A Study on Innovative Service Systems Using Systems Engineering and Platform-based Technology

葉宗翰、金憲:余豐榮

E-mail: 9509854@mail.dyu.edu.tw

ABSTRACT

In addition to the manufacturing industries, new service oriented industries have been selected as the major economics booster in Taiwan. Ministry of Economic Affairs (MOEA) in Taiwan intent to develop new strategic service industries with high technology for raising the Taiwanese total economy strength. Innovation and integration mean significant of manufacturing or service industry. Furthermore, most industries hold limited energy to enforce innovation and integration, for the cause industries need service provider can supply customize total solution. The major purpose of this study is using systems engineering three-dimensional morphology integrating information communication tech. (ICT), bring up a virtual concept of systems engineering service platform (SESP). Via SESP, industries can obtain customize total solutions and raising competition. In this program, case study will be discussed using systems engineering three-dimensional morphology to plan an originality industry integrating fishery and locally culture, furthermore defined the business structure and standard operating procedure.

Keywords: systems engineering; three-dimensional morphology; systems engineering service platform (SESP); innovative service systems

Table of Contents

封面內頁 簽名頁 授權書 iii 中文摘要 iv ABSTRACT v 誌 謝 vi 目 錄 vii 圖目錄 ix 表目錄 xi 第一章 緒論 1 1.1 研究背景與動機 1 1.2 研究目的 2 1.3 研究方法與流程 2 第二章 文獻探討 4 2.1 系統工程 4 2.1.1 系統與系統工程的定義 4 2.1.2 系統工程內容 6 2.2 創新服務業 7 2.2.1 服務業的分類 7 2.2.2 企業競爭力指標 8 2.2.3 創新服務產業的分析與發展 9 2.2.4 知識密集服務產業 12 2.3 創新服務系統 15 2.4 系統工程於創新服務系統應用之研究 19 第三章 系統工程服務平台 24 3.1 系統工程三維結構與程序 24 3.1.1 邏輯維 26 3.1.2 時間維 29 3.1.3 知識維 31 3.2 系統工程服務平台 33 3.2.1 系統工程服務平台架構 33 3.2.2 系統工程服務平台運作流程 34 第四章 結合漁業文化之創意餐飲產業 38 4.1 結合漁業與廟宇等在地文化 40 4.1.1 需求分析40 4.1.2 功能分析 41 4.1.3 功能配置 51 4.1.4 設計?整 53 4.1.5 營運組織架構 55 4.2 標準操作程序(SOP) 57 第五章 結論與建議 59 參考文獻 60 附 錄 62

REFERENCES

- [1]. Hall, A.D., Systems Engineering from an Engineering Viewpoint, IEEE. Trans., SSC-1, 4-8, 1965.
- [2]. Hall, A.D., Three-Dimension Morphology of Systems Engineering, IEEE. Trans., SSC-5, 156-160, 1969.
- [3]. Sage, A.P., Introduction to Systems Engineering Methodology and Applications, IEEE Press, 1-10, 1977.
- [4]. Miles, I., The New Global Economy in the Information Age, International Journal of Urban and Regional Research, 3 (18), 540-541, 1994.
- [5]. Porter, M.E., The competitive advantage of nation, NY:Free Press, 1990.
- [6]. Bilderbeek, R., P. den Hertog, Mark, G. and Miles, I., Services in innovation: Knowledge Intensive Business Services (KIBS) as co-producers of innovation, SI4S Project Synthesis Report of the Results of Workpackages, 4 (4), 1998.
- [7]. Muller, E., Zenker, A., Business services as actors of knowledge transformation: the role of KIBS in regional and nation innovation systems, Research Policy, 30 (9), 1501-1516, 2001.
- [8]. Chin, D.H., Chang, L. and Wang, T.J., An Innovative Mechanism in Systems Engineering Application to the Knowledge Intensive Service Industries, submitted to International Journal of Innovation and Incubation (revised).
- [9]. European Commission, Innovation policy in a knowledge-based economy, A MRIT Study Commissioned by the European Commission, 2000.
- [10]. Chrisopher, H. L., Services Marketing, Prentice-Hall, Inc., 1996.
- [11]. James, L.H., Managing in the Services Economy, Harvard Business School Press, 1986.
- [12]. Blandchard, B.S. and Fabryky, W.J., Systems Engineering and Analysis, Prentice-Hall, Inc., NJ, 3rd ed, 1990.
- [13]. INCOSE, Systems Engineering Handbook, 2002.
- [14]. 張臨江, 金憲, 台灣新興服務業科專計畫之系統化創新機制, 產業論壇, 6(5), 141-161, 2004.
- [15]. 陳啟光,王國明,系統工程在建構高等教育整體校務管理模式之應用,管理與系統,8(1),1-16,2001.

- [16]. 薛紀建,林啟良,駱國勝,劉志明,系統工程之回顧及其應用實例,電信技術季刊,12(1),1992.
- [17]. 滕步旭,應用系統工程建構產品開發之研發聯盟模式,國立交通大學管理學院碩士論文,2004.
- [18]. 許牧彥,蔡淑梨,創新服務公司營運模式研究分析,工研院系統中心94年度分包學術機構研究計畫期末報告, 2004.
- [19]. 徐智原,可靠度工程於知識密集服務業技術應用分析與應用模式規劃研究報告,經濟部93年度科技研究發展專案研究報告,2004.
- [20]. 顧志遠,服務業系統設計與作業管理,華泰文化,台北,1998.