

The Study of heory of Constraints on Coal Ship-Uloading Efficiency Improvement

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ABSTRACT

Marine and air transportation are two common shipping ways provided by international physical distribution industry. Due to larger transportation capacity, lower fuel consumption rate, and cheaper shipping cost, marine transportation has been viewed as the major shipping way. In recent years, the harbor management departments have increasingly regarded it essential to enhance the operating performance of the port, and the operating efficiency and service quality an important role in the advancement of the operating performance. To promote the operating performance of the port, the harbor management departments have conducted research on the topics with regards to the operating efficiency and service quality . However, little research has been done on the improvement of the ship unloading process. The purpose of the current research is to apply Theory of Constraints to harbor and port businesses. The research will review various performance indicators associated with harbor and port businesses to determine activities of the ship-unloading process appropriate for bulk cargo ships. In this research, case study will be employed as the research method to critically examine the whole ship unloading process and its related activities. It will also conduct statistical analysis on the primary data regarding operating performances to find out the bottlenecks of the ship-unloading process, the ways to improve them, and the bottleneck wandering phenomenon it may thus cause.

Keywords : theory of constraints, ship-unloading, performance indicators , bolttleneck

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REFERENCES

- 一、中文部份 1. Eliyahu M. Goldratt and Jeff Cox(1992):The Goal-A Process of Ongoing Improvement (齊若蘭譯:目標-簡單而有效的常識管理,天下遠見出版,2005) 2. Eliyahu M. Goldratt(1994):It ' s not luck (周伶利譯:絕不是靠運氣-創造事業與人生的雙贏,天下遠見出版,2004) 3. Eliyahu M. Goldratt(1997):Critical Chain(羅嘉穎譯:關鍵鏈-突破專案管理的瓶頸,天下遠見出版,2004)。 4.李榮貴、張盛鴻(2005):TOC限制管理—從有限走向無限,中國生產力中心出版,頁51。 5.吳鴻輝、李榮貴(2005):限制驅導式現場排程與管理技術,全華科技圖書公司出版,頁2-15。 6.王穆衡等、張世龍、陳一平、陳佩棻(2002):船舶貨物裝卸承攬業營運與服務評監制度之研究(一)-評監指標之建立,交通部運輸研究所,運輸經營管理組,頁7-8,頁7-13。 7.張建新(2003):應用以限制理論為基礎之先進排程系統干連續製程之研究,成功大學工業管理研究所 碩士論文,頁1。 8.任台平(2003):港埠建設民營化投資策略之研究,海洋大學航運管理學系碩士論文。 9.朱金元(1992):高雄港貨櫃碼頭營運績效指標之分析,港灣技術第七期,頁119,頁126。 10.朱金元(1991):高雄港貨物裝卸作業指導調查研究,港灣技術研究所專刊第69號,頁119。 11.林志翰(2004):瓶頸漂移問題之分析與研究,交通大學工業工程與管理學系碩士論文,

頁7-頁8。 12.陳義雄(2002):台中港散雜貨裝卸作業民營化對提昇裝卸效率績效之研究，國立台灣海洋大學航運 管理學系碩士學位論文，頁8、頁33。 13.陳奇正(1998):台北捷運服務績效指標檢討修正之研究。 14.台灣電力股份有限公司(2003):台灣電力公司，燃料營運作業手冊，燃料處編印，頁5-10。 15.李育民(1998):限制驅導式排程法在工具機製造廠之運用，朝陽大學工業工程與管理研究所。 二、英文部分 1. H.William Dettmer(1997):Goldratt ' s Theory of Constraints – A Systems Approach to Continuous Improvement American Society for Quality(ASQ) 2. Plumlee,Carl L. P.E.(1979):Port performance index , Public Works Consultants, 188W Elfin Green Port Unenme . 3. Hoffman,P. : performance Indicators and Productivity,Port Mangement Texbook Containerization,Bremen. 4. Thomas,B.J(1985):Operations Plannng in Ports, University of Wales Institue of Science Technology, Cardiff, UK. 5. UNCTAD, Port Performance Indicators, A hand book for planners developing countries, New York, 1985.