

Implementation of E-Procurement and Its Performance Impact on Ship Management Companies

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Abstract – The procurement procedure in sea industry ought to be sorted out in a manner that empowers effective exchange of products and ventures into vessels. Today, a significant objective of a sea's inventory network the board is to apply data innovation to their obtainment frameworks proficiently and cost adequately. Moving ceaselessly from conventional and paper based disconnected buy preparing to online acquirement empowers shipping lines to increase better obtainment rehearses regarding cost effectiveness. The result of the present examination represents that the in generally execution of electronic procurement has upgraded execution in the Islamic Republic Shipping Company. For the most part, e-procurement is discovered compelling in expanding execution and it very well may be used as an advantageous instrument, particularly during monetary emergencies in delivery organizations.

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INTRODUCTION

The fast development of competition in the market and the subsequent changes in financial conditions force associations and firms to actualize new advances to remain aggressive. Those organizations which have not actualized innovation at the best possible time are at the danger of losing clients or providers.

Traditionally, the acquirement procedure has comprised of unreasonable desk work and a time-consuming procedure. Its utilization has changed the procurement procedure. E-procurement or electronic procurement implies acquiring products and enterprises by utilizing the web as the correspondence media between various gatherings in the acquisition procedure.

In marine transportation procurement process assumes a basic job. Ships ordinarily buy a huge amount of provisions for keeping up every day activities. The procurement procedure in marine industry ought to be sorted out in a manner that empowers proficient exchange of merchandise and ventures into vessels. Today, a significant objective of a marine store network the executives are to apply data innovation to their procurement frameworks proficiently and cost viably. Moving ceaselessly from conventional and paper based disconnected buy preparing to online procurement empowers shipping lines to increase better procurement practices as far as cost effectiveness.

SHIP MANAGEMENT COMPANY

Ship management companies are vessel management companies which manage, maintain and deal with ship's routine operations, maintenance and regulatory issues of the vessels. The ship management refers to crew recruitment, commercial and technical management with related task of operation, service and maintenance along with purchase and supply of required equipment, spares, stores and logistic. The above task is performed by vessel owners or performed by an approved ship management company (operator), selected, deployed and authorized by the owner. Nowadays, managing ships is very complex business; vessel management should be done properly to ensure cost control so that the procedure being observed and economic estimation being covered. Vessels should be well equipped and correctly maintained to conduct their operation while maintaining the minimum downtime. It is essential that ship's operators meet the mission requirement at all times and ensure that effective communication link can be established among operators, vessels and their owners.

PROCUREMENT AND E-PROCUREMENT

Procurement is the procedure of securing of proper material, merchandise or administrations and it contains a total cycle of acquiring these things from

requesting, preparing, endorsement and receipt of payment approval.

Nowadays, Most of the organizations spend an enormous part of their salary on procurement thus efficient transfer of goods, services and information and data is being engaged by firms as a fundamental issue. Today organizations will in general actualize data innovation to improve efficiency and operational productivity and decline costs. The computer empowered acquisition framework or e-procurement is a subset of e-business procedure of a firm.

Organizations that automate their procurement system and control inventories could gain efficiency, reduce purchasing cost and improve delivery schedule. He also mentioned that there are three major types of E-procurement; ERP or enterprise resource planning which is used to create and approve purchasing using web technologies; e-sourcing which identifies suppliers by using information technology and web technology and finally e-tendering which sends information and pricing request to suppliers using internet technology.

By diminishing process duration and measure of paper work in procurement exchanges, vital time for advertising on new items, generation lead time and quality can be improved by suppliers.

E-PROCUREMENT IN SHIP MANAGEMENT COMPANIES

Procurement is a significant procedure which assumes a fundamental job in marine industry, since ships typically buy a huge amount of provisions for keeping up day to day activities. Today, a significant objective of a marine store network the board is to apply proficiently and cost successfully data innovation to their procurement frameworks. The progression of merchandise, administrations, and data in marine industry, ought to be arranged so that empowers proficient exchange of these things into vessels. Moving endlessly from conventional disconnected and paper-based buy handling to online obtainment presents huge investment funds, improved efficiency and upgraded operational efficiencies.

"The marine industry is a global market worth over \$150bn and speed and efficiency are so crucial in it. Recently, e-procurement has emerged as an important tool that can give operators and oil companies a competitive edge", (D.Ramasubramanian 2005)n, the project manager at Wipro Technologies, reports.

In maritime e-procurements system like other procurement system, the major issue is data quality, seafarers should correctly ask their purchasing requirements, in the other hand suppliers should recognize completely what the vessels are asking for. Improving data quality is something everybody

needs to work towards. "If suppliers don't give the correct information electronically, they can expect badly prepared orders.

LITERATURE REVIEW

(Judith Gebauer & Arie Segav 2001) defined procurement as "All of the activities involved in obtaining material and services and managing their inflow into an organization toward the end user. It includes obtaining manufacturing supplies for an assembly line as well as obtaining paper and pencils for a bank".

Most of organizations and firms spend about one third of their income for purchase services and goods (Judith Gebauer & Arie Segav 2001). Even some researchers as kalakota and robinson (1999) cited at (David Caffey 2009)stated that 50 to 60 percent of total revenue is being spent on purchasing goods and services.

(David Caffey 2009) believes that in addition to purchasing goods and services from suppliers, procurement includes inbound logistics, warehousing and inventory management.

Procurement includes actions related to acquisition of services and goods and managing its flow toward the consumer (Judith Gebauer & Arie Segav 2001). Procurement ranges from purchasing stationery for a bank to acquiring MRO products for an assembly line (ibid). (Judith Gebauer & Arie Segav 2001) Three steps of purchasing materials and services are information, negotiation, and settlement:

Information: it consists of demand recognition, source evaluation and collecting data about vendors, products and market situation.

Negotiation: it means communicating with suppliers and asking for quotation and availability for required materials, services and final contract

Settlement: settlement means completion of contract; it is achieved when services and capital have been exchanged.

Due to the fact that most of organizations spend more than 30% of their revenue for purchasing materials and services, procurement has great business value; nevertheless this process is mostly very inefficient because of bureaucracy and complicated workflow which is time consuming and expensive (ibid).

Due to the fact that purchasing goods and services is at least one third of total expenses in most organizations, procurement has an important business value which is mostly being overlooked. The costly, time consuming and complicated paper

based procurement processes are very inefficient (Judith Gebauer & Arie Segav 2001)

RESEARCH AND NEW TRENDS FOR E-PROCUREMENT

Today businesses need to constantly adapt and reconfigure their IT assets, systems, and business operations to meet changing customer demands; compress business cycles; and differentiate from competition. New trends for developing e-procurement system are addressed in adopting different architectural styles. For instance, when an enterprise uses the SOA architectural style, it does not address all the capabilities needed in a typical supply chain management scenario. SOA does not have the ability to monitor, filter, analyze, correlate, and respond in real time to events. These limitations are addressed with an EDA (Event-Driven Architecture). An EDA combined with SOA, provides that ability to create a supply chain management architecture that enables business. An EDA is an architectural paradigm based on using events that initiate the immediate delivery of a message that informs to numerous recipients about the event so they can take appropriate action (Sriraman & Radhakrishnan, 2005). In this context, an event is a trigger that typically 724 Supply Chain Management - New Perspectives corresponds to the occurrence of some business activities, for instance, the receipt of an order.

An EDA comprises event consumers and event producers. Event consumers subscribe to an intermediary event manager, and event producers publish to this manager. When the event manager receives an event from a producer, the manager forwards the event to the consumer. If the consumer is unavailable, the manager can store the event and try to forward it later. Then, the primary value of EDA is that it allows companies to identify and respond to events coming from supply chain management collaborations that need to be addressed by one or more systems through event management.

BEST PRACTICES IN E-PROCUREMENT

Best-in-class e-procurement performers have long-term, well-thought-out strategies for e-procurement implementation. Many such systems have been implemented in phases, with each new phase building off the successes – and lesson learned – of prior phases. However, all examples of Best Practices in e-Procurement have many things in common. AberdeenGroup, Inc. (2005) identified key strategies used by companies that have achieved best practice status in e-procurement:

- Solicit top management support to help drive system compliance and ensure sufficient
- funding and resources are made available.

- Focus on ease of use to improve end users' acceptance of the system.
- Don't underestimate change management. Insufficient focus on change management has held back acceptance of many e-procurement systems.
- Make sure processes are efficient before applying automated solutions.
- Clearly define and reinforce metrics for measuring costs, process efficiency, and performance of e-procurement technologies and processes. Where possible, link incentives for both procurement and business units to these metrics.

E-PROCUREMENT BENEFITS

(David Caffey 2009) believes that the significance of procurement process as a strategic matter highlighted by introducing e-commerce and e-procurement which influences customer and companies by its significant cost saving.

With the advent of internet most of the organizations adopt techniques to streamline their indirect material supply chain, implementing e-procurement will result to substantial improved potential compared with paper-based procurement systems (Thomas puschmann and Rainer alt 2005). Aberdeen et al 2001 cited at (Thomas puschmann and Rainer alt 2005) believes that by implementing e-procurement, operational process will be decentralized whereas strategic procurement process will be centralized which results in higher supply chain transparency.

(David Caffey 2009), e-procurement benefits falls into two categories:

- Direct cost reduction which is achieved by firstly increasing efficiency in procurement process. Process efficiency is defined as less employee time spending on searching, authorizing, approval and ordering; secondly enables to reduce number of staff which process each order by automatic validation of pre-approved budget for each person and each department and thirdly by decreasing printing cost and paper cost of order forms and invoices.
- Indirect benefits of e-procurement such as decreasing cycle time between order and delivery and enabling greater flexibility for supplier selection according to the best value.

Listed the benefits of e-procurement as follows:

- Reduction in cost and procurement cycle time
- More effective budget control by limiting the expenditures and enhanced reporting
- Minimizing ordering and administrative errors
- Enabling originator to concentrate on strategic aspect of purchasing
- Decreasing the product price
- Enhanced information management
- Better payment process (if it is integrated with e-procurement)

Giunipero and sawchak 2000 cited at (Thomas puschmann and Rainer alt 2005) stated that the main purpose of implementing e-procurement is to expedite the operational procurement process by bypassing purchasing department by permitting and entrusting more strategically task to requester. In e-procurement, the requester is able to search and select the product in approved electronic catalogs.

Reducing inventory and staff time by implementing e-procurement will result to reduce the purchasing cycle time and cost (David Caffey 2009).

One of the important advantages of e-procurement is to reduce workload of purchasing company by decentralizing the operational procurement process (Thomas puschmann and Rainer alt 2005).

In traditional procurement processes many authorization stages were involved, these stages were reducing the speed and efficiency of procurement cycle by placing objection on request to achieve faster and more convenient procurement process number of authorization stages should be decreased (ibid).

Atkinson 2001 cited at (Jason R. Eaton 2003) announced that e-procurement advantages are precise and on time business intelligence, on time payment, better cash flow management, reduced administration cost and reduced overhead cost.

INTERNET AND E-COMMERCE

Backer (2001) cited in (Afshin afsharipour et. al. 2005) defines e-business as the support of the several distinct phases of business transactions by using information technology. Nowadays, e-business and e-commerce plays a vital role in most of the firms and organizations, which operates in various parts of industries.

(Judith Gebauer & Arie Segav 2001) stated in their paper that organizing and collaborating have been modified by innovative information systems such as internet. Business opportunities have been enhanced by globalization of resources and market, however simultaneously competition has been increased. To acquire flexibility and responsiveness which leads to gain higher business value, innovative information systems like internet are being more reliable in companies and firms.

“The Use of information technology frequently plays a crucial role in determining the participants on a project basis, in maintaining the relationship between the nodes of the network, and in supporting the collaboration of the participants over geographical distance and across different time zones” (ibid).

INTERNET AND E-COMMERCE IN MARITIME INDUSTRY

Maritime e-commerce commenced at 1999 coincident with beginning of e-commerce on other B2B industries. E-commerce has positive and significant impact on the maritime industry. Shipping companies have realized the importance of IT and e-commerce on cost reduction and efficiency enhancement (J. R. Kuehmayer 2002). High tension in competition in shipping industry, permanent force for cost reduction and reducing overheads are the main motive towards e-commerce implementation in maritime industry (ibid). (D. Ramasubramanian 2005) stated that nowadays using internet and e-commerce in maritime business sales activities are more common, shipping companies can use cargo booking sites, auction sites and scheduling portals to increase efficiency with decreasing marketing and distribution costs.

All parts of daily operation in marine business can be improved by using web based tool. Embracing web will increase visibility in supply chain by movement of the ship data through the whole supply chain (ibid).

E-PROCUREMENT IN MARITIME INDUSTRY AND SHIP MANAGEMENT COMPANIES

(D.Ramasubramanian 2005) in his paper stated that from 2003 major marine operators are spending on e-procurement as a business tool not just a faddish curiosity. Offshore oilrig procurement process can be automated by using internet and web services to incorporate oilrig owners, buyers, oilrig officers and vendors. Oilrig owners gain great saving by implementing paper-less and automated procurement process with their partners. The internet and web-based platform is reliable, easy to use and cost effective which with these attributes can support business process, such as procurement (ibid).

(Mark Haslett 2005) procurement manager of Wallem ship management stated that they have recognized the real profits of employing e-commerce into purchasing activities. He also mentioned that procurement activities can perform faster and more controllable with applying e-procurement system. It also facilitates access to information for all users and managers in the supply chain. By implementing e-procurement Wallem has an automated, secure and extremely efficient supply chain which is a real competitive advantage (ibid).

(Hansen 2005) purchasing manager of Redri AS Stated that e-procurement has reduced paper work and cycle time and also it allows fast reply to RFQ's and order confirmation. He also mentioned that the main obstacle in implementing e-procurement in marine industry is the lack of standardization for parts and ordering system between different parties in supply chain. Sending RFQ' is easier with e-procurement and transactions are more visible. It decreases number of employees in purchasing department by reducing the time for request verification and approval (ibid).

CONCLUSION

In this section, the research purpose and problem will be addressed and an overview of findings will be outlined. The purpose of the research was to provide better understanding of the impact of e-procurement in performance of ship management companies. The research result indicates that in overall implementation of electronic procurement has enhanced performance in the Islamic Republic Shipping Company. Generally, e-procurement is found effective in increasing performance and it can be utilized as a beneficial tool, especially during economic crises in shipping companies.

IMPLICATIONS FOR MANAGEMENT

Based on our research findings and the above conclusion, the following implications for management can be drawn:

- Concerning the efficiency improvement, it is recommended to control the number of procurement requests issuing by vessels, this will minimize the workload on the system. It can be done either by software limitation or applying special organization rules on order issuing.
- Reengineering of procurement process in IRISL should be carried out to minimize the complexity and bureaucracy and increase the system efficiency.
- On the subject of inventory management, one of the main problems is vessel's updating, IRISL should find the solution for

the mentioned problem. Encouraging ship stuff by financial allowances and providing proper tools for inventory management can be considered as the solutions for this problem.

- Concerning inventory management, IRISL should solve the problem of connectivity between maintenance and procurement software, in this way ship stuffs will only fill the information in one of these two software not both and this will reduce the workload on board of vessels.

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