The implementation of a self diagnosis and learning system for innovative proposal by using systems engineering approach

黃建中、金憲

E-mail: 321455@mail.dyu.edu.tw

ABSTRACT

Present study applies systems engineering methodology and process to integrate cross-discipline technology to build up an innovative platform system with the functions of proposal consulting, diagnosis service and learning to assist the traditional industry, the industrial innovation and research alliance established by eight research organizations in the central part of Taiwan. Many new proposals have been submitted by the research organizations and companies for application of government supplement funds. Also, the preparation of proposals relies on manual heavily. There are short of tools either in preparation process or in proposal self-diagnosis stage. During the complicated evaluation process, it will consume a lot of time if the proposal material is incomplete. In order to improve this process, present study has established a proposal and self-diagnosis system in web environment. It can assist proposal applicant a systematic mechanism to write, to self-diagnosis and evaluate. This study has applied systems engineering methodology and ASP.NET tool to constitute an innovative system proposal, self-diagnosis and learning service platform. This platform constitutes a web-based system framework and contains all the innovative system proposal needed tools and methods. By the introduction of knowledge management, this study collect and analysis results from the success proposal cases within each specific industry over last three years to formulate successful proposal cases database. The applicants can learn the essence of the innovative proposal. Present platform also integrated into the industrial innovation and research alliance service network to provide comprehensive service to all the new proposals.

Keywords : knowledge management、innovative proposal and self-diagnosis、systems engineering

Table of Contents

封面內頁 簽名頁 博碩士論文暨電子檔案上網授權書 iii 中文摘要 iv Abstract v 誌謝 vi 目錄 vii 圖目錄 x 表目錄 xii 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3 第二章文獻探討5 2.1傳統產業創新聯盟5 2.2黃金智庫6 2.3Web-based創新服務6 2.3.1Web-based創新服務研究探討6 2.3.2Web-based創新服務實例8 2.4系統工程15 2.4.1系統工程內容16 2.4.2系統工程程序17 2.4.3系統化創新服務平台架構20 2.4.4系統化創新服務平台運作流程20 第三章創新系統提案諮詢診斷服務與學習平台24 3.1系統開發流程24 3.2使用者情境25 3.3系統需求26 3.4功能分析27 3.5系統架構33 3.6創新系統提案與自我診斷平台功能模組35 第四章平台流程及展示38 4.1首頁38 4.2提案診斷39 4.3人才庫42 4.4工具庫44 第五章結論與建議46 參考文獻47 附錄一 創新平台自我診斷系統使用者手冊51 1.0概說51 1.1目的51 1.2範圍52 1.3系統架構52 2.0系統說明54 2.1功能特色55 2.2資料庫55 2.3系統環境56 3.0系統操作57 3.1快速參考指引72

REFERENCES

英文部分: [1]. Rahman, S. M., Sarker, R., and B. Bignall, “ Application of multi-media technology: a review, ” Computers in Industry, 38, 1999, 43-52.

[2]. Lee, W. B., and H. C. W., Lau, “ Multi-agent modeling of dispersed manufacturing networks, ” Expert Systems with Application, 16, 1999, 297 – 306.

[3]. Waterman N. A. and P. Dickens, “ Rapid product development in the USA, ” World Class Design To Manufacture, 1, 1994, 27-36.

[4]. Camarinha-Mators, L. M., Afsarmanesh, H., and C. Garita, “ Towards an architecture for virtual enterprises, ” Intelligent Manufacturing, 9, 1998, 189-199.

[5]. Abdel-Malel, L. L., Wolf, C., and P. D., Guyot, “ Telema-nufacturing:a flexible manufacturing solution, ” Inter-national Journal of Production Economics, 56, 1998, 1-12.

[6]. Montreuil, B., Frayret, J. M., and S. D., Amours, “ A strategy framework for networked manufacturing, ” Computers in Industry, 42, 2000, 299-317.

[7]. Offodile, O. F., and L. L., Abdel-Malek, “ The virtual ma-nufacturing paradigm:the impact of IT/IS outsourcing on manufacturing strategy, ” International Journal of Production Economics, 75, 2002, 147-159.

[8]. O ’ Sullivan, D., “ Framework for managing business development in the networked organization, ” Computers in Industry, 47, 2002, 77-88.

[9]. Foo, S., Hui, S. C., and C. Leong,“ An integrated help desk support for customer services over the World Wide Web-a case study,” Computers in Industry, 41, 2000, 129-145.
[10]. Lan, H., Ding, Y., Hong, J., Huang, H., and B., Lu,“ A web-based manufacturing service system for rapid product development ” ,Computers in Industry, 54, 2003, 51-67.
[11]. Blanchard, B. S. and W. J. Fabryky,“ Systems Engineering and Analysis 4th Edition ”, Prentice Hall, Inc., 2006.
[12]. Hall, A. D.,“ Systems Engineering from an Engineering Viewpoint, ” IEEE. Trans., SSC-1, 1965, 4-8.
[13] IEEE P1220, ” Standard for Application and Management of the Systems Engineering Process, ” Institute of Electrical and Electronics Engineers, 1994 , 11. 中文部分: [14]. 金憲、羅國書、張書瑋、余豐榮，網路架構下之先進車輛創新應用知識庫與資訊服務平台，中華民國自動機工程學會2007年第一期會刊，2007年9月1日。
[15]. 張書偉，運用系統工程於創新服務平台之研究-以車輛產業為例，私立大葉大學工業工程與科技管理所碩士論文，2007。
[16]. 葉宗翰，應用系統工程及整合平台技術於創新服務系統之研究，私立大葉大學工業工程與科技管理所碩士論文，2006。
[17]. 許凱榮，運用系統工程及整合平台技術於企業創新診斷系統之研究，私立大葉大學工業工程與科技管理所碩士論文，2007。
[18]. 洪正坤，運用系統工程建構社區創新診斷系統之研究，私立大葉大學工業工程與科技管理所碩士論文，2008。
[19]. 林淑玲，運用系統工程及整合平台技術於RFID創新服務系統之研究，私立大葉大學工業工程與科技管理所碩士論文，2007。
[20]. 陳崇毅，”線上自我診斷與案例庫擷取之創新提案系統建置 ”私立大葉大學工業工程與科技管理所碩士論文，98年7月。
[21]. 金憲、陳偉星、黃建中、林志遠、王聰榮，應用系統工程建置「創新提案自我診斷與 諮詢學習平台」之研究，2010中華民國系統科學與工程會議(2010 National Symposium on System Science and Engineering, NSSSE'10)，FR-III-D_547，台北科技大學 ，2010/07/01-2010/07/02。
[22]. 金憲、陳偉星、黃建中、林志遠、王聰榮、賴慧娟、洪慧真，創新提案自我診斷與諮詢學習網路平台之研究，2010第六屆跨領域管理學術暨實務研討會-主題:科技與管理，NO.20 第88頁，2010/05/22。
[23]. 金憲，97學年度第1學期系統工程&計畫管理講義，大葉大學，2008。 網站與軟體部分: [24]. 傳統產業創新聯盟, http://www.aiti.org.tw/pages/default.aspx [25]. 宏碁為具電子化服務， http://www.acer.net/index.jsp [26]. 農業技術線上諮詢交流平台, http://vtc.tari.gov.tw/index.aspx [27]. 生活智庫法律顧問平台， http://www.smart-life.com.tw/ [28]. 智慧型車輛電子測試驗證資訊服務平台， http://veed.web66.com.tw/web/Home?FP=1064 [29]. YourEncore， http://www.yourencore.com/ [30]. InnoCentive, http://www.innocentive.com/ [31]. 黃金智庫， http://goldenhouse.aiti.org.tw/forms/index.aspx