the time taken for each procedure. They are grouped as one in the following comparison table.

**(INSERT TABLE 15 HERE)**

As can be seen from Table 15, the average non-coordinated time per activity in Hai Phong and HCMC ports is six hours which accounts for 25% of the total available time in ports, while this percentage in Qui Nhon port is 30%. These imply that in these ports, key service activities are available to ports' clients only on the basis of 75% and 70% of total time. It also means that customers, who happen to use the port services in the non-coordinated time period, have longer dwell-time for their cargo.

### **Human resource development**

Human resource is a crucial asset of any company. This is, ironically, also the issue on which efficiency and competitiveness of port operation and management depend. Overstaffing is one of the elements of this issue.

With the exception of Phu My Port and VICT, which are in the private sector, all other Vietnamese ports are state-owned enterprises (SOE). Being SOEs, their main goals were traditionally to perform the 'political duties' for the country. Ports are traditionally seen as large employers. Regardless of their economic objectives, ports in Vietnam have been operating for a long time under this situation. This is understandable since, in the past, the economic mechanism was centrally planned and controlled by the government and state-owned port enterprises did not function properly as economic entities in which they can decide strategies on their own.

The Doi Moi (Reform) policy, which came into effect in 1986, set the new backdrop for the national economy towards the market-oriented economic mechanism. As a consequence, SOEs including ports were called to make advances in efficiency and competitiveness as businesses,

setting aside this traditional duty as employers. However, the speed of such a process is still very slow, and the use of manpower at ports is still inefficient. The following table illustrates this.

**(INSERT TABLE 16 HERE)**

It is clear that ports in Vietnam with private sector participation are more productive than state-owned ones as far as labour utilisation is concerned. Traditionally, dock labour has been ‘family related’, meaning that a father working in the port can be given the privilege to have his son recruited to work for the same organisation after his retirement. This practice is especially popular at Hai Phong Port and Sai Gon Port. Such a practice, together with other bureaucratic processes, burdensome organisational structure and poor motivation incentives for staff, hampers the port’s operational development, since they will not be free to search for new talent with justified qualifications to work effectively.

## **SOME SUGGESTED STRATEGIES**

The following strategies are suggested for enhancing management effectiveness and operational efficiencies in the port system in Vietnam:

### **Port institutional reform and administration improvement**

- Ports are clearly classified according to their functions. The classification should take into account specific criteria, for instance, functions, types of cargo handled and the size of their service area. In this sense, ports can be initially grouped as gateway ports of the country (for example, Hai Phong for the North, Da Nang for the Central and Sai Gon for the South). Other ports of the country can then be classified further as regional ports, i.e. Qui Nhon for the Southern Central and Highland region.

This identifies the importance of each port category to the country. Through that, investment priorities can be established and budget allocation can be performed effectively and efficiently.

- Unified forms of port administration are established. Since port infrastructures are public assets, the role of government in port administration should remain primary. This important role, however, should not be shared among different ministries or local administrative units as at present, but rather be unified under one government administration. All roles and functions concerning central government should be performed by one administration, such as one ministry.
- Suitable models of port management should be identified and applied. Since Vietnam is a developing country with high dependence on maritime transport, ports are important to the national economy. The structure of the economy relies very much on the contribution from transport, especially sea transport in that the efficiency and effectiveness of ports play a major role. It is recommended that the government take over the port management functions to ensure a unified and harmonised general and long-term development planning, whereas port operation can be shared among public and private sectors. For this, the models of landlord port and tool port may be appropriate but case by case study should also be further conducted for the suitable model of port according to specific functions and role of each port concerned.

### **Improvement of port operation and management**

- Handling productivity and utilization of facilities should be further improved to, at least, the same as regional standards. In this respect, Key Performance Indicators should be established for all ports. Such a system will help to control and evaluate performance from both quantifiable and non-quantifiable perspectives.
- All ports should further improve their function-time reliability for all port-related activities, for operating on a round-the-clock basis.

- Port and terminal's tariff should be further restructured and re-institutionalised for the unification and creation of more incentives to attract more vessels besides the objective of competitiveness. The tariffs should be consolidated and simplified.
- The experimental application of reform on administrative procedures at Vietnamese ports should be wholly applied to the remaining ports of the country to simplify documentary procedures for vessels entering and exiting Vietnamese ports and waters.
- IT and EDI should be intensively applied in port operation and management, especially the Port Information Centre to facilitate advantageous transactions between the port and port's users and clients. The port itself should lead in gathering all parties concerned to establish such a system based on their specific requirements and allocation of authorisation. In this respect, capacity-building to support such systems should be studied and developed first within the country, otherwise the costs will exceed benefits.
- Maritime supporting services should be examined and promoted as an inevitable part of marketing strategies to enhance the competitiveness of the port system.
- The ports' hinterland connections should also be developed in line with port development.
- Holistic human resource development plays a very important role in the functioning of ports. As the speed of automation of cargo handling process is increasing in Vietnam, together with development of new technology and know-how in port operations and management, port staff need relevant skills and knowledge to do their work. Training of staff and motivation incentives are therefore critical for Vietnamese ports.
- An integral approach to logistics issues in transport chains should be taken to develop a competitive advantage for Vietnamese ports. The ports should develop their facilities to offer more value-added services so that they can meet growing logistics demands of their customers. This can also be considered as an efficient way to absorb current overstaffing at state-owned ports, since redundancies can be further trained to perform new types of services.

## CONCLUSION

Efficiency and competitiveness are indispensable characteristics of any port system. At the same time, ports need to be competitive to attract clients to use their services. The above analysis and discussion with regards to Vietnamese port system has revealed some basic problems as far as efficiency and competitiveness are concerned. In order to achieve comparative advantage in the international market, the port system of Vietnam should note these issues and works out strategies to improve. The development strategies proposed in this paper are an indication for a more comprehensive and long-term planning by the government.

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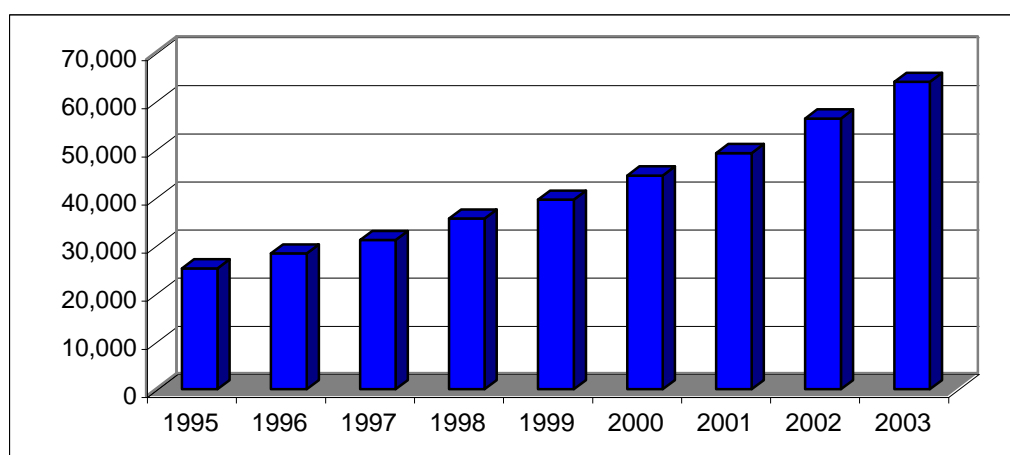
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**Last update:** 15 August 2004



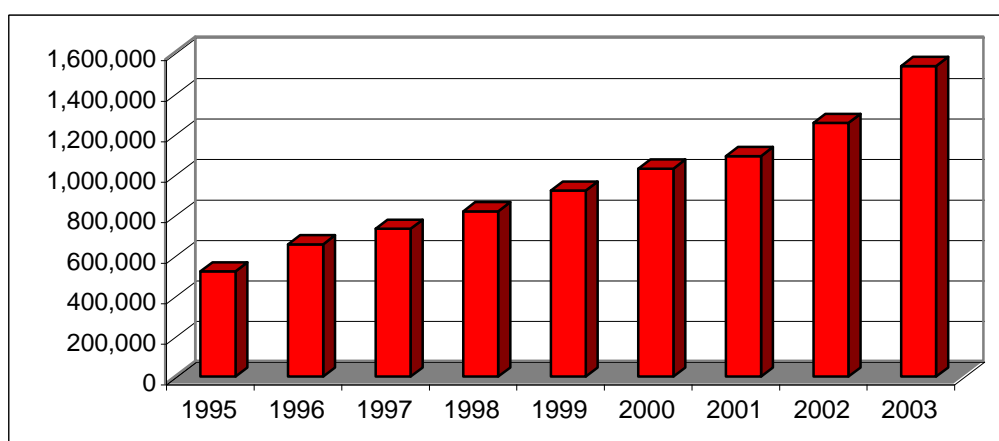
## TABLES AND FIGURES

Figure 1: Cargo handling volume through VPA's ports (thousand tons)



*Source: compiled based on information of VPA (2004).*

Figure 2: Container handling volume through VPA's ports (TEUs)



*Source: compiled based on information of VPA (2004).*

Table 1: Ports under state-owned corporations of Ministries

Responsible ministry	Ports	Operations
Ministry of Industry	Cam Pha Port Hon Gai Port Dien Cong Port	Loading of coal from Hon Gai mines for export and domestic markets
Ministry of Trade	My Khe Port Nha Be Petroleum Port	Unloading and distribution of imported refined oil for domestic market
Ministry of Agriculture and Rural Development	Nha Be Vegetable Port	Loading of agriculture products for export
Ministry of Construction	Hoang Thach Port Nghi Son Port	Handling of construction materials such as cement, sand, gravel etc
Ministry of Defence	Saigon New Port	Handling of general cargo and mainly containers

*Source: compiled by the authors from information of VITRANSS (2003)*

Table 2: Vietnam's Port Management System

Port management bodies	Administrative government bodies	Examples of ports
VINAMARINE (Vietnam Maritime Administration)	Ministry of Transport	Ports of Nghe Tinh, Quy Nhon and Nha Trang
VINALINES (Vietnam National Shipping Lines)	Ministry of Transport	Ports of Hai Phong, Quang Ninh, Da Nang, Saigon, Can Tho
Departments of local governments	Cities or provinces	Ben Nghe Port of Ho Chi Minh City
State-owned corporations	Various ministries, such as Ministries of Industry, Defence, Trade etc	Cam Pha Port, Saigon New Port
State-owned corporations	Cities or provinces	Hon Khoi Port
Joint-venture corporations	Ministry of Planning and Investment, Ministry of Transport	Ba Ria Serece Port, VICT

Source: compiled by the authors from information of VITRANSS

Table 3: Port management models

Type	Infrastructure	Superstructure	Port labour	Other functions
Public service port	Public	Public	Public	Majority Public
Tool port	Public	Public	Private	Public/Private
Landlord port	Public	Private	Private	Public/Private
Private service port	Private	Private	Private	Majority Private

Source: World Bank Port Reform Toolkit (2001)

Table 4: Port functions by management models

	Port Administration	Nautical Management	Nautical Infrastructure	Port Infrastructure	Superstructure (Equipment)	Superstructure (building)	Cargo Handling	Pilotage	Towage	Mooring service	Dredging	Other functions
Public service port												
Private service port												
Tool port												
Landlord port												

 Public responsibility  Private responsibility

Source: World Bank Port Reform Toolkit (2001)

Table 5: Existing regulations on maritime services of selected countries

Country	Cargo market access		Access to port services	
	Coastal shipping (Cabotage)	International shipping	Access to services & facilities	Fees & charges
Thailand	For domestic ships	For both domestic & foreign ships	No discrimination	No discrimination
Vietnam	For domestic ships	For both domestic & foreign ships	No discrimination	Discriminatory tariff between domestic & foreign ships
Indonesia	For domestic ships & foreign ships on charter basis	For both domestic & foreign ships	No discrimination	No discrimination

Malaysia	For domestic ships & limited open for foreign ships	For both domestic & foreign ships	No discrimination	No discrimination
India	For domestic ships	For both domestic & foreign ships	No discrimination	No discrimination
Philippines	For domestic ships	For both domestic & foreign ships	No discrimination	No discrimination
China	For domestic ships	For both domestic & foreign ships	No discrimination	No discrimination
Japan	For both domestic & foreign ships	For both domestic & foreign ships	No discrimination	No discrimination

*Source: compiled based on respective country reports to UNESCAP (2002b)*

Table 6: Tariff analysis at Hai Phong Port (As of February 2003)

Items	Tariff		For foreign In USD	Ratio of Foreign/ Domestic
	For domestic In VND	In USD		
Container handling charge				
(20' laden container, vessel - CY)	410,000	26.62	51.3	1.93
(40' laden container, vessel - CY)	650,000	42.21	90.36	2.14
Container stuffing/unstuffing at CY				
20' container	260,000	16.88	25	1.48
40' container	480,000	31.17	40	1.28

*Source: compiled based on information collected from Hai Phong port*

Table 7: Comparison of port tariff levels in the ESCAP region (3,000 TEU class ship)

Country	Port	Nominal exchange rate		Purchasing power parity	
		Tariff (US\$)	Manila=100 (Rank)	Tariff (US\$)	Osaka=100 (Rank)
Australia	Sydney	181,991	351 (18)	201,282	198 (9)
China	Shanghai	84,033	162 (8)	366,129	361 (15)
	Tianjin	75,706	146 (5)	329,848	325 (13)
Hong Kong, China	Hong Kong	205,000	395 (20)	189,221	187 (6)
India	Mumbai	92,429	178 (9)	450,857	444 (16)
	Madras	93,663	181 (12)	456,877	450 (17)
Indonesia	Jakarta	77,819	150 (6)	703,060	693 (20)
Japan	Osaka	144,746	279 (16)	101,435	100 (1)
	Yokohama	359,882	694 (21)	252,198	249 (12)
Malaysia	Port Klang	68,928	133 (4)	163,703	161 (2)
Myanmar	Yangon	189,935	366 (19)	855,384	843 (21)
New Zealand	Auckland	132,250	255 (15)	164,625	162 (4)
Pakistan	Karachi	92,883	179 (11)	356,052	351 (14)
Philippines	Manila	51,848	100 (1)	213,145	210 (10)
Republic of Korea	Busan	92,535	178 (10)	163,809	161 (3)
Singapore	Singapore	157,459	304 (17)	167,497	165 (5)
Sri Lanka	Colombo	132,149	255 (14)	478,948	472 (18)
Taiwan	Kaohsiung	123,926	239 (13)	228,896	226 (11)
Thailand	Bangkok	63,424	122 (2)	199,961	197 (7)

	Laem Chabang	63,769	123 (3)	201,049	198 (8)
Viet Nam	Saigon Port	81,836	158 (7)	482,562	476 (19)

Source: UNESCAP (2002c)

Table 8: Comparison of port tariff levels in the ESCAP region (1,100 TEU class ship)

Country	Port	Nominal exchange rate		Purchasing power parity	
		Tariff (US\$)	Manila=100 (Rank)	Tariff (US\$)	Osaka=100 (Rank)
Australia	Sydney	115,143	355 (19)	127,348	195 (9)
China	Shanghai	44,054	136 (7)	191,942	294 (15)
	Tianjin	40,120	124 (4)	174,801	268 (13)
Hong Kong, China	Hong Kong	129,026	398 (20)	119,095	183 (8)
India	Mumbai	45,873	141 (8)	223,763	343 (16)
	Madras	50,187	155 (11)	244,806	376 (18)
Indonesia	Jakarta	48,509	150 (9)	438,258	672 (20)
Japan	Osaka	93,031	287 (16)	65,194	100 (1)
	Yokohama	226,229	697 (21)	158,536	243 (12)
Malaysia	Port Klang	43,353	134 (6)	102,962	158 (4)
Myanmar	Yangon	107,168	330 (18)	482,637	740 (21)
New Zealand	Auckland	69,638	215 (13)	86,685	133 (2)
Pakistan	Karachi	49,587	153 (10)	190,084	292 (14)
Philippines	Manila	32,437	100 (1)	133,347	205 (10)
Republic of Korea	Busan	54,993	170 (12)	97,351	149 (3)
Singapore	Singapore	99,419	306 (17)	105,757	162 (5)
Sri Lanka	Colombo	82,781	255 (15)	300,023	460 (19)
Taiwan	Kaohsiung	78,808	243 (14)	145,562	223 (11)
Thailand	Bangkok	34,163	105 (2)	107,708	165 (6)
	Laem Chabang	36,619	113 (3)	115,451	177 (8)
Viet Nam	Saigon Port	40,818	126 (5)	240,693	369 (18)

Source: UNESCAP (2002c)

Table 9: Handling productivity at selected Vietnamese ports

	Hai Phong	Qui Nhon	New Port	Sai Gon	VICT
Handling productivity (Boxes/crane/hour)	20	12	17 – 19	15 – 18	25 - 28

Source: information collected from selected ports

Table 10: Utilisation at selected Vietnamese and ASEAN ports

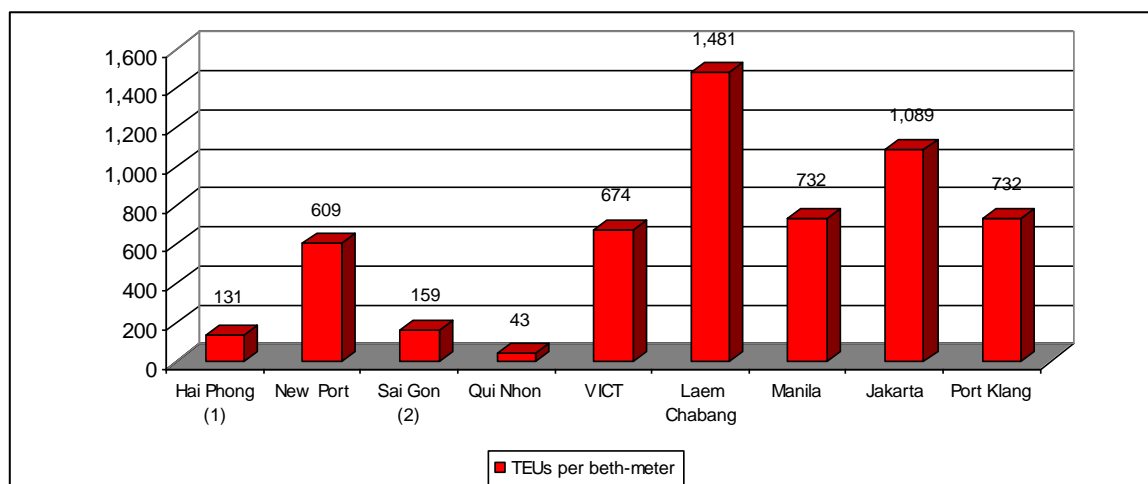
Items	Hai Phong (1)	Saigon New Port	Sai Gon (2)	Qui Nhon	VICT	Laem Chabang	Manila	Jakarta	Port Klang
Throughput in TEUs in 2001	286,027	430,000	250,000	28,500	204,215	2,369,600	951,600	2,272,743	3,205,428
Total berth's length (m)	2,185	706	1,574	660	303	1,600	1,300	2,087	4,379
Total number of cranes	5	8	4	8	2	15	10	14	35

TEUs per berth-meter	131	609	159	43	674	1,481	732	1,089	732
TEUs per crane	57,205	53,750	62,500	3,563	102,108	157,973	95,160	162,339	91,584

Source: official statistics collected from Vietnamese ports and ASEAN (2002)

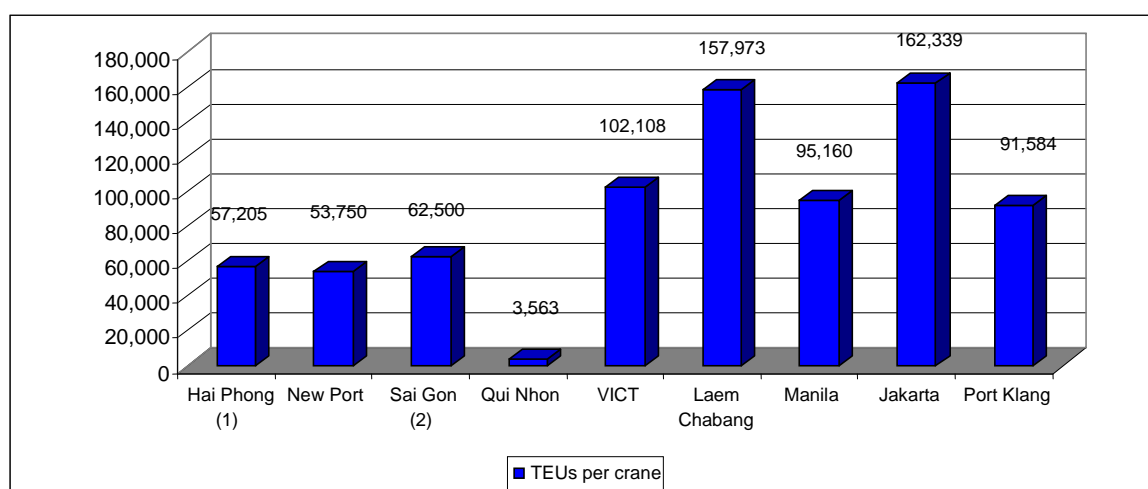
Note: (1) At Chua Ve Container Terminal (2) At Khanh Hoi and Tan Thuan Terminals

Figure 3: TEUs per berth-meter at selected Vietnamese and ASEAN ports



Source: compiled from table 10

Figure 4: TEUs per crane at selected Vietnamese and ASEAN ports



Source: compiled from table 10

Table 11: Standard utilisation at ports

TEU per berth-meter	TEU per unit crane	Terminal facility utilization level
Less than 500	Less than 60,000	Low
From 500 to 1000	From 60,000 to 100,000	Medium
More than 1000	More than 100,000	High

Source: UNCTAD (2003)

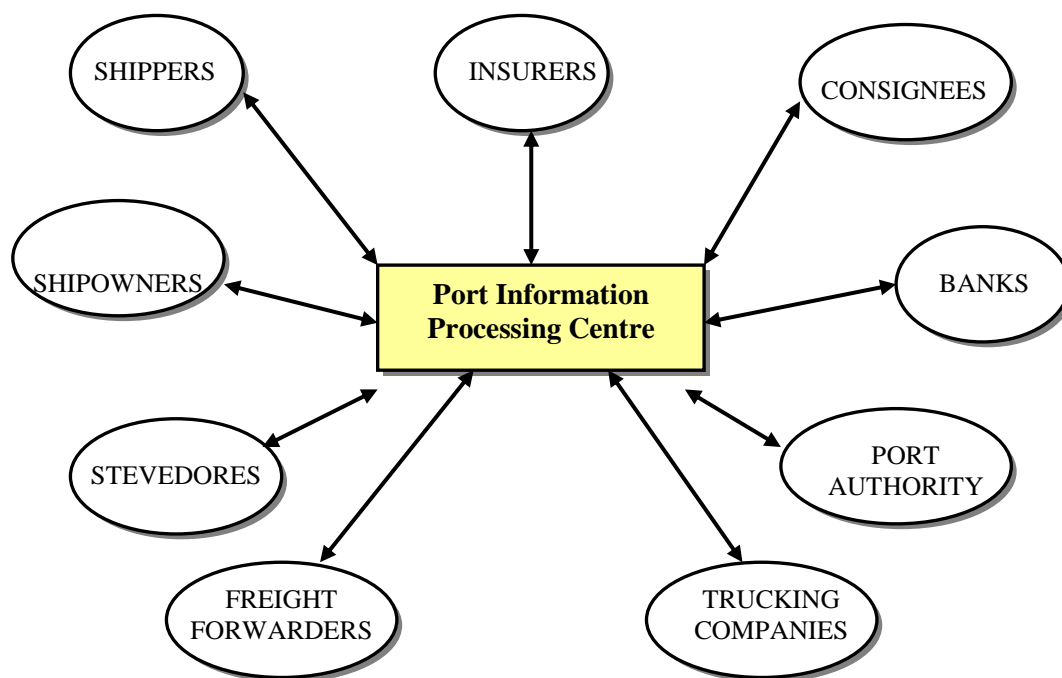
Table 12: Facilities at key Vietnamese ports (as of December 2003)

Items	Hai Phong	Qui Nhon	New Port	Sai Gon	Ben Nghe	VICT
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Number of berths	17	4	5	18	4	3
Total length	2,696 m	660	706 m	2,667 m	816 m	486 m
Max. draft at berth	-8.5 m	-9.4 m	-9.5 m	-11 m	-10.5 m	-10 m
No. of buoy berths	3	NIL	2	25	7	NIL
Max. draft at buoy	-7.5 m	NIL	-10.5 m	-13 m	-9.5 m	NIL
Max. size of vessel	10,000 DWT at wharf	22,835 GRT	16,000 DWT at wharf	30,000 DWT at wharf	30,000 DWT	20,000 DWT
Available cargo Storage area	55 ha	24.3 ha	19 ha	30 ha	28 ha	14.5 ha
Main cargo handling Equipment	Floating 02 RTG 04 Gantry crane 02 Other crane 37	Monile crane 08	Floating 01 RTG 09 Gantry crane 02 Other crane 10	RTG 02 Other crane 27	Mobile crane 07	Gantry crane 04 RTG 06

Source: information collected from ports

Figure 5: Port's information structure with EDI application



Source: The Authors

Table 13: IT & EDI application at key Vietnamese ports

IT & EDI Application	Hai Phong (1)	Qui Nhon	Sai Gon (2)	Saigon New Port	Ben Nghe	VICT
Internal management system	YES	NIL	PRELIMINARY	PRELIMINARY	NIL	YES

EDI links	NIL	NIL	PRELIMINARY	PRELIMINARY	NIL	YES
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*Source: information collected from ports*

(1) At Chua Ve Container Terminal (2) At Khanh Hoi Terminal

Table 14: Hinterland connectivity of key Vietnamese ports

Ports	Connections		
	Highway	Rail	IW
Hai Phong	☑	☑	☑
Da Nang	☑	☑	☑
Qui Nhon	☑		
Sai Gon	☑		☑
New Port	☑		☑
Ben Nghe	☑		☑
VICT	☑		☑

*Source: information collected from ports*

Table 15: Coordination of related activities at key Vietnamese ports

Services	Hai Phong		Qui Nhon		HCMC ports	
	Opening Time	Non-coordinated time (h)	Opening Time	Non-coordinated Time (h)	Opening Time	Non-coordinated Time (h)
Tug/Pilotage	24/24	0	24/24	0	24/24	0
Cargo handling	24/24	0	6 – 24	6	24/24	0
Customs clearance	8 – 17	15	8 – 17	15	8 – 17	15
Cargo delivery/receipt	24/24	0	24/24	0	24/24	0
Port office	8 – 17	15	7.30 - 16.30	15	8 – 17	15
<b>Total</b>		<b>30</b>		<b>36</b>		<b>30</b>
<b>Average non-coordinated time per activity</b>		<b>6 (25%)</b>		<b>7.2 (30%)</b>		<b>6 (25%)</b>

*Source: information collected from ports*

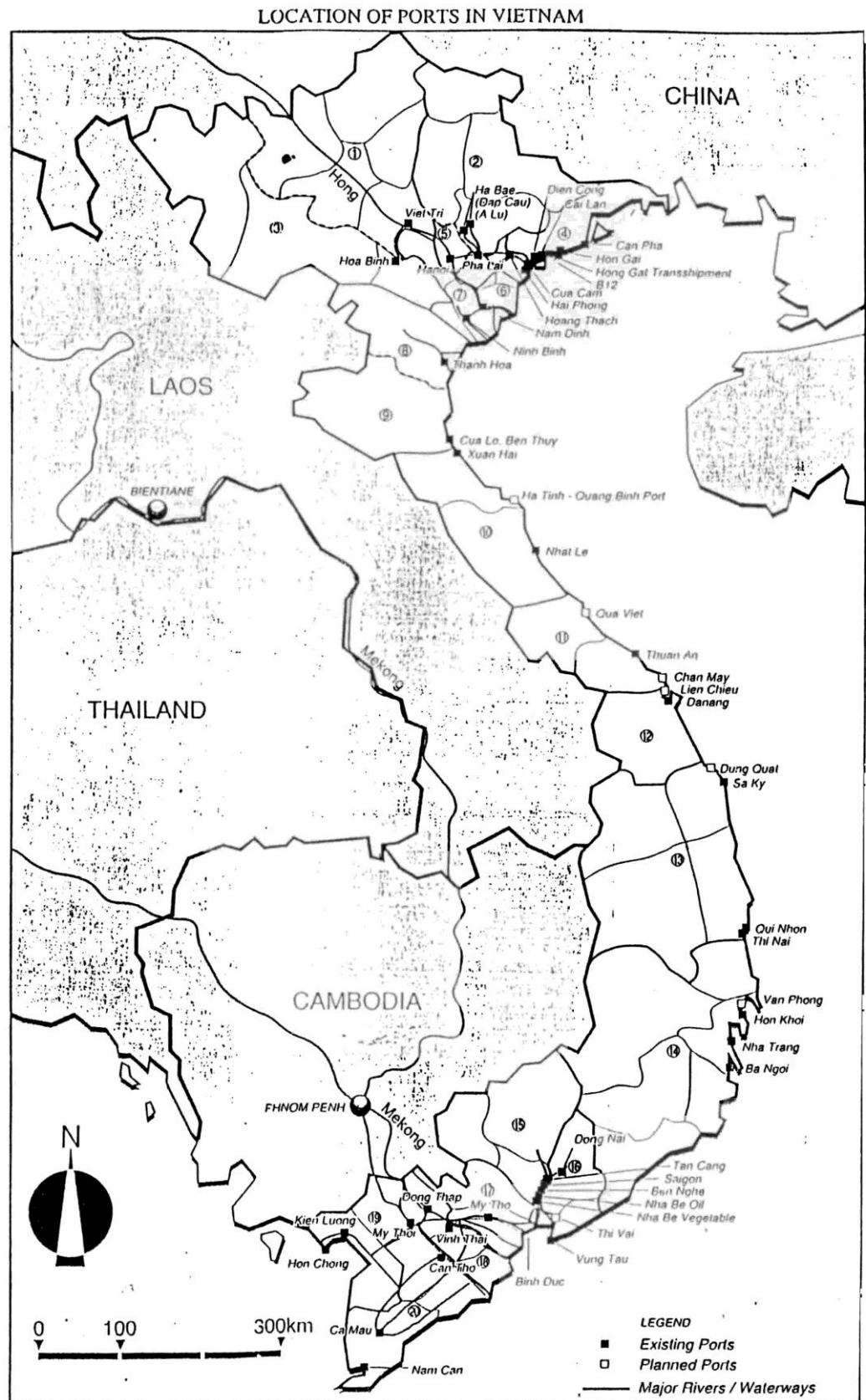
Table 16: Labour productivity at key Vietnamese ports (As of 2002)

Indicators	Hai Phong	Sai Gon	VICT
Throughput (Tons)	9,400,000	12,000,000	2,532,288
Workforce (people)	5,500	4,700	838
Throughput per person (Tons/person)	1,709	2,553	3,022

*Source: information collected from ports. Throughput at VICT was converted from 263,780 TEUs with assumption of 12 tons per TEU and laden container counts for 80% of the total throughput. Workforce at VICT consists of 238 permanent staff and about 600 casual workers daily*

## **APPENDIX**

# MAP OF VIETNAMESE PORT SYSTEM



Source: VINAMARINE (2004)