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THE ROLE OF FACILITIES MANAGEMENT IN LOGISTICS AND WAREHOUSING IN SRI LANKA

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Abstract
Facilities Management (FM) is frequently described as an integrated approach to operate, maintain, improve and adapt the buildings and infrastructure of an organization to create an environment that strongly supports primary objectives of that organization. The FM discipline emerged out of practice because of a clear need to focus on elaborate facilities, which critically support the activities of most of today's organizations. Business organizations consider supply chain and logistics performance as important elements for the achievement of competitive advantages. In this context, FM plays a significant role in managing and operating diverse types of constructed facilities for logistics and warehousing. In fact, it assures the successful management of the whole warehousing system, which includes both, building, utilities, and material handling equipment. However, limited literature is available in this area to set the importance of FM within this context, and very little analysis has been carried out to understand the importance of FM to create the conditions for improved performance of logistic and warehousing. Therefore, this study aims to provides a comprehensive review of the FM function in the logistics and warehousing arena in Sri Lanka which is identified as a potential logistics hub in South-East Asia and Indian sub-continent region.

Keywords: *Facilities Management; Facilities; Logistics; Sri Lanka; Warehousing*

1. Introduction

Facilities Management (FM) has been recognized as a crucial service for business organizations during the recent past decades (Scupola, 2012). FM is frequently described as an integrated approach to operate, maintain, improve and adapt the buildings and infrastructure of an organization in order to create an environment that strongly supports primary objectives of that organization. FM functions help to enable successful business activities of an organization and further it helps to achieve its' employees' expectations related to day to day operations. (Lavy et al., 2010). As per (Tucker and Pitt, 2009), the term FM can be referred to integration and alignment of the non-core services which are required to operate and maintain a business. The crucial factor behind the increasing attention of FM concept is mainly due to its ability to save costs and generate efficiencies.

The discipline of FM is being effectively being practiced even within various facilities related to logistics and warehousing. The key focus of FM within these types of facilities is to operate and maintain them throughout the building life-cycle. Even though the FM concept is properly recognized as a benefiting factor for logistics and warehousing industry in overseas countries, the importance has not been recognized within the local context.

FM scope covers the full service of the warehousing system, which includes building, utilities, and material handling equipment. Despite increasing recognized importance of FM as an integrated component of business operations, most companies in the logistics and warehousing business in Sri Lanka complain about the rising cost of maintenance of industrial and logistic facilities. Management of such companies frequently pursue to cut operation and maintenance spending by reducing repair interventions to a minimum and by delaying preventive maintenance actions, leading to a cascade of extra costs in the medium and long term (De Marco et al., 2010).
There is very little study has been conducted to identify the role of the FM function in the fields of logistics and warehousing. Within the context of developing Sri Lanka as a logistic hub, it is important

to conduct an analysis to understand the importance of FM to create the conditions for improved performance of logistic businesses. Therefore, to address this research gap, this paper highlights the relationship of the FM function in the logistics and warehousing arena.

To unveil the connection between the both FM and logistics business in the Sri Lankan context, the paper is structured as follows. Relevant literature review is demonstrated under the main topics; 'Sri Lanka as a Logistics Hub'; 'Performance measurement in logistics operations'; 'Performance measurement in FM'; 'Maintenance of warehouses' and 'Outsourced FM contracts'. Finally, implications and conclusions are drawn together with future research directions.

2. Sri Lanka as a Logistics Hub

Logistics industry has evolved over years by re-engineering organizational cost structures to become more competitive and face the competition arising due to globalization. The focus in 1970's was towards 'distribution management' which evolved to integrated logistics management in 1980's and then to supply chain management in the 1990's. The three-decade evolvement was from market share of customer in 1970's to share of customer in 1990's through the focus on creating operational efficiency of the organizations.

The annual global logistics cost is estimated to be USD 3.5 trillion. The annual logistics cost of any country is estimated to be with 9% - 20% of its gross domestic production. This explains why the nations and organizations are increasingly focusing on improving the efficiency of their logistics operations.

Today the logistics industry is faced with the challenges of pricing pressure, high cost of operations, low return on investment and pressure from customers to continuously improve efficiency. In this back drop the role of the service providers have become very important to complete the supply chain integration. With South-East Asia becoming a major player in the global economy the logistics industry is seen to be growing at a very fast rate in this region when compared to the other regions worldwide. As a region, East-Asia Pacific tops the list in Logistics Performance Index (LPI) that includes Singapore, Japan and Hong Kong. With the growth of business in South East Asia, organizations are looking to expand their business operations to the region. Further, Sri Lanka is ideally being located between two of the fastest growing economies in the world; India and China, it has the unique advantage of becoming a regional logistics hub in the South-East Asia and the Indian sub-continent.

Sri Lanka possesses a natural advantage of geographically being strategically located in South-East Asia and the Indian subcontinent. This geographical location has given the country a natural advantage which only few other nations has the privilege of enjoying. In the aviation industry Sri Lanka is located in the shortest point of the then called kangaroo route; in maritime Sri Lanka is just 10 - 12 nautical miles deviation from the main East West maritime route. Sri Lanka generally does not face any major natural disasters such as cyclones, earth quakes, tornadoes or even labour disputes that cause long term shut down of country's logistics operations. Therefore, logistics can play an important role in Sri Lanka's competitiveness as a business location and that will add more industrial value to the economy.

With international trade expected to grow rapidly in the coming decade, led by economic expansion of BRIC – Brazil, Russia, India and China, air and sea ports located closer to those markets are expected to face capacity issues. This situation creates an opportunity for new air and sea ports to develop in the region and some of those upcoming air and sea ports to even emerge as hubs. These opportunities become even greater when the geographical sites are in the main air and sea routes. In addition, the expansion of BRIC economies is likely to change the origin and destination of manufacturing and consumption patterns of goods and services.

A regional logistics hub provides its customers a one stop centre for obtaining logistics services including customer's deliveries when required, warehouse with or without free zone facilities, integrated with supply chain and transparency through using of information communication technology. It also provides exporters and importers with facilities to handle multi country consolidations at a single location on duty free basis. It will also provide other value added facilities such as cool, cold and chilled room facilities, vendor managed inventory services, post-delivery

inspections facilities, yard management, sterilization, fumigation, inventory management, haulage, distribution services, freight and customs brokering services. Given this back ground, there are greater opportunities for establishing Sri Lanka as a logistics hub in South-East Asia and Indian sub-continent region.

However, according to the Logistics Performance Index (LPI), Sri Lanka is ranked at 89th position in the world ranking which is way below compared to other regional countries. It is also noted that Sri Lanka is not ranked within the top 10 amongst the middle-income earning country category falling below India and Pakistan. Countries that top the LPI rankings are major global transport and logistics hubs, like Singapore, or the base of a strong logistics service industry, such as Switzerland.

Therefore, in order to be successful as a logistics hub, Sri Lanka has to monitor and improve its logistics operations performance while formulating strategies to keep distinctive competitiveness advantage in such a changing market environment.

3. Logistics operations performance

Over the last decade, the role of logistics in most businesses has increased in both scope and strategic importance. The Council of Supply Chain Management Professionals (2007) define logistics management as "that part of supply chain management that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services and related information between the point of origin and the point of consumption in order to meet customers' requirements". Initiatives such as supply chain integration, quick response and just-in-time, inventory control have revolutionized not only the way companies manage their logistics activities, but also how they run their entire business. The highly competitive environment along with customers' demand has forced companies to continuously evaluate, improve and re-engineer their logistics operations (Gotzamani et al., 2010). Companies have started to consider supply chain and logistics performance important elements for the achievement of competitive advantages (Harrison and New, 2002).

As per Wong and Karia, (2010), Logistic Service Providers (LSPs) have to measure their performance based on five strategic resources; physical, human, information, knowledge and relational resources to achieve competitive advantage. 'Physical resources' include tangible assets required to perform logistic tasks. Therefore, building structures and associated building engineering systems can be considered as 'Physical resources'. Human resources are referred to as workforces who are skilful and experienced in performing logistics tasks and building up and maintaining customer relationship. Knowledge resources are the abilities to gaining access to rare resources and relational resources are meant as the abilities to build up long-term working relationship with key suppliers and customers.

Therefore, it is logical to state that the performance of the built environment and the operators and occupants associated in the logistics and warehousing business decides the performance of the logistics operations in any given country. In a broader aspect, improved performance of the People, Processes and Places associated in the logistics business could enhance the performance of the logistics industry at national level.

The International Facility Management Association (IFMA) defines FM as a profession that encompasses multiple disciplines to ensure functionality of the built environment by integrating people, place, and processes. This is everything from buildings and parking lots, to parks and utility lines, and they all need to be managed effectively. All facilities must be managed in order for them to operate according to their purpose.

4. Performance measurement in facility management

FM services were first provided in the 1960s in the USA, and they were fully developed in 1970s; but it was only in the 1980s that such FM market developed in Europe (Salaris, 2002). The FM function is mainly associated with building facilities and auxiliary services; it includes activities such as building maintenance, utilities management, gardening, surveillance, cleaning, etc. (Ancarani and Capaldo, 2005). The importance of measuring the performance of the FM function becomes evident because

costs associated with maintenance represent the largest ones for an organization after the cost of personnel and the cost of the production assets. This proves further the need for FM to be part of the business model.

Key Performance Indicators (KPIs) in FM are associated with cost of operations, maintaining and running a facility, revenue generated space usage and management, environmental, health and safety issues (Enoma and Allen, 2007). Some of the most important KPIs pertaining to FM are: client satisfaction, cost effectiveness, response time, service reliability, health safety, environmental compliance, staff commitment, client-service provider relationship, and information and technology application.

Hinks and McNay (1999), conducted a survey on the most important KPIs that should be considered in the different performance dimensions, namely: equipment provided to meet business needs, correction of faults, management of maintenance, reliability, effectiveness of helpdesk services, and standard of cleaning. Lavy et al. (2010) propose a list of KPIs classified under the following categories: financial, physical, functional, and survey based. They state that a strong FM approach provides needed support to the organization's mission, the realization of future facility requirements, greater cost efficiency, and the ability to anticipate results of current management decisions. On the contrary, poor FM could result in inadequate facilities to support functioning, not contributing to the organization's mission, cost inefficiencies, and unavailability of the facility for future needs.

Maintenance of physical assets is one of the key function of FM. Performance of the Maintenance Management executed by the FM teams directly affects the overall performance of the logistics business. Warehouse maintenance is one of the key area falls under the FM division in the logistics and warehouses industry.

5. Warehouse maintenance

The scope of warehouse operations in terms of location, size, and type of equipment addresses whether the maintenance plan has its own in-house maintenance, or it depends more on contract services. Regardless of the source of repair, two responsibilities of warehouse maintenance must be achieved: safe and reliable operations of material handling equipment and maintenance of facilities, grounds, utilities, plumbing, heating, air conditioning, security system, fire protection, etc. (Smith and Tomkins, 1998).

Maintenance of built assets is often considered as a cost burden (Sherwin, 2000) and organizations are reluctant to spend, aiming at preserving the condition of their assets (Chew et al., 2004). Maintenance should be considered not only as a mere source of cost, but rather as a way for potential gain (Taillander et al., 2011). Therefore, FM professionals should consider the business implications of their actions before large maintenance programs are designed and carried out. Moreover, it is possible to monitor the impact of any action against key business drivers through feedback mechanisms (Jones and Sharp, 2007). By identifying the true strategic goals of maintenance and by implementing a well-formulated strategy, companies can optimize the return on investment of their maintenance expenditure (Salonen and Bengtsson, 2011). The measurement of maintenance performance appears to be very important and tracking the performance of maintenance operations should be a key management issue.

As a measure of improving the performance of maintenance operations of built assets, outsourcing FM function is popular among other countries.

6. Outsourcing Facility Management

Organizations have been increasingly turning to outsourcing in an attempt to enhance their competitiveness, increase profitability, and refocus on their core business (Burdon and Bhalla, 2005). Outsourcing is often seen as a critical business capability that enhances company's overall profitability. It allows managers to leverage resources and capability by concentrating on core competences that

create value for the company's customers (Yoon and Naadimuthu, 1994). As a matter of fact, logistics companies usually perform a mix of in-house repair and contract maintenance on their physical assets. Some maintenance activities are carried out by the warehouse staff, others are serviced by a supplier, especially in case of actions requiring equipment or skills that the plant personnel do not have. The way maintenance contracts are managed often depends on customary practice, corporate culture, and available human resources of the management team (Lai and Yik, 2007).

Many organizations, both in the public and private sectors, are increasingly outsourcing their asset maintenance jobs. FM services are usually long term and involve frequent contacts between supplier front-line staff and client end-user. This is especially applicable to long life equipment maintenance contracts (Datta and Roy, 2010). Contract design in FM varies considerably depending on the contracting parties' scope of the contract and type of relationship. A complete FM contract comprises numerous documents that specify responsibilities, KPIs and compensation principles (Kadefors, 2008). Al-Turki (2011) underlines the potential benefits of outsourcing maintenance activities such as reduced total system costs, better and faster work done, exposure to outside specialists, greater flexibility to adopt new technologies, and more focus on strategic asset management issues.

7. Critical analysis and future research directions

The analysis of the presented literature shows that FM has been considered as a way of managing cost efficiency. FM can bring value towards organizational effectiveness, through management and the improvement of physical assets and related services (Noor and Pitt, 2009). Effectively planned FM services can create significant business returns in the context of logistics business. As competition intensifies, and as change accelerates, many leading organizations are re-evaluating the contribution that FM makes to business success (Goyal and Pitt, 2007). Firms are realizing that there is a critical need for proper maintenance of facilities and assets (Meulen et al., 2008). Industrial plants and equipment are becoming technologically more advanced, and at the same time more complex and difficult to control. In addition, just in time, lean and agile manufacturing and logistics, and the use of automated storage and retrieval systems have made logistics assets increasingly vulnerable to risks and susceptible to diverse consequential effects due to breakdown (Holberg, 2001).

Moreover, with the growing dependence on technologies for most of logistics business operations, it is important to develop appropriate maintainability and reliability strategies to ensure that these organizations can deliver high quality and dependable services to their customers (Madu, 2000). FM should be included and positioned as a strategic support function and FM strategies should be aligned with the core activities of logistics service provider organizations. Goyal and Pitt (2007) argue that the relationship between organizational strategic (core business) and operational (non-core business) activities is vital in FM. FM needs to be recognized at the boardroom level. Hence, to be effective maintenance actions should be consistent with business strategy; in this way, it can be more proactive in contributing to the competitive advantage of a logistics companies (Pintelon et al., 2006).

Alsyouf (2006) states that at least 14 percent of potential improvements on the return on investment (ROI) are directly related to the contribution of the maintenance function to lost profits. Similarly, Salonen and Bengtsson (2011) show that the awareness of maintenance as a driver of the company's profitability increment. In particular, many companies have decreased the downtime due to corrective maintenance, which is more expensive than the time used for preventive maintenance. In this context, Blanchard (2004) demonstrates that a large percentage (e.g. 70 percent for some systems) of the total life cycle cost for a given system is due to operating and maintenance activities.

De Marco and Mangano (2011) prove that a few factors associated with the operational characteristics of the logistics business have a significant impact in improving the logistics service level. In addition, maintenance cost has an influence on the logistics service level performance. Thus, it is crucial to maintain both building components and logistics equipment to avoid expensive and ineffective managerial practices. These first results underline the importance of maintenance for the logistics service level performance. They support the notion that increased investment to preserve maintenance

status of the building and service components of warehouses is very likely to lead to improved performances of the logistics service level.

8. Conclusion

The aim of FM is the improvement of the effectiveness and efficiency of physical assets and workplace to contribute to enhancing operational business performance. In this context, improved logistics performance via FM and maintenance services is a significant factor to achieve continued competitive advantage. The logistics industry is aware of the role of maintenance in improving the reliability of systems and improving performance of the organizations. Nevertheless, there is a need to spend and invest more in maintenance, since the status and the role of maintenance are not highly recognized.

Appropriate strategies for FM can generate profits and can be an important source of competitive advantage is growing (Sherwin, 2000). Therefore, maintenance is playing a role on the strategic operational planning process: it is not only responsible for the reliability and the safety of the assets, but it can also fulfill environmental requirements.

Sri Lanka is ideally located in the growing Asia – Europe, Asia – North America trade lanes and this provides enormous opportunities for the country to position herself as a regional logistics hub and to gain a fair share of the logistics trade moving via this region. The regional logistics hub will also enable manufacturers, importers and exporters to consolidate multi-country warehouses in a single location.

In order to face the challenges of the future, it is a must that Sri Lanka repositions herself by adopting policies which maintain, reinforce and improve its competitive position, not only as a port and airport but holistically as an economic entity. In this backdrop focusing on logistics hub is a strategy worth investigation as an economically emerging country. The success of a regional logistics hub cannot be measured only through the number of Twenty Equaling Units handled at the ports or tonnages moved through the airports but it need to focus on the quality of logistic services provided as well. In competing with other low-cost margins operators and to achieve sustainable advantage a regional logistics hub should focus on providing high quality and efficient logistics services. This paper suggests to adapt FM concept as an important support function which could enhance the logistics performance of the emerging logistics hub-Sri Lanka.

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