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金融服務業之服務創新策略：逆向產品生命週期與創新型態的觀點

Service Innovation Strategies in Financial Service Industry: the Perspective of Reverse Product Cycle and Innovation Type

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摘要：服務創新相關研究日益受到重視，但過去研究多是針對製造業的產品與製程創新討論，鮮少針對金融服務業創新做相關研究，尤其針對服務創新策略與企業績效的研究更是稀少。本研究以逆向產品生命週期理論與創新型態為基礎，發展一2x2的模型矩陣，建立四種服務創新策略，包含:(1)穩健加值策略、(2)新興目標策略、(3)興旺事業策略、以及(4)碩彥效率策略，並進一步分析四種創新策略對公司績效的影響差異。本研究以台灣金融業共189間總公司為研究對象進行調查，首先透過六位金融業經理人的意見訪談建立專家問卷效度。並針對全體金融業的總經理進行二波問卷發放，共蒐集48份問卷，回收率為24%。經由透過集群分析發現穩健加值策略、新興目標策略與興旺事業策略皆存在於金融服務業。其中，穩健加值策略的企業績效是明顯

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高於新興目標策略與興旺事業策略。雖多數企業採用破壞性創新作為服務創新策略相關之活動，但採用維持式創新幫助金融業在績效表現卻是明顯優於破壞性創新。本研究所提供的服務創新策略皆能夠幫助管理者思考及時回應客戶的需求與建立其企業本身的持續競爭優勢。最後，本研究針對研究結果與發現提出管理及政策意涵。

關鍵詞：服務創新；破壞性創新；逆向生命週期；公司績效

Abstract The importance of service innovation has been widely recognized for enterprises in responding to transformational economic structure. Previous studies have focused on manufacturing industry (e.g. product and process innovation); little theoretical and empirical works have linked with financial service industry. Little research investigated the appropriate service innovation strategies that influence firm performance. This study developed a 2×2 matrix and classified innovation strategies into four cells including: Steady Value-Added, Emerging Goals, Prosperous Business, and Satisfactory Efficiency according to the theories of Reverse Product Cycle and innovation type. This study used 189 public listed financial banking firms in Taiwan as samples. Ultimately, 48 general managers as the respondents returned valid questionnaires (a response rate of 24%). Through the cluster analysis, the strategies Steady Value-Added, Emerging Goals and Prosperous Business were clarified. Specifically, the firm performance of Steady Value-Added Strategy was higher than those of Emerging Goals Strategy and Prosperous Business Strategy. The result shows that the disruptive innovations are the majority in Taiwan's financial market; however, the sustaining innovations have the higher impacts on firm performance than the disruptive innovations. The innovation strategies combined with customized services help financial service firms to accurately respond to customers' demands and build sustainable competitive advantages. Managerial and policy implications from the research findings were provided in the conclusions.

Keywords: Service Innovation; Disruptive Innovation; Reverse Product Cycle; Firm Performance

1. Introduction

Along with the transformational economic structure, the planning and implementation of service innovations have gained attention to help enterprises responding to market changes (Hitt, Hoskisson, and Ireland, 1994; Kanter, 2006; Kline and Rosenberg, 1986; Leskovar-Spacapan and Bastic, 2007; Moore, 2005; Strecker, 2009; Teece, 1996). Over the past few years, a considerable number of studies have discussed innovation as a strategy, most of them focused on manufacturing industry (e.g. product and process innovation) (de Vries, 2006; Spath and Fähnrich, 2010; Sundbo, 2007). Little theoretical work has been linked with service innovation (Strecker, 2009; Windrum and Tomlinson, 1999). Following Miles (2000), the forerunner of service innovation of, the service industry has been neglected for a long time. There has been little study of innovation in the service studies in the last decade (Miles and Boden, 2000; Tether, Hippand Miles, 2001).

Innovative service has become of great importance as in the most developed countries, services sector account for about seventy percent of employment (de Vries, 2006; Drejer, 2004; Gallouj, 2002; Tether *et al.*, 2001). Because service innovations can create high market value, service industries are suggested to grow in the future (Fitzsimmons and Fitzsimmons, 2010). Furthermore, according to the year 2011 Industry, Commerce and Service Census announced by the Taiwan Directorate-General of Budget, Accounting and Statistics, Executive Yuan in 2010, the service industry's output value in Taiwan accounted for almost seventy percent of the national GDP. The industry of banking and insurance (i.e. financial service industry) had the highest output value within the service industry in Taiwan. In fact, of the nominal GDP in 2010, it accounted for ten percent of the national GDP, showing the importance of the financial service industry.

The Taiwanese financial service industry plays an important role in the development of the economy (Chiou, 2009). The financial service industry is one of important platforms for savings or ventures, and it is also a crucial factor impacting the economic growth. However, in such a competitive environment with

environmental uncertainty, the competition in the financial service industry is g becoming more intensive than ever. Because of the dramatic transformation in the market, as well as a variety of methods for investment; therefore, the financial service industry is starting to become aware of the importance and essentiality of service innovation (Vermeulen and Raab, 2007). To gain more advantages from service innovation strategies and predict the outcome of competition in such a race for innovative growth, Christensen (1997) proposed the "*Disruptive Innovation* " model from the perspective of both disruptive situations and sustaining situations to help growth builders shape their strategies, so that they pick disruptive fights that they can win. In particular, with the turbulence triggered by the economic shock since 2008, it is a critical point to face the uncertain times in the financial industry. Therefore, it is necessary to achieve prosperous operational strategy which is stronger than "Disruptive Innovation Thinking" and can deal with the market in a flexible way (Anthony, 2009).

Furthermore, in regard to the environment in the financial industry, Barras (1986, 1990) observed a different feature of the product cycle in the financial industry- "*Reverse Product Cycle*". Barras explained that the process of service innovation in financial accountancy and administrative service is the reversal of that observed in the manufacturing sector. This also has an impact on output and employment. Moreover, investment in more new technologies could have the effect of capital widening. Generally, with the technological improvement and changes of the reverse product cycle, financial innovation has been one of the most influential trends prevailing in international financial markets since 1990s. For examples, Euromarkets business, contingent banking, bank assets securitization and derivative instruments, all have reflected the increasing importance of financial innovation (Molyneux and Shamroukh, 1999).

However, so far the study of service innovation strategy has been superficial (Tether, *et al.*, 2001; Thrane, Blaabjerg and Moller, 2010). In addition, developments in finance service innovation have played a critical role in spurring economic and social growth (Plosser, 2009), but the importance of challenges and obstacles about service innovation in financial industry was got attention until the global financial crises at 2007 (Engelen *et al.*, 2010). All these research there were

few to investigate the appropriate strategies of service innovation according to industry's environment of opportunity with threat, and how to implement an appropriate service innovation strategy. To fill up the research gap and builds the appropriate strategies for financial service industry, this study first build a 2×2 matrix and classify service innovation into four cells from the innovation theories of "Disruptive Innovation" and "Reverse Product Cycle". Next, by using the framework, this study also analyze and measure performance of these four service innovation types in financial industry in Taiwan in terms of the four different constructs. Practically, this study except all these service innovation strategies combining innovative services and customized services help financial service firms to accurately response customer's demands and as a result build sustainable competitive advantages.

The remainder of this study is organized as follows. Literature reviews are presented in Section 2. Research methods are explained in Section 3. Research analysis and results are in Section 4. Finally, conclusions and research limitations are proposed in Section 5.

2. Literature Review

2.1 The Financial Industry in Taiwan

2.1.1 Environment of the Financial Industry

For the national economy, the financial industry normally serves as the main intermediary institution of finance and currency. Its operation has great influences on the society and people's livelihood. Taiwan's financial environment and rules are different from those of other countries. To create more competitive advantages, the government has developed great forms and regulations to promote linkages with other countries since 2002.

According to the "Standard Occupational Classification" from the National Statistics, "Financial and insurance" is one of the industries within standard industrial classification. The definitions of "Financial and Insurance" giving in the

National Statistics is, "the activities which engage in financial intermediary and auxiliary activities (including insurance and pension funds). Activities of holding assets like financial holding companies, and trusts, funds and other financial vehicles are also classified in this activity. " Generally, the range of the financial industry includes deposit institutions, financial holding companies, trusts, funds and other financial vehicles, personal insurance, property and liability insurance, reinsurance, etc.

According to gross domestic product information from the "Monthly Bulletin of Statistics" of the National Statistics, the service industry occupied from 67% to 68% of the GDP from 2002 to 2009 among all industries. In particular, the percentage of the financial industry in service industry also has made minor progress in recent years. The gross domestic product of the financial industry reached 10%. Moreover, from 2000 to 2009, the total number of financial institutions increased from 2,693 to 4,539. With regard to insurance, according to the Taiwan Insurance Institute statistics, from 2000 to 2010, the insurance density, insurance penetration and ratio of having insurance coverage reached NT$104,423, 17% and 210% respectively indicating the maturity and importance of the financial industry in Taiwan.

2.1.2 Development of the Financial Industry

The economic structure in Taiwan has changed along with social development. In Taiwan, the financial environment endured three important reforms. First, the R.O.C. government announced the Commercial Bank Establishment Promotion Decree in order to open up the financial market in 1991. The government then invited domestic and foreign investors to participate in Taiwan's financial industry and set up new, privately owned commercial financial firms since 1992. Second, the Asian financial crisis in 1997 affected the operation of Taiwan enterprises, and also influenced the financial industry. Third, after financial deregulation, excessive opening of new financial firms and foreign financial firms lead to fierce competition in the financial industry. Moreover, the government passed the Bank Mergers and Acquisitions Act, and Financial Holding Company Act in December 2000 and July 2001.

Furthermore, government policy has placed heavy emphasis on the

development of the financial industry. First, the government has formed the regulations to abide with BASEL II and adjust the rates of Taiwan's financial institutions to stimulate trade with other countries. Second, the government has pushed the policy of corporate governance and strengthened the internal management system of all financial institutions. Third, it has relaxed the limits of recruitment of the employees from abroad. Fourth, to expand the economic scale of the financial industry in Taiwan, the government has also encouraged the merging of financial institutions and opening up of cross-business operations in order to achieve the goals of integration and macro-scale operation of the financial industry of Taiwan. In particular, "The Financial Region Service Center Plans" have focused on the five financial directions to enhance the internationalization of the financial market of Taiwan. This major policy plan has been in practice since 2005. Moreover, the plan for national development in the financial market in 2010 is intended to guide the course of national development and improve efficiency in the utilization of total resources.

The competition in the financial industry is gradually getting more intensive, because of the dramatic transform in the market and the variety of methods used to invest. Innovative and versatile financial products have evolved due to the globalization and internationalization of the financial market Service innovation strategy is a useful means that transforms invisibles property into visible property. The successful operation of business does not just depend on economic prosperity, though the boom and bust of prosperity cannot be controlled. Therefore, service innovation strategy is the most vital subject for the financial industry today.

2.2 The Conceptions of Service Innovation

In the past, services were long thought to be laggards with regard to innovation (Berry *et al.*, 2006) – they were assumed to be uninteresting adopters of existing technologies rather than producers of new technology (Salter and Tether, 2006). The literature on service innovation was scarce, and it seemed to be difficult to understand the use of traditional innovation theories and typologies (Damanpour, 1991); it presupposed that service firms do innovate (Normann, 1991, 2001) or even that service firms have R&D activities (Barcet, Bonamy and Mayere, 1987).

This perception still exists, and is a major reason why innovation in services remains under-researched. Although some studies have presented the empirical results of innovation activities in service firms (Barcet *et al.*, 1987; Naslund, 1986), they have not discussed the reasonableness of presupposing that innovation is happening in service firms. However, services dominate advanced economies. Therefore, many scholars have begun to notice innovation activities in service.

According to the work of Gallouj and Weinstein (1997), service innovation can influence one or more organization structures or organization characteristics, including technology, service, and core competency. Also, they discussed changed service concepts or service delivery processes that deliver added value to the client by means of new or improved solutions to a problem, methods of improving performance, or a desired opportunity for consumption or consumer services (Tidd and Hull, 2003). It has also been suggested that service innovation refers to a novel or considerable change of service concept, leading to renew service functions that depend on new technologies and organizational competences to bring a brand new activity to a firm, as well as new offerings to the market (Ark, Broersma, and Hertog, 2003). On the other hand, service innovation represents new or considerably changed service concepts or service delivery processes that deliver added value to the client by means of new or improved solutions to a problem, methods of improving performance, or a desired opportunity for consumption or consumer services (Tidd and Hull, 2003). Additionally, previous research has argued that service innovation takes various forms because of its multidimensional nature as well as the enormous number of different types of services that exist in the markets (Sundbo, 2007). Referring to the efforts of Sirilli and Evangelista (1998), service innovation characteristics involve close interaction between production and consumption, high information content and the intangible nature of service output and the key role of human resources in the provision of services. Gallouj (2002) also claimed that innovations involve intangible processes with specific features and interaction with several parties, typically the service provider and customer, participating in the innovation process.

2.3 The Conceptions of Disruptive Innovation

The concepts of disruptive innovation and sustaining innovation were popularized in the prior studies (Bower and Christensen, 1995; Christensen, 1997; Christensen and Bower, 1996; Christensen and Overdorf, 2000; Christensen and Raynor, 2003). The differences are rooted in companies' track records at making effective use of sustaining and disruptive innovation. Sustaining innovation are innovations that make a product or service better along the dimensions of performance valued by customers in the mainstream market. Disruptive innovations bring to market a new product or service that is actually worse along the metrics of performance most valued by mainstream customers. Instead of devoting efforts to improving the performance attributes uniquely associated with the sustaining innovation, firms should focus on likely adopters and growth segments to promote disruptive innovations. The enterprises managers need to do more than assign the performance about service; furthermore, they need to be sure that the organization in which those innovation resources will be working is itself capable of succeeding and in making that assessment.

Disruptive innovation is defined as "the process by which an innovation transforms a market whose services or products are complicated and expensive into one where simplicity, convenience, accessibility, and affordability characterize the industry" (Christensen, 1997; Christensen and Raynor, 2003; Christensen, Roth, and Anthony, 2004). The theory of disruptive innovation helps explain how complicated, expensive products and services are eventually converted into simpler, affordable ones.

2.4 The Conceptions of Reverse Product Cycle

The theory of reverse product cycle was proposed in the research of Barras (1986, 1990). This theory is based on a large-scale empirical study carried out in the financial industry and administrative service. The reverse product cycle can be divided into three stages, including Improved Efficiency, Improved Quality and New Products/Services. The technology wave is an important factor. According to this idea, the model of reverse product cycle is followed by a product cycle. This

theory is based on the development of technological revolutions in the manufacturing industry, and it can be further applied to the service revolution. In Barras's (1990) model, the cycle of service innovation activities include three stages, Incremental Process, Radical Process and Product Innovation.

Stage I: Improved Efficiency. The first stage is where the applications of new technologies are designed to increase the delivery efficiency of existing services. The first steps along the trajectory are the most tentative. These steps apply the technology to obtain the simplest and most incremental process innovations, which are aimed at improving the efficiency and reducing the costs of delivery of existing products. At this stage, although it is the initial stage, the firm can accumulate more knowledge and experiences from using new technology systems to enhance the abilities of innovation technologies in the future. Therefore, as for the impacts of the product factor in service, the feature of the first stage of reverse product cycle is improved efficiency, which reduces the labor cost and widens the market for the firm's products.

Stage II: Improved Quality. In the second stage, the technology is applied to improve the quality of services, rather than to reduce the firm's cost. Firms become more proficient at making use of new service technology systems through the experiences gained during the first stage and place stress on quality improvement. For example, on-line insurance policy quotations and Automated Teller Machine (ATMs) are all type of improved quality. Barras (1990) suggested that the - learning curve is a key point for changing operating procedures from the first stage to the second stage. The learning curve can enhance firm's innovation strength for service and strengthen abilities, creating foundation for developing service innovation opportunities. Due to the continuously changing environment, individual firms do not tend to move at a uniform rate along the trajectory of innovation being mapped out within the industry. Therefore, more initiative and conscious activity related to innovation or RandD are carried out during the second stage. Moreover, improved quality can also increase the market share and make a difference in the service provided to the others.

Stage III: New Products/Services. In the final and third stage, technology assists in generating wholly transformed or new services. The main purpose of this

stage is creates more new market opportunities from product innovation or new services. Typically, the service industry has initially involved a mixture of technology monitoring and market research, so that firms can better appreciate their changing technological possibilities and market conditions at this stage (Barras, 1990). Furthermore, Barras (1986, 1990) pointed out that the technology of networks has a hand in assisting firms to develop the opportunities of new services, which also provide more innovation strategy to face the market. By this stage, the technological trajectory in the vanguard industries can be described as being "user dominated rather" than "supplier dominated". It is through these accelerating processes of technological, market and institutional change that the vanguard industries do much to determine the character of the new techno-economic paradigm, creating opportunities for much wider spread of product innovations among other industries (Barras, 1986, 1990).

2.5 Firm Performance

In the current environment, business leaders and managers are constantly struggling to introduce new products, processes and service innovations. Previous research has revealed that service innovation activities have positive impacts on firms' performance (Govindarajan and Kopalle, 2006; Prajogo, 2006; Shelton, 2009). Examples of this view of include product development process (Bajaj, Kekre, and Srinivasan, 2004), product design and customer feedback (Srinivasan, Lovejoy and Beach, 1997), and diffusion of innovations (Golder and Tellis, 2004). Therefore, to face uncertain situations, firms' service innovations activities not only pursue survival, but also obtain more performance in the market. Prajogo (2006) pointed out the significant attributes of firm performance by comparing relationship between manufacturing and service firms; four concepts, including the number of innovations, the speed of innovation, the level of innovativeness, and the level of aggressiveness in adopting or generating innovation, were the most specific ways to exam the innovation activities in the service industry. Prajogo (2006) further adopted the financial performance concepts of sales growth, market share and profitability to measure the firm's performance.

Most previous research has used the financial performance concepts of sales

growth, market share and profitability to measure firms' performance (e.g., Keah, Lyman, and Wisner, 2002; Michael, Jeen-Su, and Mark, 2005; Prajogo, (2006). However, for the service industry, service innovation could lead to more advantages not only for financial performance, but it could also improve customer satisfaction, service quality, or create a new market and corporate image (Johne and Storey, 1998). Therefore, Johne and Storey (1998) suggested that the service innovation activities impacting firm performance might include financial performance, the relationship with customers and market position. Furthermore, Storey and Easingwood (1998) pointed out that unlike companies that produce tangible goods, service firms typically cannot rely on product advantages as a means for ensuring the success of a new service, and also mentioned three elements (service product, service augmentation and marketing support), which have heavy impact on firm performance in the service industry. Therefore, Storey and Easingwood (1998) provided three conceptions of measurable standards to measure firm performance in relation to service activities in the service industry as follows.

Sales performance and improvements in sales are very much driven by improvements in service augmentation. Better sales performance is driven by the strength and effectiveness of distribution and communication strategies. However, distribution and communication strategies are not able to sell a poor product. In addition, a formal and extensive launch strategy can have a strong impact on sales performance. Gradually rolling out a new product may give the competition time to react and affect sales.

Profitability is all about better service augmentation and good marketing support. In order to achieve high profits, companies must effectively manage the quality of their service delivery. This is dependent on the skills and knowledge of the customer contact staff. To ensure high-quality service delivery, internal marketing and extensive staff training must take place. This shows that delivering is not a cost but a route to increased profitability.

Enhanced opportunities are what managers want to reposition their company, open up new markets, develops platforms for further new products. They can achieve these goals by producing a high quality, distinctive product and by

reducing the customers' perceived risk. Core products are capable of opening up enhanced opportunities. For long-term success, spending time and effort in create a product with significant an advantage over current products is necessary. In financial services this may be difficult but the rewards are considerable.

To ensure more accurate measurement of firm performance and service innovation activities in the service industry, only using financial performance to examine the relationship is not a useful way to understand the difference between the two. In particular, the characters of intangible, perishable, heterogeneous, participated and not-separated products are all difficult to measure in the financial service industry. Therefore, the three conceptions of measurable standards proposed by Storey and Easingwood (1998) are more suitable for exploring the differences between different service innovation activities in the financial service industry.

3. Research Methods

3.1 Research Design

This study developed a conceptual framework from innovation theories to enhance the scope of classifications of service innovation strategies for the financial industry. This study suggested that disruptive innovation can provides enterprises with viewpoints about strategy. Moreover, classification of disruptive innovation and sustaining innovation also offered important meaning in a competitive market. Furthermore, this study contained the dimension of reverse product cycle theory to give companies an assessment of service innovation strategy when facing challenges and opportunities in the market.

Dimension 1: Type of innovation

According to the definitions of innovation by Christensen, companies have different track records when it comes to making effective use of sustaining and disruptive innovation. Sustaining innovations are innovations that make a product or service better along the dimensions of performance valued by customers in the

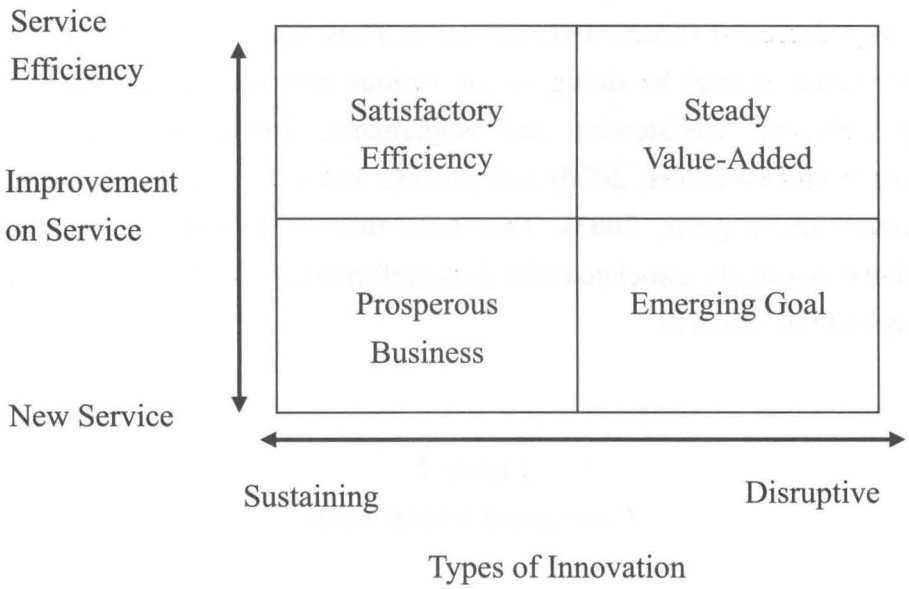
mainstream market. Disruptive innovations bring a new product or service to the market that is actually worse along the metrics of performance most valued by mainstream customers. Managers need to do more than assess the performance of service, they also need to be sure that the organization in which those innovation resources are working is itself capable of succeeding and in making that assessment.

Dimension 2: Improvement on service

The theory of service innovation in a reverse product cycle points out service improvement intends increase service efficiency and create new services. This theory explains that the processes of services are the opposite of those observed in the manufacturing industry. It starts with incremental innovations intended to improve efficiency, and ends with the innovation conceiving a new service and entering new markets. As suggested by Barras (1986, 1990), there are three stages in Reverse Product Life Cycle. Since the first stage and second stage are more similar than the third stage. Specifically, Stage I and Stage II focused on service improvement are different from Stage III that is focused on new service provision. To align with our tentative matrix of service innovation strategy as shown in Figure 1, this study argued a dichotomy of service orientation to distinguish these stages.

This study depicted a 2x2 matrix in Figure 1. In the cell of Prosperous Business strategy, financial firms are providing new service with sustaining innovation to the existing customers who require less consistency. For example, Firm 13 provides cash cards- A Comb Card in year 2004 which provide short-term funds with flexible application procedure for borrowers. In the cell of Emerging Goal strategy, financial firms are providing new service with disruptive innovation to the potential customers who are unsatisfied with the available service provisions. For instance, Firm 2 has introduced personal service with Customer Relationship Management system in Children's Saving Accounts in year 2000. Unlike Emerging Goal strategy that aims to explore new markets with disruptive innovative services, Prosperous Business strategy is expected to create value-added services as long as the current service efficiency or service model cannot satisfy the dominant customers.

Figure 1
Classification of Service Innovation Strategy

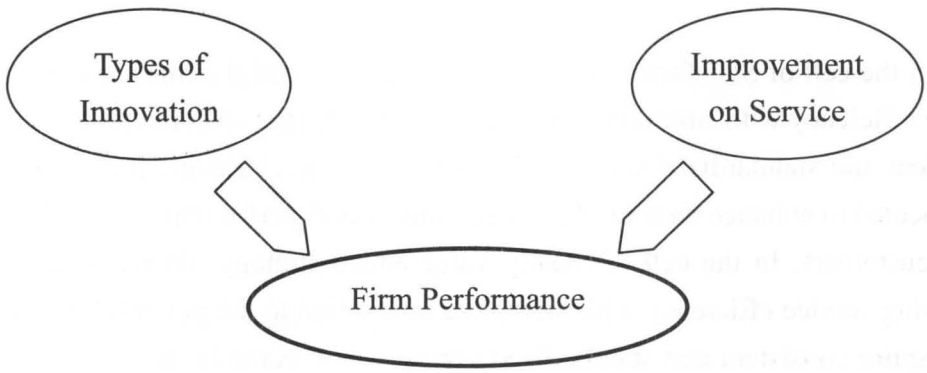


In the cell of Satisfactory Efficiency strategy, financial firms are improving service efficiency with sustaining innovation to the existing customers who require consistent and standardized services. By conducting this strategy, financial firms are expected to enhance their market shares and overall performances based on the target customers. In the cell of Steady Value-added strategy, financial firms are improving service efficiency with disruptive innovation to the potential customers who require consistent and standardized services. For example, not like the most banks focus on VIP customers, Bank 3 provided financial management services in 2001 to the regular customers. Unlike Satisfactory Efficiency strategy that aims to exploit the existing markets with sustaining innovative services, Steady Value-added strategy is expected to explore new market by providing the new service with improved service efficiency.

Furthermore, Cainelli, Evangelista, and Savona (2004) suggested a positive relationship between service innovation and firm performance in the service industry. Reidenbach and Moak (1986) surveyed the bank industry in the U.S. and

pointed out that the banks, which are conscious of the aspect of innovation activities, have higher performance than other competitions. Moreover, Alegre, Lapiedra, and Chiva (2006) argued that innovation efficiency reflects the efforts to achieve high degree of success and innovation. Thus, when a firm tries to improve its performance, it may be doing so far various reasons: reinventing business strategy (Johnson, Christensen and Kagermann, 2008), disruptive change (Christensen and Overdorf, 2000) and process and value fitness on innovation (Christensen and Raynor, 2003). Therefore, this study proposed that service innovation is positively associated with firm performance. Figure 2 summarizes the framework of this research.

Figure 2
Conceptual Framework



3.2 Sample Firm Selection, Data Collection and Pilot Study

The surveys in this study focused on the publicly listed companies that offer financial product/service distribution. These include large and diverse commercial and state-own financial institutions in Taiwan serving corporate and consumer customers by providing retail and investment banking, insurance, credit cards and

mortgage banking over a wide geographic region. The scope of the financial industry is based on the Taiwan Stock Exchange Corporation and Gre Tai Securities Market which includes deposit institutions, financial holding companies, trusts, funds and other financial vehicles, personal insurance, property and liability insurance, reinsurance, etc. Furthermore, to analyze the influence of firm performance on different service innovation strategies, this study adopted the "headquarters" to examine the financial holding companies classified as banks, life insurance, property insurance and securities corporations. There are a total of 189 companies. Besides, this study also examines Taiwan's financial state-owned enterprises. According to the Council for Economic Planning and Development, there are 9 such companies belong to the financial industry. Thus 198 companies were included selected in the sampling in this study.

This study focused on decisions related to service innovation and how degrees of firm performance form four service innovation strategies. The questionnaire measured firm operational policy and operational performance. To ensure that respondents who are capable to answer the questions, only the stratum of manager and above were addressed, including CEO, vice president, etc. The definition of manager in this study is the top managers who has had a minimum of 5 years of experience in the financial industry and takes part in or understand the firm's operational service innovation strategy. Managers must also understand the relationship between service innovation strategy and firm performance.

Moreover, to achieve a more congruous survey and explore the results of previous studies of service innovation, the construct of interest must be measured as accurately as possible. Although most of the measures were adopted from existing scales, in some cases, an existing scale was not directly adopted as a whole, or combinations of items from different scales were adopted in this study. Therefore, this study also systematically piloted the questionnaire to refine and validate survey in order to increase the context validity the of research instrument from the survey based on expert interviews. Internal consistency reliabilities were obtained for each of the measures. The expert interviews include 6 managers working for at least 4 different companies, including banking, insurance and securities companies, in the financial industry. The sample of participants for the

pilot study included 1 female and 5 male with an average age of 45 years. After the above pilot of expert interviews, the questionnaires survey were finally sent to 198 respondents of the general survey along with a cover letter outlining the objectives of the research and a self-addressed stamped return envelop. The respondents were also promised and eventually received an executive summary of the research findings. Two reminder / thank you postcard mailings were sent at two and three week's intervals respectively after the initial mailing. After a total of two rounds of mailing, 48 questionnaires were completed and returned, resulting in an overall response rate of 24%.

3.3 Characteristics of Respondents

This study presents a demographic description of the 48 respondents made up of 20 general managers (41.7%), 2 deputy general managers (4.2%), 12 managers (25%), 3 assistant managers (6.3%) and 11 others (22.9%). The average number of years working in the financial industry for the respondents was 23.8 years. 5 respondents came from state-owned enterprises (10.4%) and 43 respondents were from private enterprises (89.6%). Moreover, 26 respondents (54.2%) were from the banking sector, which was the largest group ranked by industry status. 6 respondents (12.5%) were from the insurance sector, 10 respondents (20.8%) were from the securities sector, and 6 respondents (12.5%) were from the other sectors. Regarding the firm age, 32 (66.7%) respondents were located in the age more than 31 years. 8 (16.7%) respondents located 11-20 years, 6 (12.5%) respondents located 21-30 years, and only 2 (4.2%) respondents located less than 10 years.

4. Research Analysis and Results

4.1 Validity Checks and Correlation Analysis

After the data were obtained, this study conducted an exploratory factor analysis of the variables of all the concepts. To verify the discriminant validity of

the constructs, this study examined the data by using the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy. The KMO measure indicates the comparable value between all interrelated coefficients and net interrelated coefficients (Hair *et al.*, 2009). As shown in Table 1, all the KMO values were greater than 0.6, showing that the variables are appropriate for conducting factor analysis.

Table 1

KMO value of All the Dimensions

Dimensions	KMO
Service Innovation	.914
Innovation Level	.811
Improvement on Service	.751
Firm Performance	.848

This study focused on the four dimensions of "Service Innovation", "Service Types", "Reverse Product Cycle" and "Firm Performance" to conduct exploratory factor analysis, via the principal component and varimax methods of factor analysis to examine variables. All of the variables were based on a six-point Likert-type scale rating from "strongly disagree" (1) to "strongly agree" (6), except for background information. First, about the concept of service innovation, the factor loadings all exceeded 0.5 and the eigenvalue reached 1.465. Moreover, the cumulative percent age of explanatory variance reached 78%. And the Crobach's alpha of this dimension achieved 0.93, which meets the standard as suggested by Hair *et al.* (2009). Secondly, the factor loadings all exceeded 0.6 and the eigenvalue reached 4.343. Moreover, the cumulative percent age of explanatory variance reached 62%. And the Crobach's alpha of this dimension achieved 0.89, which meets the standard as suggested by Hair *et al.* (2009). Third, about the concept of reverse product cycle, the factor loadings all exceeded 0.6 and the eigenvalue reached 3.214. Moreover, the cumulative percent age of explanatory variance reached 64%. And the Crobach's alpha of this dimension achieved 0.83, which meets the standard as suggested by Hair *et al.* (2009). Ultimately, about the concept of firm performance, the factor loadings were all exceeded 0.7 and the eigenvalue

was reached 6.006. Moreover, the cumulative percent of explanatory variance reached 66%. And the Crobach's alpha of this dimension achieved 0.93, which meets the standard as suggested by Hair *et al.* (2009). In the following, the study discussed the correlation analysis of the dimensions about service innovation, type of innovation, improvement on service and firm performance. The result of correlation analysis was shown in Table 2.

Table 2

Means, Standard Deviations, and Correlations[a]

Variables	Mean	S.D.	1	2	3
1. Service Innovation	4.56	.877			
2. Type of Innovation	4.17	.85	.743**		
3. Improvement on Service	4.27	.89	.819**	.710**	
4. Firm Performance	4.64	.76	.678**	.658**	.693**

Note: [a]N = 48

*$p < .05$, ** $p < .01$; two-tailed tests

As for the concept of service innovation, the average number of service innovations was 4.56 with a standard deviation of 0.887. Positive correlations were shown foe all the variables. Specifically, the correlation coefficients of service types, reverse product cycle and firm performance were 0.743, 0.819 and 0.678 with a statistical significance of positive correlation ($p < .05$). These numbers indicate that the service innovation dimension was positively related to the service types, reverse product cycle and firm performance. The average number of service types was 4.17 with a standard deviation of 0.85. Positive correlations were shown for all the variables. Specifically, the correlation coefficients of service innovation, reverse product cycle and firm performance were 0.743, 0.710 and 0.658 with a statistical significance of positive correlation ($p < .05$). These numbers indicate that the service types dimension was positively related to service innovation, reverse product cycle and firm performance.

Furthermore, as to the concept of improvement on service, the average number of reverse product cycles was 4.27 with a standard deviation of 0.89. Positive correlations were shown for all the variables. Specifically, the correlation coefficients of service innovation, service types and firm performance were 0.89, 0.710 and 0.693 with a statistical significance of positive correlation ($p < .05$). These numbers indicate that the reverse product cycle dimension was positively related to service innovation, service types and firm performance. As for dimension of firm performance, the average number of service types was 4.64 with a standard deviation of 0.76. Positive correlations were shown for all the variables. Specifically, the correlation coefficients of service innovation, service types and reverse product cycle were 0.678, 0.658 and 0.693 with a statistical significance of positive correlation ($p < .05$). These numbers indicate that the firm performance dimension was positively related to service innovation, service types and reverse product cycle.

4.2 Cluster Analysis

Before clustering all of the samplings, this study discriminated the firms with low participation in service innovation. This study first identified the firms in adopting service innovation strategies, and eliminated the firms with an average number of service innovation concepts lower than 3. Therefore, 47 firms focused strategies related to service innovation, thus, conforming with the purpose of this study. This study used two stages to present the results. In the first stage, the Ward's method of hierarchical clustering was applied to consolidate the groups before clustering. Further, in the second stage, the K-means algorithm was selected to conduct cluster analysis due to its efficiency in clustering large data sets and its simple calculation process. The four service innovation strategies were used for cluster analysis. For contractors with different backgrounds, their service innovation strategic behaviors are different. Therefore, the contractors were classified into different groups with different strategic orientations based on cluster analysis.

Table 3 shows the types of innovation and improvement on service scores for the four clusters centers. The steady value-added strategy of group 1 consisted of 25 financial firms, which had higher ratings on types of innovation (i.e. focus on disruptive innovation) and improvement on service (i.e. focus on service efficiency). The emerging goal strategy of group 2 consisted of 15 financial firms, with higher ratings for types of innovation (i.e. focus on disruptive innovation) and lower ratings for improvement on service (i.e. focus on new service). The prosperous business strategy of group 3 consisted of 7 financial firms with lower average ratings for both types of innovation and improvement on service concepts (i.e. focus on sustaining innovation and new service). And finally, for the satisfactory efficiency strategy, none of the respondents of financial firms focused on sustaining innovation and service efficiency. The dendrogram using the Ward's method is shown in Appendix 1.

Table 3

Results of Post Hoc Cluster Analysis

Group	Group Rating			
	Types of Innovation	Improvement on Service	Firm Number	Percentage (%)
Group 1 Steady Value-Added Strategy	4.34	4.64	25	53%
Group 2 Emerging Goal Strategy	3.42	3.26	15	32%
Group 3 Prosperous Business Strategy	5.20	5.48	7	15%
Group 4 Satisfactory Efficiency	-	-	0	0

Besides, this study also used discriminant analysis to test the results of K-means algorithm of cluster analysis. In first row, SPSS reports the overall Wilk's Lambda, $\Lambda = 0.16$, $X^2 = 77.00$, $p < .01$. This test was significant at the 0.05 level and indicates that there were differences among groups across the three predictor service innovation strategies in the population. In the second row, SPSS

reports $\Lambda = 0.88$, $X^2 = 5.48$, $p < .01$. This test was significant at the 0.05 level and indicates that there was a significant difference among groups across all predictor variables in the service innovation strategies, after removing the effects associated with the first discriminant function.

4.3 Analysis of Variance (ANOVA)

The respondents were grouped into Steady Value-Added Strategy, Emerging Goal Strategy and Prosperous Business Strategy. A summary of the grouping is shown in Appendix 2. It indicates that 25 Steady Value-Added Strategy firms constitute the largest group (53%), followed by 15 Emerging Goal Strategy (32%) firms, 7 Prosperous Business Strategy (15%) firms and 0 Satisfactory Efficiency Strategy firms. Before conducting ANOVA to explore the firm performance of different strategies, three preconditions should be tested: multivariate normal distribution, homogeneity of variance test and independence. First, about multivariate normal distribution, The Kruskal-Wallis test indicates that there was a significant difference in the medians, $X^2 = 4.93$, $p = .85$. Because the overall test was significant, pairwise comparisons among the three strategies should be conducted. Second, about homogeneity of variance test, the rest of homogeneity of variance was not significant, Levene statistic values = .78, $p = .46$. Because there may be a lack of power associated with the test due to the small sample size, the result of the homogeneity test dose not necessarily imply that are no differences in the service innovation strategy variances. About independence, this study used Durbin-Watson statistic to detect the presence of autocorrelation. The D-W test = 2 indicates no autocorrelation in this study. Therefore, the variables of this study were suitable to use the ANOVA.

Table 4 indicates the firm performance of different strategies, including Steady Value-Added Strategy, Emerging Goal Strategy and Prosperous Business Strategy. This study showed that Prosperous Business Strategy created better firm performance ($M = 5.47$) than that of Steady Value-Added Strategy ($M = 4.85$) and Emerging Goal Strategy ($M = 4.00$). The ANOVA test showed that the groups of strategy differences in firm performance were significant ($p < .001$). By conducting Scheff's test, this study confirmed that Prosperous Business Strategy had

significantly higher firm performance than the Steady Value-Added Strategy, Emerging Goal Strategy and the Emerging Goal Strategy. The results revealed that the financial firms, which adopted both the concepts of sustaining innovation and new service of Prosperous Business Strategy, had higher firm performance in Taiwan's financial environment. In contrast, the profile of firm performance for the Emerging Goal Strategy had the lowest rating performance among three service innovation strategies.

Table 4

Service Innovation Strategies on Firm Performance

Subgroup (N)	Mean	S.D.	*F*-value	Scheff's test
1.Steady Value-Added Strategy (25)	4.85	.54	21.66***	(1) > (2)
				(1) < (3)
2.Emerging Goal Strategy (15)	4.00	.57		(2) < (1)
				(2) < (3)
3.Prosperous Business Strategy (7)	5.47	.34		(3) > (1)
				(3) > (2)

Note: *** $p < .001$

Furthermore, this study examined the profile of firm performance conceptions for different service innovation strategies. Table 4 showed that Prosperous Business Strategy create prominent firm performance for financial firms (M = 5.47), and the conception of enhanced opportunities provides more support (M = 5.71) than sale performance and profitability. Besides, although Steady Value-Added Strategy was not the highest profile firm performance among all of the strategies, it also provided excellent profiles for financial firms (M = 5.71), especially for enhanced opportunities (M = 4.93). And, finally, the Emerging Goal Strategy provided the lowest firm performance among all three service innovation strategies, revealing that service innovation strategy could contributed to the firm performance of financial firms (M = 4.00). Among all of three service innovation

strategies, Table 5 shows that the enhanced opportunities conception led to significantly higher performance excellence than other firm performance conceptions, meaning that service innovation strategy could create more opportunities for the financial industry.

Table 5

The Profile of Firm Performance in Service Innovation Strategy

Service Innovation Strategy	Conceptions of Firm Performance	Mean
Steady Value-Added Strategy	(1) Sale Performance	4.74
	(2) Profitability	4.89
	(3) Enhanced Opportunities	4.93
Emerging Goal Strategy	(1) Sale Performance	3.57
	(2) Profitability	4.2
	(3) Enhanced Opportunities	4.2
Prosperous Business Strategy	(1) Sale Performance	5.38
	(2) Profitability	5.33
	(3) Enhanced Opportunities	5.71

4.5 Discussion

For the past decades, the field of service innovation strategy has been much influenced by concepts and insights from the literature on core capabilities (Christensen and Overdorf, 2000). Indeed, the service innovation view is itself firmly rooted in consumers (users) of market power and competition (Oliveira and von Hippel, 2011). Unfortunately, there remains much to be done to test empirically the relevance of some service innovation strategy notions of the financial industry for firm performance, and this is true as well of the strategy-based view. Although there are long lists of candidates for valuable resources, there have been very few efforts to establish systematically, and how these resources influence firm performance. Perhaps more important, the literature

contains many generalizations about the merits of some strategies, conjectures that often fail to consider the contexts within which strategy might be of value to an organization. Thus, the conceptual framework of this study provides four strategies from different situations to fill in research gaps.

This study endeavors to make some progress in those directions. This study shows that both disruptive innovation and sustaining innovation that are useful to contribute to firm performance: sale performance, profitability and enhanced opportunities. However, the environment context of reverse product cycle was important in conditioning these relationships. Period of new service favored financial firms with disruptive innovation and sustaining innovation but did not reward those period of service efficiency with sustaining innovation. It follows that whether or not an asset can be considered an innovation level will depend as much on the context enveloping an organization as on the properties of the asset itself (Evangelista and Vezzani, 2010).

This study indicated that sustaining innovation on the stage of new service create higher firm performance than other strategy. The implication of this result revealed that sustaining innovation continues to provide generative impulses for innovation on an ongoing basis. Over time on the stage of new service, changes in the organization as well as individuals' circumstances give rise to new experiences, opportunities and challenges. Financial firms can reinterpret the same narrative at a later point, bringing to light unrealized connections between actors, circumstances and outcomes. Besides, coordination is a central task that organizations must accomplish to innovate successfully from sustaining innovation (Bartel and Garud, 2009). In practice, firms may often struggle to integrate their ideas and activities with others. It is often difficult for consumers to see the relevance of information, ideas and practices that come from outside their own work context and to draw on these to generate new products and services or novel ways of solving problems in their own locales. These translation problems can serve as a barrier to innovation. Therefore, of practical concern is the creation of a social fabric that provides both the coherence and the flexibility required to promote and sustaining innovation. Specially, on the stage of new service of reverse product cycle, the process as one in which new technological opportunities from to generate "entirely new services" to

open up and create new markets, in parallel with the emergence of new or diversified service industries and organizations.

An auxiliary object of this research also shows that variety meaning of firm performance in disruptive innovation in different stage of reverse product cycle. First, it is possible to identify key concept for financial firms and then derive quantitative indicators that reflect no mater on the stage of new service or service efficiency of reverse product cycle, with greater or lesser accuracy, a firm's wealth in such resources. Second, this study also reveals that the firm performance of disruptive innovation concept is lower than sustaining innovation. Disruptive innovations create new market opportunities through the introduction of the new products or services. However, it is easy as judged by the performance metrics that mainstream customers value in initially. These disruptive innovations did not address the next-generation needs of leading customers in existing markets, but had other attributes that enabled new market applications to emerge (Christensen and Overdorf, 2000). Besides, disruptive innovations may occur so intermittently that no firm has a routine process for handling them. Furthermore, because disruptive products nearly always make lower profit margins per unit sold and are not attractive to the firm's best customers, they are inconsistent with the established firm's value. Therefore, this study considered it as the important reason that the firm performance of disruptive innovation was lower than that of sustaining innovation.

Prior work in both the academic and popular press has argued that the use of disruptive innovation way will be reflected in better firm performance. This study provides further discoveries in support of these assertions. The study revealed that the firm performance of service efficiency stage of reverse product cycle in disruptive innovation concept is higher than new service stage in disruptive innovation. These statistically significant values suggest that financial firms can indeed obtain more substantial financial benefits from investing in disruptive innovation when on the reverse product cycle of service efficiency. In addition, this study shows that no respondents clustered in the satisfactory efficiency strategy, i.e. focuses on the sustaining innovation and the stage of service efficiency, the result imply considerable thinking in practices. This study considered that there was no

financial firm adopting this approach if industry conditions and social needs shift, requiring an organization to do things in fundamentally new ways. The satisfactory efficiency strategy concentrates on improvement of separate products has helped the financial firm break out from this strategy, but maybe it become a handicap over time as the divisions turned into hardened silos, each duplicating functions, proliferating products and raising total costs. Therefore, this study estimated imply that financial firm could not survive simply by doing the old things with redoubled efficiency and lower product costs. The financial firm needs to dramatically rethink its entire organizational model and related assumptions (Strecker, 2009).

Several reasons are conceivable to explain the differences in results depending on the type of performance indicator. First, executing a sustaining innovation in service field orientation does entail additional costs, which are more strongly reflected in the measure of firm performance than in innovation performance. Besides, setting up and running disruptive innovation in service fields is more expensive than innovating along existing service or product lines. Firm performance was measured as a multi-item construct encompassing several financial and non-financial indicators. However, profitability is only one of several financial indicators of innovation performance, whereas objective, firm performance indicators are strongly influenced by firm profitability. Second, service innovation field orientation is highly specific to innovation, but less relevant for the overall firm. Hence, it can have less impact on firm than on firm performance. Third, the fact that innovation performance was measured from an internal perspective and firm performance from an external, capital market perspective, may further explain the different outcomes, Investors are foremost interested in a firm's outputs, whereas internal perspectives on performance are influenced by multiple factors. Summarizing, even though with a weaker performance effect than established dimensions, service innovation field orientation has proven to be a valid concept by itself and a relevant success factor in the context of innovation strategy. Overall, this study confirmed that service innovation strategy in the financial industry has a positive influence on firm-level performance, even though different performance indicators are impacted at different intensities.

In this study, an explicit attempt was made to merge the literatures on disruptive innovation concept and reverse product cycle concept. Specially, disruptive innovation and sustaining innovation were included investigations to test the difference of firm performance. Besides, the influence of different stage through reverse product cycle was clearly demonstrated. To this study knowledge, no previous attempt has been made to examine to Taiwan's financial market. Therefore, these results provided a strong incentive to consider service innovation strategies as a key in relation to both competitive advantages and core advantages.

5. Conclusions

Service innovation strategy has not only been an emerging research field and but has also become a key element in finance strategy and planning for the future (Alam, 2007). The emerging function of economic creation is being added to financial institutions, which will gradually mushroom the development of service innovation strategy. This study shed greater light on the relationships between firm performance and service innovation strategies can be determinant by the dimensions of types of innovation and improvement on service. This study sets out to extend work on previous firm performance through the execution of service innovation, which developed a matrix by disruptive innovation perspective and reverse product theory.

The conceptions of disruptive innovation theory is a dynamic process and any model that purports to explain the evolution of a dynamic process also defines a dynamic system either explicitly or implicitly. This study revealed that most of the Taiwanese financial firms adopted disruptive innovation approach to explore market opportunities. And the majority of financial firms were all on the later stage of enhancing service efficiency. Specially, this study verified the performance difference under different service innovation strategy to fill up the variations in financial market. The analysis provided crucial insights to manage disruptive service-innovation as a competitive strategy.

The features of the financial industry in Taiwan were relatively small with a

total of 189 financial companies. This study mainly focused on headquarters for respondents to explore the relationship between service innovation strategies and firm performance. Even though the overall 48 valid questionnaires can be a limit, prior research suggested that quantitative studies of descriptive research with more than 20% of returned response rate in small samples should be enough (Gay, Mill, and Airasian, 2008). Furthermore, the sampling companies were accounted to 63% operating revenue in Taiwan financial industry. The 6 returned questionnaires were among the Top 10 operating revenue in year 2010 in Taiwan financial industry. Therefore, the sample can be representative.

5.1 Management and Policies Implications

This study revealed that financial firms in Taiwan achieve financial performance via various service innovation strategies. This study suggested that financial managers should be aware of the importance of disruptive innovation in the link of firm performance. Since the financial services in the market are similar and easy to imitate, hence, disruptive innovation has clear practical implications to distinguish and therefore create higher value. The results also explained why disruptive innovation thinking could create powerful operational strategy and flexibility in dealing with the financial industry market (Anthony, 2009). Moreover, at the stage of service efficiency, this study argued that managers should devote necessary efforts to different innovation activities by improving present services.

Emerging Goals Strategy stresses the importance of developing new service. This strategy attained the lowest profile of firm performance among all the service innovation strategies. The financial firms' performances with this service innovation strategy were lower than with Steady Value-Added Strategy, it still provided benefits for firms. Also, according to the results the results of this study, Emerging Goals Strategy and Steady Value-Added would be useful for financial managers when considering why the financial performance were for all types of disruptive innovation. This study estimated that new service stages would increase firm performance, but also further produce costs in terms of project delay and project termination. However, these costs do not affect innovation performance at the firm level (Cuijpers, Guenter and Hussinger, 2011). Therefore, this study

suggests that managers whom cluster in the Emerging Goals Strategy might measure the potential opportunities of new service stages. That is, the service efficiency stage of the disruptive innovation creates more benefits than in the new service stage.

Prosperous Business Strategy focuses on sustaining innovation and the stage of new service. In contrast with the other strategies, the profile of firm performance was highest than Steady Value-Added Strategy and Emerging Goals Strategy. The findings suggest that sustaining innovation could stimulate the financial market and further attract the notice of customers in comparison to disruptive innovation in Taiwanese financial industry. Therefore, managers should modify the innovation types and think twice about the feasibility of investing in new potential markets or developing more satisfaction which customer do not notice from present products and services. Johnson, Christensen, and Kagermann (2008) suggested that maintaining a thriving business is recognizing when it needs a fundamental change, and business model innovation is more important for success than product or service innovation before formulating innovation activities. Therefore, this study also proposed that managers should rethink their firm's positions, construct a blueprint of how the firm will fulfill that need at a profit and further compare the model to the existing model to see how much to change is needed to capture the opportunity.

This study found that there was no firm clustered in Satisfactory Efficiency Strategy. Two reasons may explain such a situation. First, Taiwanese financial market only allows financial firms with service innovation activities clustering in the other three service innovation strategies to possess competitive advantage. Thus, Satisfactory Efficiency Strategy is not an appropriate strategy to operate in the financial industry in Taiwan, and managers should avoid adopting this strategy to develop more service innovation activities to explore potential opportunities. Second, this study also considers that the possibility that only respondents of the other three service innovation strategies responded. Although managers cannot know the differences between other strategies, but the profile of firm performance of the Prosperous Business Strategy had the highest rating among all three strategies. Thus, managers should keep their firm's position and goals focused on

sustaining innovation and the stage of new service.

Furthermore, for the government viewpoint, every successful financial firm already operates according to an effective business service innovation strategies and model. Government policy makers could investigate and explore the key successful points by systematically identifying all of its constituent parts, more financial firms can understand how the model fulfills a potent value proposition in a profitable way using certain key resources and key process to make more market opportunities from service innovation. With that understanding, they can then judge how well the same strategies could be used a radically different service innovation – and what they need to do to construct a new one to capitalize on that opportunity. Besides, managers whose organizations are confronting change must first determine whether they have the resources required to succeed. They need to consider a separate question: does the organization have the processes and values it needs to succeed in this new situation? Because of the processes by which work for most managers is done and the values by which employees make their decisions have served them well in the past. This conceptual framework of study introduces into executive thinking is the idea that the very capabilities that make their organizations effective also define their disabilities to create more opportunities from innovations.

Managers in everywhere financial business firms are charged with generating profitable growth. Managers believe that service innovation strategies are the vehicles for meeting their growth and profit targets. However, continued success in financial market remains rare. This study considered that the reason for this is not for lack of effort or resources and not for lack of opportunity in the marketplace. The root problem may be is that marketing executives focus too much on ever-narrower demographic segments and ever-more-trivial product extensions. Managers should try their best to find out what jobs consumers need to get done, and those jobs will point out the way to producing purposeful products and genuine innovation.

5.2 Research Limits and Future Research

There were several limitations in the current study. First, idiosyncratic features of the sample may have influenced the research findings. The firms in our sample were based in a single country; specifically the financial industry in Taiwan has experienced intensive market competition since 2002. Furthermore, organizational innovation may be moderated by the culture in which a firm is rooted (Lyons, Chatman, and Joyce, 2007; Tellis, Prabhu, and Chandy, 2009). Future studies may provide more insights into whether the results from this study also apply in other settings.

Second, the conceptual model was predicated on the assumption that financial firms benefit from striving for innovation types and strategies. This study did not explore the evolution of individual ventures over time. For instance, top management teams balance short-term and long-term performance through different strategic designs decisions to increase differentiation and integration in dynamic time (Smith and Tushman, 2005). The challenge of a time lag between the implementation of a firm's innovation strategy and its outcome was addressed using respondents' experience. Future studies may provide more insights into the influence of a firm's strategy posture on such dynamic aspects over period of time.

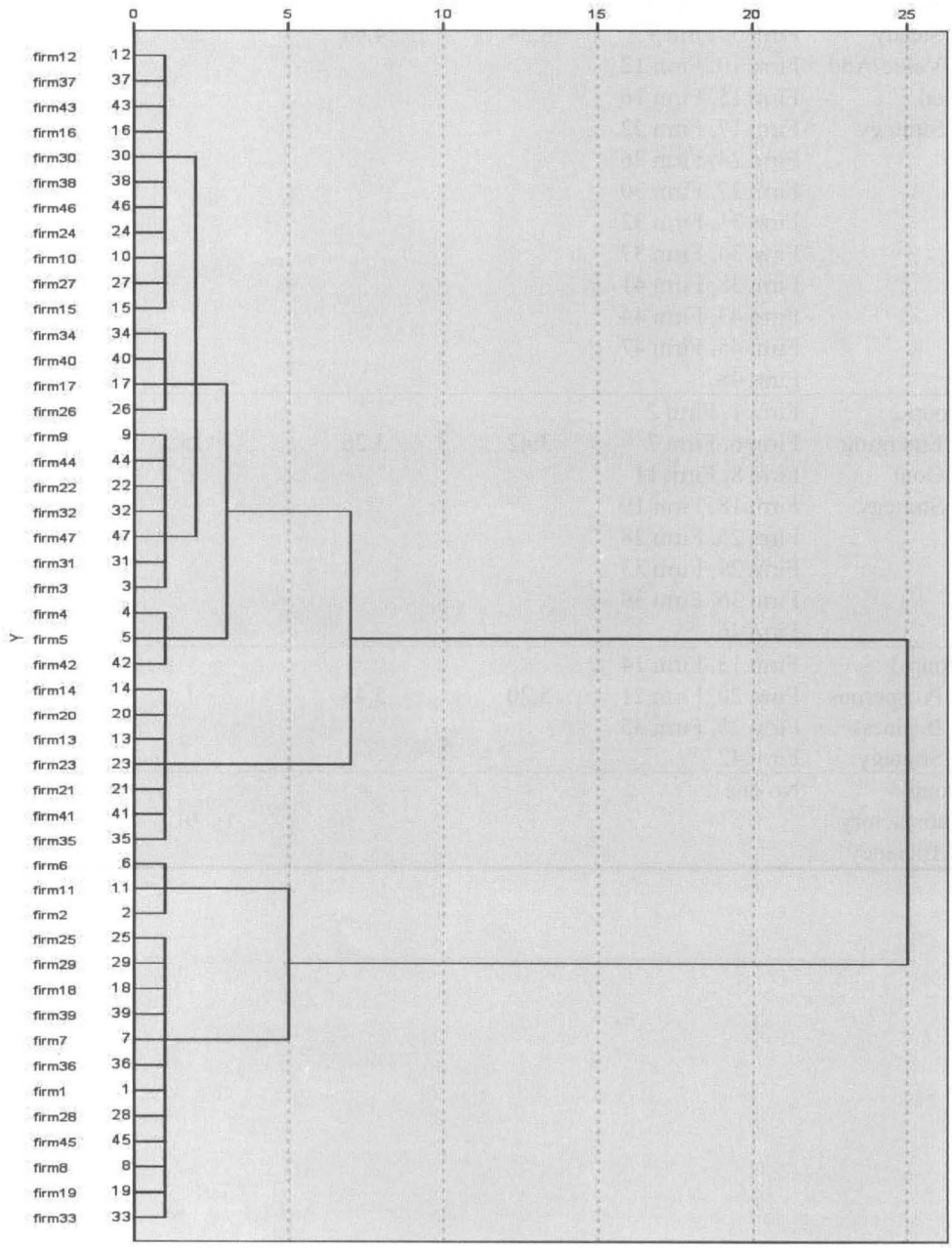
Despite these suggestive findings, it should be noted that the effects from innovation type to firm performance was not particularly pronounced, suggesting that type of innovation and service improvement are not sufficient. Other considerations of service innovation strategies such as leaders style, organization structure and staff training quality are likely to bring higher levels of staff-organization value congruence and create more benefits to firm. Therefore, future research could explore the relevance and importance of other variables of service innovation strategies in human resource practices.

This study adopted descriptive research to explore the classification of service innovation strategies and explored the relationship between service innovation strategies and firm performance. We realized the causality between service innovation strategies and firm performance in terms of organizational character and financial environment. Since each respondent answered on behalf of

a financial holding company, this study treated organizational character as one of the research limits. Moreover, this study recognized the limitations associated with the use of cross-sectional data with an attempt to draw conclusion. The longitudinal data on both service innovation strategies and firm performance are needed to conclusively replicate the present findings. However, this current questionnaire did not address the issue because such macroeconomic data are not easy to define and yet unavailable.

Finally, future studies may examine the influence of different types of product cycles on the entry mode choice. For example, whether the different level of innovation experiences, different stages of the market development and product life cycle have impacts on the alternative of service innovation strategies. Furthermore, the strategic innovation activities of firms may also be influenced by a firm's multinational diversity and product diversity (Barkema and Vermeulen, 1998). Further research could provide more insight into these issues.

Appendix 1.
The Dendrogram of the Ward's Method



Appendix 2.

Results of Post Hoc Cluster Analysis

Group	Financial Firm	Group Rating			
		Innovation Level	Improvement on Service	Number of Business Units	Percentage (%)
Group 1 Steady Value-Added Strategy	Firm 3, Firm 4 Firm 5, Firm 9 Firm 10, Firm 12 Firm 15, Firm 16 Firm 17, Firm 22 Firm 24, Firm 26 Firm 27, Firm 30 Firm 31, Firm 32 Firm 34, Firm 37 Firm 38, Firm 41 Firm 43, Firm 44 Firm 45, Firm 47 Firm 48	4.34	4.64	25	53%
Group 2 Emerging Goal Strategy	Firm 1, Firm 2 Firm 6, Firm 7 Firm 8, Firm 11 Firm 18, Firm 19 Firm 25, Firm 28 Firm 29, Firm 33 Firm 36, Firm 39 Firm 46	3.42	3.26	15	32%
Group 3 Prosperous Business Strategy	Firm 13, Firm 14 Firm 20, Firm 21 Firm 23, Firm 35 Firm 42	5.20	5.48	7	15%
Group 4 Satisfactory Efficiency	No one	-	-	0	0

Appendix 3.

Service Innovation Survey

Research Conceptions	Operational Questions	Reference
1.Operational Questions of Service Innovation		
New Service Conception	1. Compare with competitions, our firm have enough resource to develop the new service.2. Compare with competitions, our firm provides variety new service to customers in the past 5 years. 3. Compare with competitions, our firm is first brings the new service to the market usually. 4. Compare with competitions, our firm always try to our best to provide different service for different customers.	Miller and Friesen, 1982
New Service Delivery	1. Compare with competitions, our firm give the promise to customers for the better ways to deliver the service. 2. Compare with competitions, our firm try to our best to provide the special service delivery for customers. 3. Compare with competitions, our firm always create the innovation service to deliver service for customers.	Ark *et al.*, 2003; Den Hertog, 2000; Northcraft and Chase, 1985
New Service Interface for Customers	1. Our staff could share information with customers by providing the service/products. 2. Our staff spends lots of time to direct discuss with customers for knowing the customer's demands. 3. Our services require the interaction from customers with staff.	Ark *et al.*, 2003 ; Den Hertog, 2000
2.Operational Questions of Type of Innovation		
Disruptive Innovation/ Sustaining Innovation	1. Compare with competitions, the price of our firm's financial products or financial services is cheaper in the market during the past 5 years. 2. The financial products or financial service of our firm launched during the past 5 years attracted customers who had not used this product or service before. 3. Compare with competitions, the feature of financial products or financial services of our firm are less complex during the past 5 years. 4. The financial products or financial service of our firm launched in the past 5 years mostly targeted on customers preferring mature professional knowledge. 5. The financial products or financial service of our firm launched in the past 5 years satisfied mainstream customers after innovation for a period of time. 6. Our firm usually relies on present products or service to develop the new products or new service to satisfy with customer's demands during the past 5 years.	Christensen, 1997; Christensen and Overdorf , 2000; Govindarajan and Kopalle, 2006

	7. Our firm usually relies on market changes to create revolutionary innovation products and service than improve financial products and financial service during the past 5 years.	
3.Operational Questions of Improvement on Service		
Service Efficiency / New Service	1.Generally, our firm provides financial products or services is based on the present market to gives more service efficiency to customers in the past 5 years. 2.Generally, although our firm provides financial products or services are not create new market, but provides more service efficiency than ever in the past 5 years. 3.Generally, our firm's operational policy is more focus on improving service efficiency than seek the new market in the past 5 years. 4.Generally, our firm plays the pursuer role form all competition to seek and create better market in the past 5 years. 5.Generally, our firm provides financial products and services are the new goods with competitions which all have not the similar goods in the past 5 years.	Barras, 1986; Barras, 1990

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