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REVIEW ARTICLE

PORT OPERATIONS STRUCTURE AND EFFECTIVENESS IN INDIA IN LINER, DRY BULK AND LIQUID TRADES

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Port Operations Structure and Effectiveness in India in Liner, Dry Bulk and Liquid Trades

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1. INTRODUCTION TO PORT OPERATIONS STRUCTURE IN INDIA AND THEIR PERFORMANCE

About 13 major ports and 185 intermediate (minor) ports are located in about 9 Maritime States in India. The satellite port of Chennai known as Ennore is been corporatized and assimilated in 1999 under the Companies Act, 1956. The government of India owns about 2/3 of its shares while rest is being owned by the Chennai port trust. Port Blair and Nicobar Islands are trust ports and are governed under Major Port Trust 1963 under the Ministry of Shipping (KRIMPEN, 2011).

The Union list of constitution consists of all the major ports which are administered by the Government of India under Indian Ports Act, 1908 and Major Port Trust Act, 1963. Government of India appoints Board of Trustees which govern all the major ports. However, government of India gives directions to the trustees and they have limited powers. On the other hand, the Concurrent list of the constitution contains all the minor ports and they are governed under Indian Port Act, 1908. This act elucidates all the rules and regulations pertaining to the administration of such ports by the Central and State government (ICRA, 2011).

About 90% of India's export and import are being done through seaport and therefore the economic growth of the country largely depends upon its international trade. The role of port becomes vital in the import and export transactions of the country. Logistics is integral for the trade competitiveness as goods are being transacted through logistic chain movement. As per the report of Asian Development Bank (2007), owing to the current trend, it is expected that about 0.0002 trillion tons of shipment will be handled in the year 2015-2016 by the Indian Ports (Rajasekar, Ashraf, & Deo, 2014).

2. IMPORTANCE OF OPERATIONS EFFECTIVENESS IN PORTS

In the competitive environment, when the whole world is striving for growth and prosperity, effective management and operations of ports become essential as import and export through seaports is responsible for the economic development of the country. Many new measures have been adopted and course of actions taken in order to accomplish the intended goals of port management. Numerous activities such as storage, transport and trans-shipment takes place at the port terminal and hence the importance of effectiveness of its operations cannot be neglected (Muntean, Nechita, Nistor, & Sarpe, 2010). For proper functioning and operations of the port services, it is imperative that the objectives laid down by the management should be precise, quantitative and straight forward (PwC, 2013).

Olesen, Dukovska-Popovska, & Hvolby (2013) elucidated the importance of information technology in port operations stating that it has become indispensable part for processing of data and in various other operations at international transport firms and port establishments. For efficient transport functions, effective management of information system is required to successfully manage the port activities and operations. Container-tracking, cargo handling and various other operations are handled through technological advancements. However, adequate security at the port should not be ignored for the effective operation and management of port activities (PwC, 2013).

3. AIM OF THE PAPER

This paper has been developed with the primary aim of understanding the port operations structure and operations effectiveness in India in liner, dry bulk and liquid trades by studying selected ports in India.

4. METHODOLOGY

The sample for the study comprise of nine of the prominent ports of India, namely, Mumbai, Chennai, Margao, Paradip, Jawaharlal Nehru Port Trust, Kandla Port Trust, Cochin Port Trust & Visakhapatnam Port Trust, and Kolkata ports. For data collection, only qualitative data has been gathered through the exploration of secondary data. Secondary data encompasses the already published data or literature in popular research papers, articles, books, government reports, consultancy reports, industry reports and newspaper articles. For the paper, the secondary sources used have been suitably referred and acknowledged. Multiple sources of information enable better substantiation of the information collection (Pathak, 2008).

5. LITERATURE REVIEW

The contemporary internationalized business platform, technological advancements and intensifying competition have compelled the firms to derive means to augment their operational efficiency and effectuality. Commonly, firms assess their financial standing vis-à-vis their sectorial counterparts and often neglect operational elements that stimulate the overall organisational accomplishments (Panorama Consultancy Group, 2007). Thus, organisations are constantly challenged to excel at multiple levels to excel with respect to customer satisfaction, enhanced efficiency and optimization of operational costs. This is essential in the purview that customers envisage better quality products and services and stakeholders want justifiable returns (PwC, 2009). This is only possible through increasing operational effectiveness and structure. Operational effectiveness includes augmentations in terms of optimization of cost and time, better responsiveness and improved quality etc. These enhancements explicitly impact the revenue generation through lower expenditure or better profitability; and implicitly on customer satisfaction and customer loyalty. However, focus on operational effectiveness is deficient without complimentary strategic effectiveness (Benson & Bugnitz, 2004). This is clearer from the diagrammatic representation below:

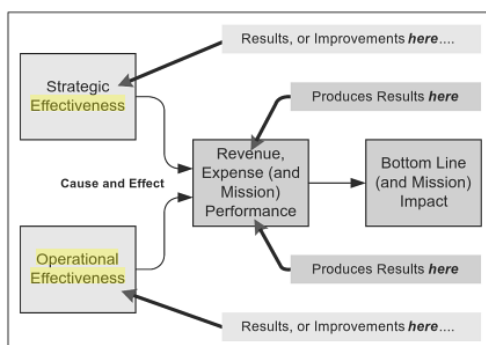


Figure 1 Impact of Strategic and Operational Effectiveness on Organisational Performance

Source: (Benson & Bugnitz, 2004)

Interestingly, Birchall et al. (2004) distinguished performance measurement and performance assessment stating that the former is based on pre-determined set of parameters while the latter is more expansive and involves an extensive audit of the process and recognize the areas where augmentation is essential. This is where operational effectiveness can be generated through product effectiveness and process effectiveness. Product effectiveness means developing a product in tandem with the customer expectancies and market opportunities and threats and internal strength and weaknesses. On the other hand, process effectiveness focuses on swiftness, output and flexibility. An appropriate balance of product and process effectiveness is import to make the firm more proactive and responsive to business dynamics and ensuring that strategies deliver desired outcomes. Bjørnsen (2004) professes that operational effectiveness involves practices to improve the input output ratio. Operational effectiveness can emerge a non-imitable competitive edge for the firms. The commonly employed tools for augmenting operational effectiveness are Total Quality Management (TQM), benchmarking, business process outsourcing and business process reengineering etc. However, operational effectiveness is beneficial only if done on continuous basis and in accordance to the industry's best practices.

6. FINDINGS

Owing mainly to numerous policies related impairments, the actual conversion of the capability into capacity of the ports in India have not been realized despite of the various improvements in the operation of the project by the government under its National Maritime Development Programme. With many of these matters still continuing, supply addition is expected to lag growth of demand, which in turn could lead to the key ports resuming to face an anxiety on their operational efficiency (ICRA, 2010).

Port of Rotterdam Authority (2007), based on their study of 12 major Indian ports identified a lot of reasons for low operational efficiency persisting across ports:

- The prominent major ports of India carryout more than 3/4th of the total business and developed an implied cartel.
- Within industry competition cease to exist between the ports.
- There is a dearth of local infrastructure and rolling stocks.
- Entry for international port competition is unfeasible due to high port costs in India and impending regulations.

- Lack of port capacities and extensions
- Out-dated infrastructure and institutional framework.

Different types of cargos which include petroleum oil and lubricants (POL), fluid chemicals, Coal, iron ore, alumina, manures and containers along with steel components can be handled by all the 11 major ports of India. A predominant role is being played by the ports on the east coast namely Chennai, Kolkata, Paradip, and Visakhapatnam in handling dry bulk. For intensifying handling efficiency, it is vital that the ports generate specific high capacity berths, reinforced by contemporary apparatus and well-organized labour force (Comptroller and Auditor General Of India, 2015).

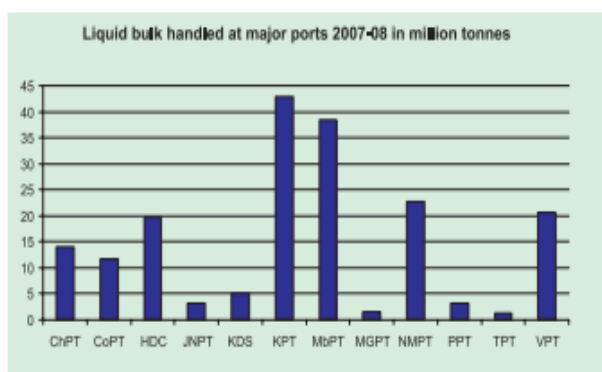


Fig: Handling of liquid bulk in the year 2007-2008

Source: (Comptroller and Auditor General Of India, 2015)

In the above figure, it can be seen that about 44 such berths handled 125 MT of fluid cargo with substantial handling at Haldia, Kandla, New Mangalore, Mumbai and Visakhapatnam due to installation of marine loading arms at these ports.

Rejecting the common notion that bigger ports have better operational efficiency, Rajasekar & Deo (2012) applied the Data Envelopment Analysis technique to gauge the comparative efficiency of the Indian ports on the grounds of variables like number of berths, berth length, number of equipment, number of employees, container throughput and total cargo. It was concluded that Mormugao, Tuticorin, Ennore, Chennai and JNPT had better operational efficiency. Out of these, Ennore and Tuticorin ports are much smaller in size than JNPT and Mormugao but still rank high in operational efficiency.

Insufficient port capability and directional aids, gathering of vessels, restricted cargo management services, great down time of equipment, stumpy worker productivity and dearth of storing space, all add

up to the minimal efficiency of Indian ports (Inter Ministerial Group, 2007). Many obstacles pertaining to planning and operations are being faced by the Indian ports. It has also been found that the capacity for container handling at the major ports is inadequate. Furthermore, infrastructural challenge is one of the biggest challenges that are being faced in logistics and transport. Though significant investment has been made in the development, enlargement and up gradation of Indian ports yet inland waterway systems have been neglected and also suffered from under-investment (Indian Port Association, 2007). However, the complications concerning capacity of the ports, their inefficient performance and India's augmenting industrial and trading demand paved way for the privatization of ports (ICRA, 2010). Sundaram (2013) elucidated that despite of significance of the economic importance for India ports, there is not much enhancement in their state and they are confronted with a number of glitches like great cost of land, lessening fund exploitation and sluggish growth of public-private partnership ventures. Non-availability of adequate facilities leads to mal functioning of the ports. Talking about the capacity of the ports, the report by Indian Port Association (2007) highlights that the capacity of the ports is limited by the neighbouring urban area and many of the ports face the problem pertaining to hinterland connectivity (Indian Port Association, 2007). Though a positive environment for growth of this sector is expected with the anticipation of favourable demand-supply dynamics, yet certain credit challenges are bound to linger including capability to handle project risks, supervisory risks and systemic problems in an developing environment (ICRA, 2010).

However, various advantages derived from the Indian ports cannot be ignored. About 95 % of India's transaction by volume and 70 % by value is done through marine transportation as per the report of Ministry of Shipping. India's trade and commerce is being sustained by the momentous role played by Indian port and shipping industry. It was also observed that the trade demand can be handled by the existing capacity of major ports of India. About 871.52 MMT was the capacity of the major ports of India as on March 31, 2015. As per the Indian Ministry for Shipping, Road Transport and Highways, the Indian economy is likely to boost up by the massive investment being made in the India's port sector (India in Business, 2015).

7. CONCLUSION

From the study, it can be comprehended that though Indian ports enjoy group monopoly in trade but still face serious issues pertaining to operational inefficiency. In the contemporary business scenario, it is imperative for the ports to leverage their strengths like strategic locations and financial soundness to

revamp their infrastructure and operational efficiency through training, applying latest information and technology (IT) tools and optimizing processes and labour size. Also, reforms and legislations need to be revised to provide higher autonomy to the ports. Ports must develop time-bound plans to upgrade to better equipment and service quality and work in cooperation with the Indian government to improve infrastructure facilities in general like roads, IT etc.

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