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**HARMONISATION OF PORT TRANSFORMATION USING SUPPLY CHAIN  
ARCHITECTURE: SCOR CONVERGENCE WITH LEAN AND SIX SIGMA**

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**ABSTRACT:** Global demand for containerized traffic has recently increased. Hence, ports are required to increase their capacity. Many ports have responded with a traditional focus on establishing new infrastructure or geographical expansion. But, ports aim to improve their performance and increase their productivity to capture the business opportunity to cope with an increase in demand and to have competitive advantage. Port authorities, investors and operators work scarcely to optimise the overall performance of their terminals, to get a clear strategy and to focus on delivering higher total returns to stakeholders. Port authorities move toward investing in the capability improvement in order to achieve high performance. Leung (2008) claimed that there are three areas of business capability that can achieve a high port performance namely, terminal performance management, terminal operations management and terminal enterprise management. This paper focuses on improving terminal performance management as it helps port not only to understand earning-based figures, but also to manage factors that drive business growth. This requires optimising port value drivers, supported by back-end business algorithms such as Balanced Scorecard, Six Sigma and SCOR.

The purpose of this paper is to manage port transformation in order to improve performance of terminals using supply chain architecture. Three models were combined in the proposed architecture including SCOR, Lean and Six Sigma. Exploratory approach is conducted in this paper as it helps build strength around the linkage between process elements, metrics, best practices and features associated with supply chain execution.

**KEYWORDS: TERMINAL PERFORMANCE MANAGEMENT, PORT PERFORMANCE MEASUREMENT, SUPPLY CHAIN ARCHITECTURE.**