Abstract—The service sector plays an important role in the modern economies of the developed countries and Taiwan as well. Service innovation has been one of the critical determinants to the success of the business performance and is the essential element to meet the customers' needs and requirements. In this paper, a concept is proposed to depict a leading brand in the kitchen design and appliances industry. Taiwan-based company – Sakura Corporation has developed and plans to implemented a 3D kitchen furniture design and ordering systems as well as new service mode throughout the Kitchen Life Stores across Taiwan starting from 2010. The successful factors for the service innovation project are top management support, technological readiness, knowledge management capabilities, external focus and internal focus. The 3D kitchen furniture design and ordering systems are the crucial and enabling roles to enhance the level of customer satisfaction.

Keywords-service innovation, project management, customer satisfaction

I. INTRODUCTION

Taiwan’s furniture design and appliances market has slightly growth recently. The water heaters, range hoods, and stoves are primary needs for every house. The competitors are local and foreign firms. The distribution channels include shopping mall, franchise chain stores, and retail stores that sell and provide service to these products. According to [9], the market size of the industry is approximately NT $5 billion a year. Deducting the import goods of kitchen furniture, it is NT $3 billion dollars for the local market share. The Sakura Corporation, a leading brand in kitchen furniture and products in Taiwan [1], almost accomplishes 30% of market share in the industry [10].

II. FIRM’S INTRODUCTION

The Taiwan Sakura Corporation established in 1978 which has already existed for more than 30 years. The firm always adheres to the management motto of “innovation, quality, service” with close attention to consumers' demand. In order to provide better service to customers, the company started to establish franchised chain stores which were named “Sakura kitchen life store” in 1979, taking the lead in kitchen design and appliance industry. After operating for 3 years, its stocks were public listed on the market. In 1997 in these chain stores, the 2D furniture computer-aided design system was implemented, which was the first one adopted in the industry. There are more than 80 franchise chain stores at present in Taiwan. As to market share amounts, in the wholesales kitchen furniture, it is 7.2% which is 9,100(Sakura)/127,065(Total market amount). In the retailing kitchen furniture, it is 23.5% which is 4,236(Sakura)/18,000(Total market amount).

III. CURRENT OPERATIONAL PROCESSES

Recently, the 2D furniture design system seems unable to meet the expected customers’ needs because the design software and components must be updated by headquarters (HQ) to chain stores via compact disk (CD) every month. The system is time-consuming and inconvenient to work with. Moreover, the kitchen designers have to measure the space in customers’ houses and then draw the design blueprints in the office. In order to meet customers’ needs, designers need to discuss with customers repeatedly (back and forth) until customers are satisfied. It’s also a drudgery work.

After customers agree with the design blueprint, sales persons have to adopt Microsoft ACCESS software for calculating prices and costs to generate quotation sheet for the customer to confirm and sign contracts. After contracting is completed, the chain stores generate orderings with Microsoft Excel software and transmit the order information to HQ with e-mail. Then employees of HQ would key in the order information to ERP system. The system will order the materials from suppliers and schedule the producing process for each order from the chain store. On predetermined time the HQ delivers the materials and appliances to customers’ houses for kitchen furniture engineering process. After the installation and checked by customers, customers pay the bill. At the end of every month, the chain stores will generate monthly sales reports to HQ. The HQ will not know every chain stores sales amounts until the end of month. It also cannot quickly response to the situation once chain stores area’s sales, services or products need to be adjusted for the operational strategy. This procedure is totally not automatic and lacks of efficiency.
IV. SERVICE INNOVATION

Interaction orientation has regarded as an important factor to customer satisfaction [4]. Interaction orientation reflects a firm’s capability to interact with every customer and to gain the advantage of information obtained from them. Therefore, the top management of Sakura thought to improve their service and provide more values to their customers. In one way doing so is to raise the customer satisfaction. In another way, it can efficiently reduce time, labor, and financial costs (operational costs). Moreover, [3] asserted that service innovation consists of radical innovations, improvement innovations, incremental innovations, ad hoc innovations, recombinative innovations, and formalization innovations. Since the Sakura Co. always insists to provide their excellent services to customers, they choose improvement innovation as their core thought. In 1994, several professors of Harvard business school proposed the service profit chain [5]. Firm’s profit and growth are stimulated primarily by customer loyalty. Loyalty is a direct result of customer satisfaction. Satisfaction is largely influenced by the value of services provided to customers. Therefore, in order to gain more profits, firms have to increase customer’s satisfaction and loyalty. After a long-term consideration, the Sakura Corporation decided to develop the new 3D kitchen furniture design system and ordering system. They formed a project team that includes vice president, the senior manager of CEO office, the marketing department manager and staff of kitchen development and representative from chain stores. Also, they recruit staffs from the human resource department for the system on line educational training. Moreover, they applied for the project fund from the government plan which is “High Quality Business Innovation” provided by the Ministry of Economic Affairs [7]. System developed was outsourced by Virmaxx [12], a professional 3D system software developing firm. The Sakura Corporation also invited Professor Yih-Yuh Lee of National Chengchi University as the project consultant. The structure of project members includes: government, varimax, academic consultant and kitchen life chain stores.

The process reengineering and system development took almost a year. The firm developed 3D system for designing kitchen furniture system and ordering system and planned to implement in every chain store. Connecting Internet by adopting wireless technology, the kitchen designer draws the 3D kitchen furniture blueprints via HQ kitchen component database and discusses with customers simultaneously in the designing place (customer’s kitchen) on the spot. Compared to the old system where designers have to discuss with customer and drew the blueprint in the offices back and forth, it saves a lot of time and quickly responses to the customers’ need immediately. The new design system process is as follows: 

As for the ordering system, after implementing the new system, the quotation sheet will be printed through the Internet from the HQ’s database. Therefore, HQ can trace every order’s situation including customer’s information, component price, discount rate and profit margin in real time, then arranges material to produce and deliver to customer’s place instead of operating by humans. A step by step process with staffs is no longer needed.

The new ordering system flowchart is as follows:

![Flowchart of Old Ordering System](image1)

![Flowchart of 3D Design Kitchen Furniture System](image2)

![Flowchart of Old Ordering System](image1)

![Flowchart of New Ordering System](image2)
![Figure 3. Flowchart of New Ordering System](image)

**TABLE II. COMPARABLE ANALYSIS FOR OLD AND NEW ORDERING SYSTEM**

<table>
<thead>
<tr>
<th>Item</th>
<th>Old Ordering System</th>
<th>New Ordering System</th>
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| Generate quotation sheet process | 1. From every chain store's MS ACCESS to calculate price  
2. Design by chain store staff | It will be generated from HQ's component database             |
| Discount Range              | It is different store by store                           | The information is gathered by database, the discount range will be set by HQ. |
| Generate quotation sheet time | 1-2 days                                                  | Generate immediately                                          |
| Order process               | 1. Quotation sheet email to HQ  
2. convert to EXCEL and import to ERP system by staff | 1. Getting prices of design component from database.  
2. Generate order information immediately. |
| Profit calculation          | It will be known after calculating by ERP system.        | Immediately                                                   |
| Chain Stores Sales Amounts  | HQ will know at the end of month                         | As soon As possible                                           |
| Total Days                  | 8-16 days                                                 | After design is complete then ordering is finished.           |

The 3D design and ordering systems have been on the testing process for half year since March, 2010. The system is going to be installed to all chain stores around Taiwan at the end of the year. If the implementation process is successful, the Sakura Corporation will also decide to transplant the systems to the hundreds of chain stores in China.

V. SUCCESSFUL FACTORS OF THE PROJECT

In order to save time, labor force, operational costs and provide high-quality service to customers, the Sakura Corporation decide to adopt service innovation strategy to implement the new 3D furniture design and ordering system. According to the systems, it can also be classified to customer relationship management (CRM) system. As to [2], the definition of customer relationship management includes marketing, sales and services, 3D furniture design and ordering systems include these factors to provide values to the customers. As to [8] proposed, CRM successful factors include top management supports, technological readiness, knowledge management (KM) capabilities, internal focus and external focus. It also includes strategic benefits and operational benefits based on the previous viewpoints. We may analyze the successful factors for the Sakura Corporation to implement 3D kitchen furniture systems:

- **Top management supports:** The project team consists of vice president, the senior manager of CEO office, the marketing department manager, staff from furniture design and human resources department. Therefore, from top-ranking officer to executive, strategic, design function and education training are all involved.
- **Technological readiness:** The project team includes members that maintain the 2D system, furniture designers and also outsources the system development to Varimaxx company which professionally develops 3D drawing system. Moreover, the new ordering system also records all of the customer’s information. With information, the Sakura Corporation can easily analyze more consumer behaviors. It is also the next step for the firm to implement the consumer KM capabilities: According to [6], the knowledge management capabilities are the ability to capture, manage, deliver real time service, and information to the customers. Such capabilities are based on information, technology, and the culture embedded among the organization [13]. Since the Sakura Corporation established for more than 30 years in the kitchen design and appliances industry, it has become the leading brand in Taiwan. Its technology capability and service culture have already developed and embedded among the whole organization. After the new 3D design and ordering system, it will enhance the firm’s information capabilities to handle every aspect of the business.
- **Internal focus:** The project also includes representatives of chain stores who have abundant experiences of negotiating with customers. They provide authentic comments and feelings from customers to project team for references. They also guarantees the new systems.
- **External focus:** When the project began, it applied for the government plan to provide funds for the project. The auditing members of the government plan also provided comments for improving the project. Moreover, the Sakura Corporation also invited Professor Lee to be the consultant for the project team. Therefore, with government and academic expert as the external focus, it enables the project to be successful.

Moreover, there are two benefits’ namely:

1. **Strategic benefits:** Once the 3D and ordering system is implemented and run smoothly in every chain store in Taiwan, the system will trans-implment for hundreds of chain stores in China. By reducing time, labor forces, and costs, Sakura Corporation owns the competitive advantages to expand their business in China and even other overseas areas.
2. **Operational benefits:** The new systems are easy to use, time-saving, and cost-reducing. It is an operational benefit for the project team to successfully implement the system and customer-oriented as well.
As the Technology Acceptance Model (TAM) [11], the system allows users to work with less efforts (ease of use) with their jobs. Therefore, users will feel its usefulness and accept the new technology (system). Finally, the system will win the users' satisfaction and loyalty to Sakura Corporation.

VI. CONCLUSION

The Sakura Corporation, a Taiwan leading company in kitchen furniture design and appliances industry, has developed and plans to implement a 3D kitchen furniture design and ordering systems and new service mode throughout the Kitchen Life Stores across Taiwan starting at the end of 2010. In this study, an attempt has been made to analyze its new system process and determine the critical success factors for service innovation project implementation. The results provide valuable insights into the critical success factors for IT initiatives of the Sakura Corporation for its chain stores in Taiwan. We introduce the new system process compared with the old ones. Moreover, we also analyze the successful factors for the IT project. Further research is needed to explore how the chain stores adopt the new 3D kitchen furniture design and ordering systems to enhance the service quality and increase the level of customer satisfaction.

Since the 3D furniture design and ordering systems are still under intensive testing and educational training before implementing to all of the chain stores around Taiwan is still in process, the systems may need to have some adjustments before an online running. It may be limited for us to provide more complete information for the case in this study.

REFERENCES