Technology-based Procurement Innovation in SME F&B Service : An Evolutionary Case Study

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Abstract

F&B(food and beverage) in accommodation industry is a key service that determine the satisfaction of customers in tourism industry. As the importance of the management of quality gets increasingly highlighted in service industry, the innovation in the management of service quality and satisfaction in tourism industry is gaining high attention. In this research, we focused on the improvement and innovation of the management of procurement process for F&B service based on the smart use of information technology. A case and scenario analysis of the improvements in the management of procurement process is performed focusing on a medium-size accommodation business. Future opportunities and potential of further IT-based innovation is discussed.

Keywords : e-Procurement, Innovation, Food and Beverage, Tourism, Serviced Residence

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1. Introduction

Service industry of today comprises more than 60% of total economy of most developed economy. Tourism industry is one of the major service industries. Despite the importance, the tourism industry in Korea is still in a developing stage. Korea ranked as 42nd in 2007 in national tourism competitiveness assessment. This result is far behind compared to her rank in business environment and infrastructure (24th) and the size of international trade (11th) in 2009.

As the importance of tourism industry increases, more systematic approaches are needed to improve the management practices in this industry. Among the tourism industry, accommodation industry is one of the businesses which invested relatively heavily into the use of information technologies. Various attempts have been made to use technology to improve business values in the accommodation industry. For example, a large amount of investment was made to develop CRM (customer relationship management) systems and on-line reservation processing.

However, the use of information technology in this industry was limited largely to large scale hotels. In addition, food and beverage was comparatively less highlighted area of management in the use of information technology.

The widespread diffusion of Internet and Internet-based applications casts new opportunities for smaller companies to use advanced technologies in various aspects of their business processes. Specifically, the availability of ASP (Application Services Provider) service enabled small companies enjoy the benefit of advanced management technologies such as JIT (just in time), VMI (vendor managed inventory), automatic replenishment, and e-procurement. Although these technologies were used largely in large-scale manufacturing industry such as automobile and electronics industry, its use in service industry has long been relatively limited.

This paper is concerned with the use of information technologies for the innovation in procurement management for food and beverage service in the accommodation industry. We especially focused on the case analysis of a special type of medium sized accommodation business : serviced residence.

We first reviewed industrial background with regard to the tourism and accommodation industry and reviewed theoretical concepts on inter-organizational coordination as a background of procurement innovation. Then we performed a case study on a medium size serviced residence company. A background description of the case site is followed by the historical developments of F&B procurement practice in this business. Then the advancement of procurement process based on ASP technology is described. Finally, a prospective future of IT-based innovation in F&B procurement is discussed.

2. Tourism Industry of Korea

Tourism industry in Korea is not in an ad-

vanced stage both domestically and internationally, especially when it is compared to the manufacturing and other service industry. Large multinational manufacturing companies such as Hyundai Automobile, Samsung Electronics, and LG Electronics drove heavy investment into the use of advanced information technology for the improvement of business processes. In service industry, the use of advanced technology was dominantly led by such technology service companies as SK Telecom and KT and financial service companies such as banks, insurance companies, and credit card companies. The use of sophisticated technology, on the other hand, was limited in tourism industry.

Compared to such huge manufacturing industry as automobile and electronics, the tourism industry in Korea was out of the focus of business and government attention. Despite the lack of past attention, as tourism industry in Korea grows fast, more systematic management is being called for. Korean tourism market has been continuously grown for the last decade. The growth rate was maintained despite the recent economic down turn as can be seen in the growth of incoming and outgoing tourists <Table 1>.

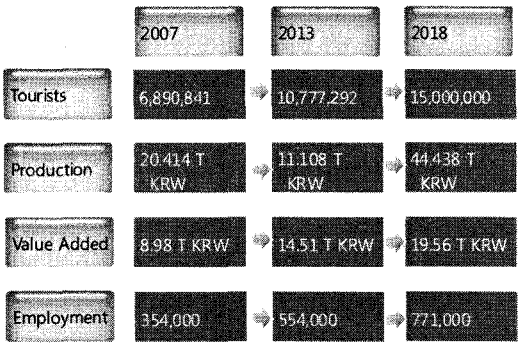
〈Table 1a〉 Foreign Incoming Tourists into Korea

Year	No. of FITS	Growth Rate(%)
2005	6,021,764	3.5
2006	6,155,046	2.2
2007	6,448,241	4.8

〈Table 1b〉 Outgoing tourists of Korea

Year	No. of Tourists	Growth Rate(%)
2005	10,080,143	14.2
2006	11,609,879	15.2
2007	13,324,418	14.8

As the evolution of tourism industry in Korea has a relatively short history, the competitiveness and level of investment in this industry has also been limited. It is partly due to the emphasis of the government policy on manufacturing, technology and knowledge industry. However, recently, more attention is being drawn to the importance of culture and tourism industry. <Figure 1> summarizes the prospect of tourism industry projected by the Ministry of Culture and Tourism of Korea.



〈Figure 1〉 Tourism Industry Projection

As can be seen from <Figure 1>, the number of tourists is expected to reach 15 million by 2018, making the total contribution to national production being 44.4 trillion Korean Won (about 40 billion USD) and total value added being 19.56 trillion KRW (about 17 billion USD). The number of employment increase in this industry will also grow fast and is expected to reach 771 thousand by 2018. As this report summarizes, Korean gov-

ernment has a very prospective projection on the growth of this industry and thus expects to gain increasing attention of policy makers.

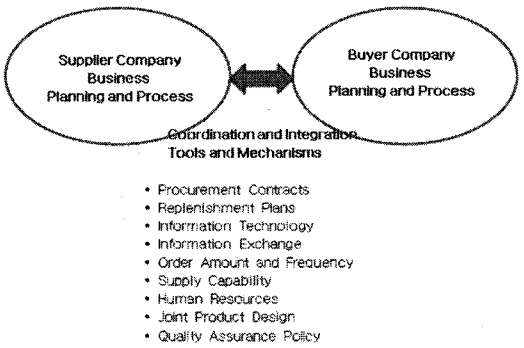
3. Theoretical Background

e-Procurement is one type of market transaction where the exchange is made between two organizations. In such repeated B to B transaction, the cooperative relationship between the two organizations becomes one typical issue of inter-organizational coordination. The level of coordination determines the efficiency and performance of the two organizations and their transaction.

Inter-organizational coordination in the context of supply chain management (SCM) emerged as an important research area since the middle of 1990s. Researchers have largely focused on the buyer-seller relationship and analyzed the nature and process of pair-wise partnership. Inter-organizational coordination research in a broad sense includes such topics as the cooperation, negotiation, sharing of information and systems, and rules and process of contract between sellers and buyers (Barratt, 2004).

Inter-organizational coordination research has largely focused on the quantified modeling of the transactional relationship. A tight integration of two partners operating like a single organization is considered as the desired form of collaboration. Quantitative models have tried to analyze the effects of changes in certain parameters or rules of contracts on cost structure, profit, quality of products, and the amount of inventory [e.g. Cachon and Fisher, 2000; Kulp, Lee, and Ofek, 2004; Cachon and Lariviere, 2005]. Various types of variables were included in the quantitative modeling as decision variables as well as the context of coordination <Figure 2>.

Case studies on inter-organizational coordination have also been performed. Theses qualitative research focused on the practical complexity of the dyadic relationship. The specific process of coordination, organizational arrangements and interactions, and the use of a specific system were described. The application of e-Business approaches to these inter-organizational transactions have also been explored and studied.



<Figure 2> Factors that Affect the Coordination between Buyers and Sellers

Inter-organizational coordination across the whole value chain has also been of interest to researchers and managers as extended technical support became available through the use of advanced information and communication technologies. The enhanced value of the whole supply chain-wide coordination is studied and highlighted, as exemplified in case examina-

tions on such industry-wide innovation as quick response (QR) in textile industry (Richardson, 1996). As sales information collected at the retail store was efficiently shared among members of the whole supply chain, suppliers and manufacturers could respond quickly in the design and delivery of new fashion products. The suppliers from raw material providers to component producers and manufacturers could accurately interpret signals of the changes in the market demand close to real time. Based on the analysis of actual sales data collected at the consumer-end of the chain, all suppliers could prepare for a quick delivery of products. The reduction in cycle time helped the whole chain to cope with high market uncertainty and excessive inventory problem.

At the core of the coordination of a supply chain lies the sharing of information, as information sharing is considered an effective coordination mechanism to overcome uncertainties, delayed processing, and bullwhip effects [Sahin and Robinson, 2002; Kulp, Lee, and Ofek, 2004]. Sharing information across the value chain could be realized through the adoption of standard data codes and inter-organizational information interchange technology, EDI(electronic data interchange). When information sharing capability is combined with innovations in decision processes such as business process redesign, the achievement of performance increase could be maximized.

However, the more difficult problem in the implementation of information sharing and coordination across the whole value chain than the adoption of technology is found to be the coordination of culture and business practices. It needs longer time and larger amount of efforts to make members of the supply chain believe in the value of coordination and the culture of trust [Kumar, 1996].

Overall, various mechanisms can be employed to accomplish inter-organizational coordination. These mechanisms include resource sharing, information sharing, joint working, joint decision making, joint design and development of products, joint promotions, adoption of advanced information technologies, and risk-sharing contracts such as buy-back contract [Arshinder and Deshmukh, 2008].

4. Background of the Case Study

4.1 Serviced Residence

Serviced residence is a relatively new type of accommodation business. It combines the convenience of hotels and apartment living. Serviced residences tend to offer bigger living space and comfort for tourist and expatriates than hotels. These residences are considered particularly attractive to families who are seeking extended stays for long holidays, or for businessmen who are on long business trips or long-term assignments. The popularity of these residences is due primarily to the larger living spaces, the "home-like" facilities, and the affordability of the accommodations. The price of serviced residence for an extended stay is lower than hotels but still provide convenient staying environment. The comfort

of staying in a furnished apartment environment spells convenience particularly for the expatriates looking for facilities for their families or colleagues to settle in while they continue to work on projects of assignments.

Serviced residence has a strong presence around the world and is growing. Residences are a much sought-after accommodation option in major cities, like Seoul. Although the range of services and amenities residences provided is not up to the hotel standards, they do provide local touch and comfort for foreigners. The serviced residence provides one stop convenient services with minimal housekeeping services, information, and security. It also provides opportunities to develop a spirit of community in the residences and surrounding districts and making a better place to live in with the locals.

Serviced residence business was first introduced in Korea in 1988. Their business in Korea grew sharply by accommodating long and medium term visitor for World Cup game held in 2002.

4.2 Management Outsourcing and F&B Service

The F&B (food and beverage) service consists of two components : the production of food and the provision of service. The key management activity for food production is the management of procurement and inventory, while the key for service provision is the training of service delivery personnel for maximum customer satisfaction. Because of these differences, companies often employ different approaches to the management of these two functions.

The outsourcing of services such as food and beverage, housekeeping, security, and maintenance to specialized management companies has become a dominant trend in accommodation industry in order to focus on core activities. As the outsourcing of F&B service and management has become one emerging strategy to be competitive, this research specifically focused on the management of F&B service.

4.3 Case Site : Somerset Palace

Somerset is the serviced residence brand of Ascott. For this reason, although Somerset is not a big business like a big hotel chain in Korea, it is part of a big globalized business. The Ascott Limited is the world's largest international serviced residence owner-operator with over 19,000 operating serviced residence units in key cities of Asia Pacific, Europe, and the Gulf region. As around 6,000 units are under development, the total of units is expected to reach 25,000 units by the time the whole projects are over.

The Ascott operates three brands-Ascott, Somerset, and Citadines. Its portfolio spans 69 cities in 22 countries. Ascott's properties can be found in cities including London, Paris, Brussels, Berlin and Barcelona in Europe; Singapore, Bangkok, Hanoi, Kuala Lumpur, Tokyo, Seoul, Shanghai, Beijing and Hong Kong in

Asia; Melbourne, Perth and Sydney in Australia, as well as Doha, Dubai and Manama in the Gulf region.

Ascott is headquartered in Singapore. It pioneered Asia Pacific's first international-class serviced residence property in 1984. It established the world's first pan-Asian serviced residence real estate investment trust, Ascott Residence Trust, in 2006. Ascott's achievements have been recognized internationally by several awards including 'Best Serviced Residence in Asia Pacific' from Destin Asian Readers' Choice Awards in 2010, 'Best Serviced Residence Operator' from TTG Travel Awards in 2009, and the 'Best Serviced Apartment Company' from Business Traveller UK Awards in 2009.

Ascott is a wholly-owned subsidiary of CapitaLand Limited, one of Asia's largest real estate companies headquartered and listed in Singapore. CapitaLand's core businesses in real estate such as homes, offices, and shopping malls, hospitality such as serviced residence, and real estate financial services spans more than 110 cities in over 20 countries focusing on big cities in Asia Pacific and Europe.

Somerset Palace Seoul is located at the heart of downtown Seoul. Long-term (2months ~years) guests comprise about 70% of total customers, and the rest of the 30% guest are short-term (1 week~1 month) guests. Average number of guests staying in residence is around 600 guests making the occupancy rate around 95% for 435 rooms. Nationality of the guests includes America, Europe, Asia, Middle East, India, and Korea. Major purposes of the visits of guest include business assignments and long holiday. About 70% of the guests are male and 30% are female. Roughly about 70% of the guests are individual guests, 10% are family guests, and about 20% of the guests accompany with colleagues or friends. However, he accommodation fee per day is about 180,000 KRW~270,000 KRW, about 40 to 50% of discount is offered for long term stay. As the fee includes breakfast, most of the guests use breakfast services, which, if purchased separately, costs 22,000 KRW.

4.4 Residence Features, Amenities, Facilities, and Services

The features and amenities of Somerset include the followings :

- Fully furnished with dining and living area
- Bathrooms en suite and bedrooms designed for relaxing, blissful nights
- Two IDD telephone sets and switchboard operator services
- Line for high speed internet and facsimile
- Multi-split air-conditioning with individual control
- Two television sets (29" and 21") with cable and satellite channels
- Writing desk
- Home entertainment system (CD, DVD, MP3)
- Fully equipped kitchen with refrigerator, microwave oven, cooker hob and hood, toaster, electric kettle, chinaware and glassware, crockery and cutlery

- Hair dryer
- In-room electronic personal safe
- Washing machine cum dryer
- Iron and ironing board

The residence facilities, utilities, and services include the followings :

- 24-hour reception and security
- Daily housekeeping service except on Sundays
- Laundry and dry-cleaning service
- Outdoor Jacuzzi and outdoor pool
- Fully-equipped fitness center
- Gymnasium with aerobics studio
- Sauna rooms
- Shuttle service
- Limousine and airport transfer
- Baby-sitting service (upon request)
- Travel and tour related services
- Convenience store
- Restaurant and home delivery services
- Car park facilities
- Business center and secretarial services
- Fully-equipped meeting rooms
- Residents' Lounge

4.5 Management Outsourcing of Somerset

Companies outsource part of its operation with dual purposes. On the one hand, in order to focus on their core capabilities, operations beyond the strategic necessities are outsourced. On the other hand, outsourcing service providers offer professional operations, helping the buyer contractor remove the burden of maintaining skill-base and enjoy economies of scale. Being owned by multiple investors, many serviced residences outsource part of its operation and management to professional service operators. In the case of Somerset Palace, they outsource the room care operation and F&B operation to a local outsourcing company named B&B 25.

B&B25 (stands for bed and breakfast 25) is a local outsourcing provider focusing on the provision of F&B operation services in hotel, restaurant, and club houses of golf resorts. B&B25 has more than 30 contract customers and provide personnel, staff, and operation services aligned to the strategies of customer companies. Their customers include major hotels, corporate in-house restaurants, and golf resorts.

B&B25's out-sourcing service emphasizes the excellence in customer centric business processes. These processes can entail direct contact with customers and support for customers facing professionals. They provide the workforce trained to help the contractor run quality operation. In all cases, B&B 25 is known to provide management solutions built on service personnel, management processes, and required technologies. The benefits B&B 25 promotes to offer to its customers are as follows :

- Accelerate business process transformation
- Turn fixed costs into variable costs
- Improve ROI
- Increase shareholder value

4.6 Nature of F&B

Somerset Palace offer buffet-style breakfast to its customers between 06 : 00AM and 10 : 00AM. The quality of breakfast service is considered critical to the satisfaction of residence customers. Every day about 400 guests use the breakfast lounge. As the accommodation fee includes breakfast buffet service, a large portion of the guests use the breakfast service. Out of total menu, American breakfast dishes comprises about 80%, and Korean and Japanese dishes are about 10% each. The breakfast buffet menu is as follows :

- **hot dishes** : soup, porridge, baked beans, egg scramble, potato, toast and pancake, fried rice, cooked mushroom, cooked tomato, Mi-so soup and boiled rice, garnish
- **cool dishes** : pastries(croissant, morning roll, muffin, strawberry pie, pumpkin pie, bagles, toast bread, Danish, whole grain bread), variable vegetable & fruit salads, cereals, yogurt, whole fruits(banana, kiwi), muesli(kind of oatmeal)
- **beverages** : variable fruit juice, milk(hot, cool, regular, low fat), coffee and tea,

4.7 Patterns of Breakfast Guest and vegetation

Cultural aspects have a clear influence on the vegetation pattern of guests. People from Europe and America prefer light breakfast such as one fried egg with toast and cereals with milk or juice. Many people from India and Middle East are strict vegetarian and do not eat pork, egg, nor source or seasoning made from animal ingredients for religious reason.

Over 60% of the business guests prefer to have breakfast early in the morning (around 6 : 30) regularly in the morning because of their early working schedule during weekdays. As there are many short term tourists from Japan for holiday leaves on weekends, breakfast lounge tend to be crowded and guests can easily get in trouble securing seats and foods.

5. The Evolution of F&B Management Practices

5.1 Stage 1 : Manual Processing of F&B Procurement

Initially all the procurement tasks have been done manually in F&B industry. Procurement processes such as ordering, purchasing, shipping, warehousing and importing goods were all time-consuming. Many errors and mistakes were made due to heavy paper work, tedious voice communication using telephones, and complicated approval procedure. F&B managers always had to struggle to handle the risks and costs with regard to overstock and under stock. Procurement in food and beverage industry, although not a major activity itself but a supporting function for the major operations, affects significant portion of the whole budget due to the nature of materials which have expiration.

For this reason, the inefficiency of manual

procurement process was the most important management issue to be improved in F&B industry. Procurement efficiency used to affect the corporate goal on customer satisfaction with regard to the provision of quality goods and services. The adoption of solutions based on information technology in F&B industry was the reflection of the necessity recognized by executives and managers.

〈Figure 3〉 Order Sheet Used for Manual Procurement

5.2 Stage 2 : Internet-based Procurement using ASP

(1) ASP Services

ASP(Application Service Provider) supplies information processing services and operates applications for corporate customers based on remote hosting server and charges for the services provided. ASP service includes ERP, CRM, SCM, electronic payment system, asset management, customer management, etc. The ASPs set up their business on top of the Internet-based data center and allows companies to use the application systems according to their needs.

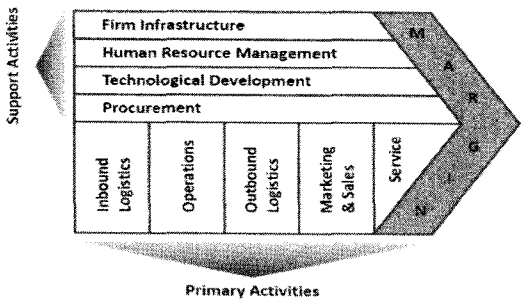
The advantage of using ASP service includes the reduction of risks in systems development and the improvements in cash flows from IT-related investments. Additionally the service guarantees expert support from the time of the introduction of applications. These benefits made many companies show interests in the employment of ASP services for innovating managerial processes. Especially many SMEs (small and medium enterprises) believe that the adoption of ASP is one key to create and maintain business competitiveness.

The most benefited process in food and beverage service industry is considered to be the procurement process. ASP is believed to provide right solutions for improving the serious problem of inefficiency in the F&B procurement process.

(2) E-procurement

E-procurement is one method of business innovation using ASP services. The ideal goal is to achieve enhanced performance effectiveness and save costs by technologically supporting the procurement process that has previously been done manually. The time, efforts and costs related to the performance of repetitive tasks such as repeated purchase proc-

essing can be reduced dramatically by this approach. The adoption of e-procurement system is considered related to the strategic values-daily customer services that satisfy customers' expectation.



〈Figure 4〉 e-Procurement Activity on the Value Chain

6. ASP-based e-Procurement in F&B Service

B&B25 that runs F&B service operation in the Somerset Palace residence in Seoul presents a good example of the successful introduction of information technology into their food procurement process based on ASP service. As the company provides guests with buffet-style breakfast every morning including weekends and holidays, the procurement process could never be stopped as long as they continue the business.

Because of the tight operating conditions and resources, keeping stock levels low and securing sufficient spaces for warehousing had been the most important issues in their management of procurement. After the introduction of information services, they could enjoy a dramatic improvement in their procurement practices. An in-depth observation is made on these improvements related to the adoption of ASP-based e-procurement system in practice.

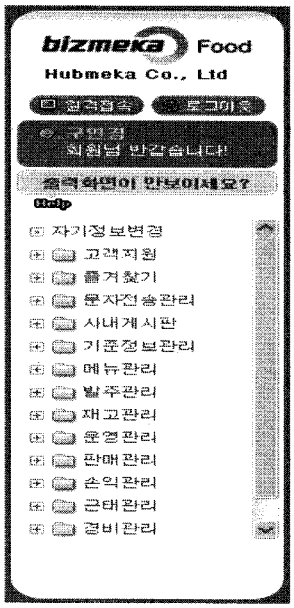
6.1 e-Procurement Process

The procedure of procurement process is comprised of the following sequence : selection of the products → request for purchasing → approval → order the approved request → present the orders → fulfillment of the orders by suppliers → shipping and delivery → accounts payables → delivery to the recipient.

KT bizmeka® food is one of the most famous ASP service for e-procurement in F&B industry. This service is developed by Korea Telecom, the largest telecom operator. Many large-scale food and material distributors chose to use this Internet-based ASP service due to its reputation in reliable and efficient operation. The distributors tend to introduce this service to their contractors that provide F&B services. <Figure 5.1> is the front interface of *bizmeka® food* solution.

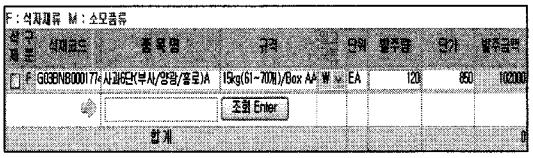
〈Figure 5.1〉 The Front Page of *bizmeka®* Food ASP

As an integrated service, *bizmeka® food* is developed to provide ERP (enterprise resource planning) system service that supports not only purchasing but also other activities such as customer support, personnel management, inventory management, operation and production management, sales management, and accounting. These functions can be purchased separately or as an integrated package depending on customers' needs. [Figure 5.2] shows the list of the activities supported by *bizmeka® food.*



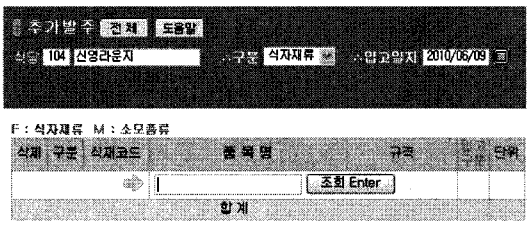
〈Figure 5.2〉 the Category of Services

<Figure 5.3> is a window to set a new order. <Figure 5.4> to <Figure 5.9> subsequently shows the windows used for the processing of orders : setting the delivery date, search purchase items or category, selecting specific item or variety, set order quantity, and issue the order.



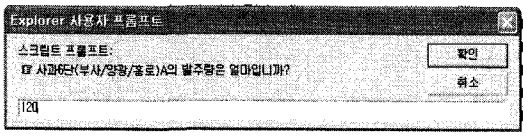
〈Figure 5.3〉 Setting a New Order

〈Figure 5.4〉 the first step to order : fix the delivery date

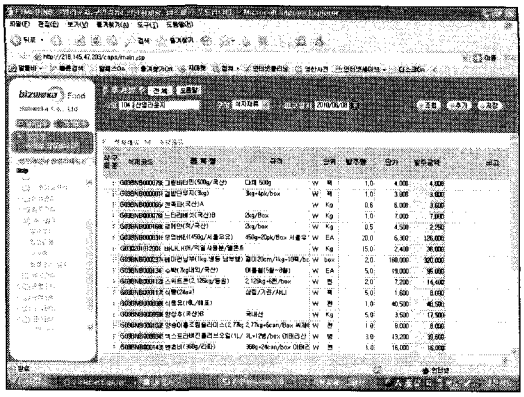


〈Figure 5.5〉 the Second Step to Order : Search Purchase Items Items are Classified Into Two Categories : F(Foods)/M(Supplies)

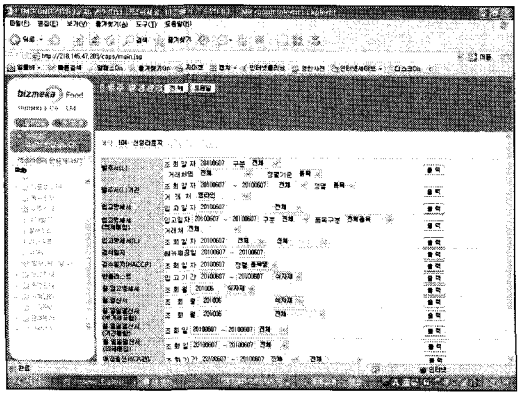
〈Figure 5.6〉 the Third Step to Order : Choose One of the List Each Item has Various Size, Quality Level, Price, Sales Unit



〈Figure 5.7〉 the Fourth Step to Order : Settle the Order Quantity



〈Figure 5.8〉 Completed Order List



〈Figure 5.9〉 Issue the Order List or Certificates

After this order process is completed, the remaining process of the procurement is performed by the distributor. The above process includes several steps of the procurement procedure ***selecting the products-request for purchasing-approval cycle-ordering the approved request***, which is performed all in one simple web site at once.

6.2 Effects of Adopting e-Procurement Solution

Managers of the Somerset Palace residence and B&B25 evaluated the effects of the adoption of the ASP-based e-procurement system. The following are the effects of adopting e-procurement system stated by the management :

- Speedy processing of repetitive and structured task was achieved.
- The problem of high costs of procurement process and long delivery cycle was solved and improvement was made.
- Purchasing department has become freed from the unnecessary tasks and become able to spend more time for managing the relationship with suppliers.
- Items required were reduced and the quality of the products and services were improved.
- The management can concentrate more on strategic matters.

E-Procurement is related to other traditional concepts such as inter-organizational commerce and EDI(electronic data interchange). Inter-organizational commerce is based on interchanging documents and information between companies mainly using EDI. EDI is long been used as a method of information delivery that uses *the structured format data,* and helped companies order-processing tasks without the need for reentering data. These traditional business solutions could help improve the accuracy of information interchange, simplify the work processes, and improve the speed of information delivery. The collective

benefits contributed to the improvement of profitability, productivity, and work efficiency.

As the use of advanced information technology continually evolves, procurement process is being considered as a key source of strategic competitiveness in relation to the leading-edge efficiency of organizational and business performance. This trend leads us to the thought and discussion of the future scenario that reflects the changes in technology use in F&B service industry.

6.3 Future Scenario of F&B Procurement Stage 3

For an increased efficiency and effective customer services, a mixture of more sophisticated approaches can be used in the future, along with the low-cost Internet-based ASP services. As the managerial intelligence in accommodation industry improves and price of adopting sophisticated approaches go down, the approached used in a large scale manufacturing industry can be adopted in SME service industry. These approaches may include :

- Sophisticated resource planning methods
- Inventory management by exceptions
- Vendor-managed stock replenishment

Production planning using MRP and BOM (Bill of Material) method in F&B

Menu-ingredient matrix can be developed to specify the relationship between materials and menus as can be seen in <Table 2>. The number of serving in each day can also be specified as in <Table 3>. These two tables can be used to compute the daily requirements of each ingredient as appeared in <Table 4>. The total amount of each ingredient for all menu items per each day can be specified. This data can be compared up-to-date amount of inventory of each ingredient. The tables can be saved in the procurement support systems and used to product optimal inventory management and automatic order generation for F&B service.

	Scramble	Toast	Fried rice	···
egg	80ea	10ea	10ea	
rice				
butter		1		
milk		11		
oil				
salt				
onion				
garlic				

〈Table 2〉 Ingredient Requirements Per Each Dish

	Scramble	Toast	Fried rice	···
Sunday	5	4	5	
Monday	8	5	2	
Tuesday				
Wednesday				
Thursday				
Friday				
Saturday				

〈Table 3〉 Daily Dish Servings Requirements

	Egg	Rice	Butter	milk	···
Sunday	490				
Monday					
Tuesday					
Wednesday					
. Thursday					
Friday					
Saturday					

〈Table 4〉 Computed Daily/Weekly Order List

Inventory management by exceptions and Vendor-managed stock replenishment

For items stably managed in terms of variety, vendors can monitor the amount of materials consumed. This practice can replace tedious repeated processing of orders. A classification of material items into regular purchase items and irregulars based on exception management concept should first be established. For example, the classification at the case site can be as follows :

<Materials classified as regular purchase items >

The following items are subject to regular purchase. These items can be classified for structured and programmed processing of procurement.

- food ingredients-many food ingredients can be automatically managed by a large consolidate distributor using contractor inventory data base.
- rice
- raw bakery
- beverage, milk, coffee, and tea
- hall supply-paper cup, napkin, paper mat,
- office supply-paper, print ink, pen
- kitchen supply-dish washer cleaner, pan, bowl

<Materials classified as exceptions>

The following items are subject to irregular purchase. These items can be classified for conditional processing of procurement.

- Items with a long cycle time to obtain ex) imported goods.
- Bulky product occupying a large space of warehouse
- New materials for new menu

This approach can help the company to improve the efficiency of management processes dramatically with a minimum investment into technology and infrastructure. The following are the potential benefits of the innovation :

- Flexible response to the changes in customer demand and needs can be implemented.
- Focused thrust on customer contacts and new product developments become feasible.
- Cost-based strategies can also be employed.
- Active inter-organizational coordination between buyer and seller can be achieved.
- Reduction in the amount of inventory and warehouse spaces spared for high peak stock.
- High customer loyalty can be achieved.
- Service differentiation is possible with dynamic menu design.
- Entry barrier in F&B service can be built up.

7. Discussion and Conclusion

As the tourism industry grows fast, the use of modern information technology and systematic management is being introduced to small and medium size tourism industries. We especially focused on one type of accommodation business : serviced residence and one type of service-F&B(food and beverage) service, which is closely related to the satisfac-

tion of customers in residence business.

An in depth case study of the evolution of F&B procurement process showed the possibility of electronic transaction to be used effectively to improve the competitiveness and productivity in the medium-sized accommodation business.

From the artificial scenario of the future improvement in the procurement process, we found that there is an ample opportunity to further improve the efficiency and effectiveness of the process using information technologies. By way of the smart use of commercially available IT services such as ASP (Application Services Provider) service, these businesses will be able to find sources of future competitiveness, differentiation, and the innovation in customer satisfaction.

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