

Abstract

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Enhancing the efficiency of supply chain documentation flow through the application of an e-business model: a case study of Alexandria Port

Ports are key members in the supply chain, therefore they are expected to provide reliable and efficient services. It has been recognised that one way to improve this is by adopting e-business solutions. Nowadays, a large number of organisations are operating their documents electronically. This research aims to identify the relationship between supply chain operations and e-business models; how e-business facilitates the documentation flow within a port context. The research focuses on a case study of Alexandria Port in Egypt, with the emphasis is on its current documentation systems. The principal aim of this research is to evaluate the benefits of using e-business models in ports with respect to the documentation flow; with the purpose of automating the port documentation flow, reducing the process documentation steps; the associated time. It also aims to investigate the documentation flow using the current systems applied in Alexandria Port; to design a generic e-business model that can be applied to ports such as Alexandria to reduce the steps within the documentation flow. This is referred as the GEMA Model, Generic E-Business Model for Alexandria Port. The research investigates the barriers faced by Alexandria Port in operating efficient supply chain operations. It focuses on the barriers to the smooth flow of documentation; the need to transform it into an electronic flow. It addresses the importance of the application of an e-business documentation flow system as a tool to speed up the operational process; is therefore a time saving to the port. The research also evaluates the importance of enhancing the trust between all parties involved in electronic business transactions to create awareness; collaboration. The analysis starts by reviewing the manual documentation system in Alexandria Port through direct participant observations, process mapping, structured and semi-structured interviews; modelling. This is followed by an analysis of the semi-automated e-business system introduced by the port after one year from the beginning of this research (using the same methods as the manual system; only automate the customs process); highlights the strengths and weaknesses of these two current systems of the port. Finally, it analyses; evaluates the effectiveness of this GEMA e-business model; discusses how it can affect the efficiency of the documentation flow in the port. The research evaluates the likely effectiveness of the original GEMA model with the focus on the documentation flow steps; time reduction using a before and after scenario. The research highlights the effectiveness of using e-business in ports; it can reduce the documentation flow time; related costs. The research methodology used is multiple methodological approaches including participant observation, process mapping, structured and semi-structured interviews; e-business modelling.