# Service science perspectives on systematic innovation and its relationship between service quality for hospitality indus

# 楊國鋒、邱創鈞

E-mail: 321857@mail.dyu.edu.tw

#### **ABSTRACT**

As Taiwanese manufacturers have gradually been relocated to other countries, the industry structure is undergoing a structure transformation. Therefore, the service industry has become an important industry in Taiwan. Due to the fierce industry competition, innovation has become an essential tool to sustainable development. In order to improve service quality, IBM developed Service Science in 2004, which efficiently combines human resources and technology, and aims to create value through innovative services and service integration. Due to the increasing income and the implementation of labor laws, the public begin to care about their entertainment and leisure. The hospitality industry has blossomed along with the tourism industry. In order to secure the market, hotels are providing information technology services in order to establish their own brand image and service originality. Most previous studies have focused on service quality and customer satisfaction, and seldom examine whether service science and systematic innovation could efficiently improve the service quality of the hotel industry. Therefore, this study reviewed literature regarding service science and service innovation, and selected the Fleurdechine Hotel, as it meets the criteria of this study for statistical investigation of the relationships between service quality and the introduction of a systematic innovation, namely, a simulated housekeeper. It also explored whether respondents 'socioeconomic backgrounds and previous accommodation experience shape their acceptance regarding systematic innovations and perceptions of service quality. Based on research results, the following conclusions are reached: 1.Respondents 'socioeconomic backgrounds influence their acceptance of systematic innovations. Among all socioeconomic factors, except for gender, all factors influence respondents 'conceptions regarding service quality. With respect to the degree of acceptance of service quality, the effects of generation are profound, as younger generations have a higher degree of acceptance toward systematic innovations, while older generations, and those who cannot utilize information devices, prefer to receive more assistance from service personnel. Service quality procedures and staffs must be more sensitive to the feelings of individuals with higher educational attainment, family tourism, and travelers with very long travel days. 2. Previous accommodation experience would affect respondents ' acceptance of systematic innovations and conceptions regarding service quality. Therefore, for those customers with no accommodation experience, hotels should help them to understand the hotel 's service contents through propaganda, thus, attracting them to the hotel. This study suggests that it is effective to promote hotels through tourists 'experience sharing. 3. The relationship between systematic services and service quality reveals that service provisions, customer information, auxiliary support, and innovation efficiency have equal and considerable influence on service quality. The influence of customer information is especially profound. Research findings suggest that hotel industries could improve service quality through information technology. Moreover, they should fully implement the provision of customer information in order to influence customer information and their accommodation habits and needs. These two aspects could enhance customers ' satisfaction and enhance market performances.

Keywords: Service Science, Hotel Industry, Service Innovation, Service Quality, family

### **Table of Contents**

目錄 封面內頁 簽名頁 授權書iii 中文摘要iv ABSTRACTvi 誌謝viii 目錄ix 圖目錄xii 表目錄xiii 第一章 緒論1 1.1 研究背景1 1.2 研究動機3 1.3 研究目的5 1.4 研究流程圖6 1.5 研究架構7 第二章 文獻探討8 2.1 國際觀光飯店8 2.1.1 飯店之定義8 2.1.2 飯店之分類9 2.1.3 國際觀光飯店的特性11 2.1.4 小結12 2.2 服務科學13 2.2.1 服務科學的定義13 2.2.2 服務科學特性16 2.2.3 服務科學與服務創新的關係17 2.2.4 小結19 2.3 服務創新19 2.3.1 服務的定義與特性19 2.3.2 服務創新的定義與構面24 2.3.3 服務創新的特性與測量構面26 2.3.4 小結28 2.4 服務品質29 2.4.1 服務品質的定義29 2.4.2 服務品質之模式32 2.4.3 服務品質的測量構面34 2.4.4 小結37 第三章 研究方法與設計38 3.1 研究架構與研究假設38 3.2 研究對象及抽樣39 3.3 測量工具40 3.4 資料分析方法42 第四章 資料討論與分析45 4.1 個案選擇、雲朗觀光、雲品酒店和虛擬管家計畫建置45 4.1.1 個案選擇45 4.1.2 雲朗觀光48 4.1.3 雲品酒店50 4.1.4 虛擬管家計畫建置內容58 4.2 資料分析61 4.2.1 受訪者社經背景描述62 4.2.2 住宿經驗描述64 4.2.3 變項測量結果67 4.2.4 項目分析、信度和因素分析76 4.2.5 假設檢定84 第五章 結論與建議102 5.1 研究結論102 5.2 研究建議與後續研究方向107 參考文獻109 附錄一 飯店業系統化服務創新與服務品質關係研究問卷116 附錄二 雲品酒店 - 虛擬管家圖片128 附錄三 服務創新項目分析摘要表130 圖目錄 圖1-1 研究流程圖6 圖2-1 SSME特性是跨學科的課

程體系16 圖2-2 服務科學與創新服務關係圖18 圖2-3 服務創新四構面模型25 圖2-4 PZB服務品質模式33 圖3-1 研究架構圖39 圖3-2 資料分析流程圖44 圖4-1 雲朗觀光旗下-商務型飯店49 圖4-2 雲朗觀光旗下-精品型飯店49 圖4-3 雲朗觀光旗下-國際觀 光型飯店49 圖4-4 IP通訊產品功能介面51 圖4-5 Thin Client多媒體平台的遙控器53 圖4-6 Thin Client多媒體平台的客房娛 樂54 圖4-7 Thin Client網際網路服務54 圖4-8 Thin Client多媒體平台中的e管家服務54 圖4-9 Thin Client多媒體平台的精品購 物55 圖4-10 Thin Client女性服務員的解說55 圖4-11 Thin Client的雲品酒店介紹56 圖4-12 數位飯店及虛擬管家建置計畫主 要內容59 圖4-13 服務創新因素分析陡坡圖79 圖4-14 服務創新與服務品質之典型相關第一組變量圖101 圖4-15 服務創新與 服務品質之典型相關第二組變量圖101 表目錄 表2-1 服務科學之定義14 表2-2 服務之定義21 表2-3 服務創新各構面及測量題 項27 表2-4 服務品質之定義30 表2-5 PZB服務品質構面與問項35 表3-1 問卷服務創新構面與測量題項41 表3-2 問卷服務品質 構面與測量題項41 表4-1 飯店業服務創新案例45 表4-2 整合項目46 表4-3 IP通訊產品功能整理表52 表4-4 IP通訊產品和Thin Client功能差異56 表4-5 虛擬管家對顧客產生的價值60 表4-6 受訪者社經背景描述表63 表4-7 過去一年住宿飯店次數表65 表4-8 是否住宿過國際觀光飯店次數表65 表4-9 是否住宿過導入服務創新設施之國際觀光飯店次數表66 表4-10 是否滿意住 宿飯店的服務創新設施67 表4-11 服務創新問項測量描述表68 表4-12 雲品酒店提供系統化服務創新問項測量描述表73 表4-13 服務品質問項測量描述表74 表4-14 服務品質構面信度分析表77 表4-15 交叉負荷量(cross-loading)的題項78 表4-16 因 素命名與說明80 表4-17 服務創新因素分析摘要表81 表4-18 社經背景與服務創新接受程度檢定摘要表86 表4-19 住宿經驗與 系統化服務創新接受程度檢定摘要表190 表4-20 住宿經驗與系統化服務創新接受程度檢定摘要表291 表4-21 社經背景與服 務品質認知程度接受度檢定摘要表93 表4-22 住宿經驗與服務品質認知程度檢定摘要表197 表4-23 住宿經驗與服務品質認知 程度檢定摘要表298 表4-24 服務創新與服務品質之典型相關分析表100

## **REFERENCES**

一、中文部份 1.王伯揚(1996),中國一流飯店,淑馨,台北。 2.王怡茵(2007),建構服務創新衡量模式之研究:以台灣國際觀光旅館業為例 ,中小企業發展季刊,14,177-206。3.王晶(2007),知識管理與圖書館服務創新,山西青年管理幹部學院學報,20(1),87-88。4.王樹良、 曾一昕和袁漢寧(2009),服務科學導論,武漢大學出版社,武昌。 5.丘宏昌、謝依靜(2007),服務行銷與管理,雙葉書廊,台北。 6.李素 馨(1994),典型相關分析-專業程度、遊憩動機和基地屬性認知關係之探討,戶外遊憩研究,7(3),39-62。 7.何紹華(2008),服務科學背景 下圖書情報機構的服務創新,教育資料與圖書館學季刊,45(3),357-370。 8.沈華榮、黃深勳、陳光榮、李正文(2002),服務業行銷,國立 空中大學,台北。 9.林震岩(2010),多變量分析:SPSS操作與應用,智勝文化,台北。 10.胡凱傑、呂明穎、黃美婕(2010),航空貨運站服 務品質、創新能力與企業形象對顧客滿意度與忠誠度之影響,商略學報,2(1),37-54。 11.洪順慶(2001),行銷管理,新陸書局,台北。 12.徐琪(2008),基於服務科學的物流服務創新模式,科技進步與對策,25(4),55-58。 13.吳信宏(2009),服務科學的最近發展,品質月刊 , 45(3),29-32。 14.吳武忠(1999), 餐旅服務品質之管理與控制, 高雄餐旅學報, (2),21-27。 15.吳偉文(2009), 服務金鑰匙與服務科學, 東 亞論壇季刊465,49-58。 16.陳怡君(1995),提升顧客對旅館服務品質滿意之探討,觀光教育,13(3),24-30。 17.陳澤義(2005),服務管理, 華泰文化,台北。 18.梁戰平(2005),21世紀的新興科學-服務科學,中國信息導報,(5),11-14。 19.許明德(2008),服務科學,科學發展 , (424),68-72。 20.許立群(2006), 遊客利益追求、服務品質對整體滿意度及重遊意願關聯之研究, 以台灣地區國際觀光旅館為例,遠東 學報,23(2),177-200。 21.許慶瑞、陳勁、鄭剛(2003),21世紀的技術創新與技術管理,國際學術動態,(3),11-14。 22.孫昱倫(2009),線上 遊戲玩家遊憩專門化與認真性休閒關係之研究,私立靜宜大學觀光事業學系研究所碩士論文。 23.張宦民、吳宗正、溫敏杰(2005),組織 文化對創新能力之影響-以台灣地區電線電纜上市公司為例,經營管理論叢,1(2),59-74。 24.張莉青(2003),網站呈現與網站信任感之關 係-以服飾網站為例,國立政治大學資訊管理研究所碩士論文。 25.張國雄(2007),行銷管理,雙葉書廊,台北。 26.鈕先鉞(2002),旅館 營運管理與實務,揚智文化,台北。 27.曾鳳秋(2008),飯店產業服務創新專案開發模式-以日月潭雲品酒店為例,國立政治大學科技管 理研究所碩士論文。 28.楊允祚(1983),觀光辭典,國際觀光中心,台北。 29.楊東震、羅珏瑜譯(2003),Christopher Lovelock & Lauren Wright著,服務行銷與管理,雙葉書廊,台北。30.楊慧華(2001),企業文化、企業願景、經營策略與經營績效之關係研究-以台灣國際觀 光旅館為實證,國立成功大學企業管理研究所碩士論文。 31.楊耀偉(2009),探討資訊科技、創新與企業經營績效之關係-以中小型商業 服務業為例,國立成功大學工業與資訊管理研究所碩士論文。 32.鄭敏玉(2000),國際觀光旅館服務品質與效率評估之研究 - 以台北地區 國際觀光旅館為例,私立銘傳大學管理科學研究所碩士論文。 33.謝明成、吳健祥(1995),旅館管理學,眾文圖書,台北。 34.謝森 展(1996),服務行銷管理,創意力文化,台北。35.蘇雲華(1996),服務品質衡量方法之比較研究,國立中山大學企業管理研究所博士論 文。 二、英文部分 1.American Marketing Association. (1960), "Marketing definitions: a glossary of marketing terms," AMA: Chicago. 2.Avlonitis, G.J., Papastathopoulou, P.G. and Gounaris, S.P. (2001), "An empirically-based typology of product innovativeness for new financial services: success and failure scenarios, "Journal of Product Innovation Management, Vol. 18, No. 5, pp. 324-342. 3.Bessom, R. (1973), "Unique Aspects of Marketing of Service, "Arizona Business Bulletin, pp. 23-27. 4.Brown, T.J., Churchill, G.A. and Peter, J.P. (1993), "Research note: Improving the measurement of service quality, "Journal of Retailing, Vol. 69, No. 1, pp. 127-139. 5. Blois, K.J. (1974), "The Marketing of Service: An Approach, "European Journal of Marketing, Vol. 8, No. 2, pp. 137-135. 6.Bilderbeek, R., Hertog, P. and Marklund, G. (1998), "Services in Innovation: Knowledge Intensive Business Services (KIBS) as Co-Producers of Innovation," STEP group, SI4S report, No. 3. 7.Cronin, J.J. and Taylor, S.A. (1992), "Measuring Service Quality: A Reexamination and Extension," Journal of Marketing, Vol. 56, No. 3, pp. 55-68. 8. Frolovicheva, K. (2006), "The emergence of service science: Towards systematic service innovations to accelerate the coproduction of value, "Journal of Global Business and Technology, Vol. 2, No. 2, pp. 39-55. 9. Etzel, M.J., Walker, B.J. and Stanton, W.J. (2001), "Marketing

Management, "12th Edition, McGraw. Hill, Irwin. 10.Gronroos, C. (1984), "A Service Quality Model and its Marketing Implications," European Journal of Marketing, Vol. 18, No. 4, pp. 36-44. 11. Gummesson, E. (1987), "Lip Service-A Neglected Area in Service Marketing," Journal of Service Marketing, Vol. 1, No. 1, pp. 19-23. 12.Law, R., Leung, R. and Buhalis, D.(2009), "Information Technology Applications in Hospitality and Tourism: A Review of Publications form 2005 to 2007, " Journal of Travel & Tourism Marketing, Vol. 26, No. 5 & 6, pp. 599-623. 13.Levitt, T. (1972), "Product-Line Approach to Service," Harvard Business Review, Vol. 50, No. 4, pp. 41-52. 14.Nunnally, J.C. (1978), "Psychometric Theory," 2nd Edition, NY: McGraw-Hill. 15. Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1985), "A conceptual model of service quality and its implication for future research, "Journal of marketing, Vol. 49, No. 4, pp. 41-50. 16. Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1988), "SERVQUAL: A multiple item scale for measuring consumer perceptions of service quality," Journal of retailing, Vol. 64, No. 1, pp. 12-40. 17. Sheehan, J. (2006), "Understanding Service Sector Innovation. Spohrer J and Riecken D (Eds) Services Science," Communications of the ACM, Vol. 49, No. 7, pp. 43-53. 18. Spohrer, J. (2007), "Service science: The Next Frontier in Service Innovation-IBM Interview with Jim Spohrer, "Singapore: IBM Singapore Pet Ltd. 19.Spohrer, J., Maglio, P.P., Bailey, J. and Gruhl, D. (2007), "Steps toward a science of service systems, " Computer, Vol. 40, No. 1, pp. 71-77. 20. Spohrer, J. and Maglio, P.P. (2008), "Fundamentals of service science," Journal of the Academy of Marketing Science, Vol. 36, No. 1, pp. 18-20. 21. Kotler, P. (2003), "Marketing Management," 11th Edition Prentice-Hall, Inc. 22.Kim, M.K., Park, M.C. and Jeong, D.H. (2004), "The Effects of Customer satisfaction and Switching barrier on customer loyalty in Korean mobile telecommunication services, "Telecommunication Policy, Vol. 28, No. 2, pp. 145-159. 23. Wakefield, R.L. (2001), "Measuring service quality: A Reexamination and Extension," The CPA Journal, Vol. 71, No. 8, pp. 55-68. 24. Walters, C.G. (1974), " Consumer Behavior: Theory and Practice," NY: Richard D, Irwin Inc. 25. Walters, C.G. (1978), "Consumer Behavior: An Integrated Framework, "NY: Richard D, Irwin Inc. 26. Wilkins, H., Merrilees, B. and Chian, C. (2007), "Towards an understanding of Total service quality in hotels, "International Journal of Hospitality Management, Vol. 26, No. 4, pp. 840-853. 27.Wolff, J.A. and Pett, T.L. (2006), "Small-firm performance: Modeling the role of product and process improvements, " Journal of Small Business Management, Vol. 44, No. 2, pp. 268-284. 28. Worcester, R.M. (1972), "Consumer Market Research Handbook," NY: McGraw-Hill Book Company. 29. Zeithaml, V.A. and Bitner, M.J. (1996), "Service Marketing," NY: McGraw-Hill. 三、網站與雜誌資料 1IT home電腦報, http://www.ithome.com.tw/itadm/article.php?c=54532。 2日月潭雲品酒店網站, http://www.fleurdechinehotel.com/。 3交通部觀光局網 站,99年4月觀光市場概況概要, http://admin.taiwan.net.tw/statistics/release\_show.asp?selno=2495。 4交通部觀光局網站,97年星級旅館 評鑑計劃 ,http://admin.taiwan.net.tw/law/law\_show.asp?selno=306。 5行政院主計處 ,99年5月發布國民所得統計及國內經濟情勢展望 , 表3 國內生產毛額-依行業分, http://www.dgbas.gov.tw/public/data/dgbas03/bs4/ninews/9905/newtotal9905.pdf。 6黃彥棻(2009),提供 超乎客人預期的服務-遠東飯店用IT提升顧客滿意度,IT home 電腦報, http://www.ithome.com.tw/itadm/article.php?c=58459。 7雲朗觀 光網站 , http://www.hotelsdechine.com/?Psn=6085。 8陳建豪、高怡帆(2010) , 八大服務創新出爐 , 遠見雜誌 , 283 , http://www.gvm.com.tw/Board/content.aspx?go=cover&ser=15730。 9曠文琪、彭瑋琳(2006),服務科學將推動下一波經濟浪潮?,商業週

刊, 966, http://www.businessweekly.com.tw/article.php?id=23954。