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# Frameworks Of Casino Resorts Supply Chain

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FRAMEWORKS OF CASINO RESORTS SUPPLY CHAIN

by

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## **PART ONE**

### **Introduction**

Supply chain management (SCM) has been put into practice for decades in many different manufacturing industries, such as automobile and electronics industry. Compared to other ones, the gaming and hospitality industry has not extensively studied or discussed the influence of supply chain management. There are a limited number of studies covering hotel or restaurant supply chain; however, there are even fewer studies focusing on the casino industry. When gaming companies, especially those in Las Vegas area, can't generate much revenue through marketing and promotion strategies during the economic downturn, a robust supply chain system that reduces operational costs and helps building the long-term relationships with suppliers and customers can be implemented by casino resorts to survive in unstable economic conditions and markets.

### **Purpose**

The purpose of this study is to identify the key stakeholders and critical entities that compose the casino resorts supply chain in gaming service area so that it can be applied to improve operational functions.

### **Objective**

This paper is organized into four sections. The first section contains the well-know frameworks of SCM in manufacturing and service industry, and includes the characteristics of gaming industry. The second section explores the gaming industry context pertaining to supply chain management. Basic framework of casino resorts supply chain is developed in the third section, including key shareholders and critical entities that to compose of the supply chain.

Conclusion, including future studies and recommendations on casino resorts supply chain, is provided in the fourth section.

### **Justification**

The lack of research on service supply chain may be due to the fact that supply chain management originates from the fields that involve the production management and tangible resource logistics (Giannakis, 2011). Since gaming is one part of the service industries, the specialty of gaming industry can makes it even harder for researchers to build a standard model tailored for gaming industry. The large scale of casino resorts and the great number of suppliers who support the daily operation make the analysis of casino resorts supply chain even more complex and difficult to start with. Therefore, the industrial difference and the complexity of casino resort supply chain can be the reasons why the quantity of research on casino resort supply chain is so small.

The benefits of supply chain in manufacturing industry can easily be seen from the adoption of lean production process, the main concept of supply chain, which contribute to cost reduction, job efficiency, relationship improvement, and better customer service. In gaming industry, a successful supply chain management may also bring similar benefits mentioned above and help casino resorts to improve customer service while reducing operational costs. During economic downturn such as the one that has recently hit Las Vegas area, a successful adoption of supply chain can be a better alternative for casino resorts to keep profitable than the one focusing on cost reduction through layoffs.

Given there are few research studies focus on casino resort supply chain, this study can bring multiple benefits to academic and managerial fields. From academic perspective, this study will serve as a starting point for further studies by identifying the major stakeholders in casino

resort supply chain for the gaming operation of mega resorts in Las Vegas. From managerial perspective, casino resorts managers can refer to the supply chain framework provided in this study to improve operational relationships with vendors and customers while improving the performance of the casino resorts as a whole.

### **Constraints**

This study will focus on different factors that may optimize the operation in casino resorts through customer satisfaction and extend previous studies to the framework of casino supply chain. By the reviewing previous related studies and industry practice in Las Vegas casino resorts, this study contains the scope of identification of the basic frameworks of supply chain for the gaming area of casino resorts, major stakeholders and entities included in the supply chain. The convenience of observing industrial practice is the main concern of the location choice in this study. The cost-effect of integrating SCM to casino resorts is not provided in this study due to the unavailability of related financial data and to the scope of this study. Adjustments are necessary for future studies with broader scope that focuses on different casino resorts in Las Vegas, on different departments of casino resorts, or on casino resorts located in different areas in the world. In other words, this study is not generalizable to every casino resort in every geographical area due to the difference of cultures, customer bases, and vendor backgrounds. Advanced analysis related to the effectiveness of the supply chain management application in casino resorts is beneficial for extending this study in the future.

## **PART TWO**

### **Introduction**

The literature review is comprised of four sections. The first section contains trade literatures that identify the supply chain management (SCM) in traditional manufacturing and service industry. The next section reviews existing empirical studies related to the characteristics of gaming industry. In the third section, trade literature is examined so that the definition of casino resort for this study is identified. Finally, on top of the preceding reviews, empirical literature is reviewed to identify the critical segments and the key stakeholders on SCM of casino resorts.

### **Introduction of Supply Chain Management**

#### **Definition of Supply Chain Management**

Since the supply chain covers a broad range of disciplines, the definition of supply chain management (SCM) can be unclear and varying by industry. According to Council of Supply Chain Management Professionals, supply chain management encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities; it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third party service providers, and customers. In essence, supply chain management integrates supply and demand management within and across companies. The Supply Chain Council developed the supply chain operation reference (SCOR) model which incorporate business process re-engineering, bench marking and process measurement into an integrated framework that contains process of plan, source, make, deliver and return that can be found in manufacturing organizations (Giannakis, 2011). Both definitions of supply chain management have major focus on manufacturing industry where sourcing,

manufacturing, delivering and returning constitute the most parts of operational process. A supply chain network can extend backward beyond the direct suppliers and extends forward beyond the direct customer, creating a complicated and long relationship between each company. The study of Lambert, Cooper & Pagh (1998) provides Figure 1 that shows a brief depiction of the supply chain network and how it may look like. The focal company is the company that makes the products and sells to customers while the suppliers and customers on different tiers represent the relative position as to the focal company. The supply chain network can also become even longer and broader if the product is manufactured by the focal company composes more parts that are supplied by more suppliers. In this study, the focal company is the casino resorts which provide gaming service, the main product, to the customers.

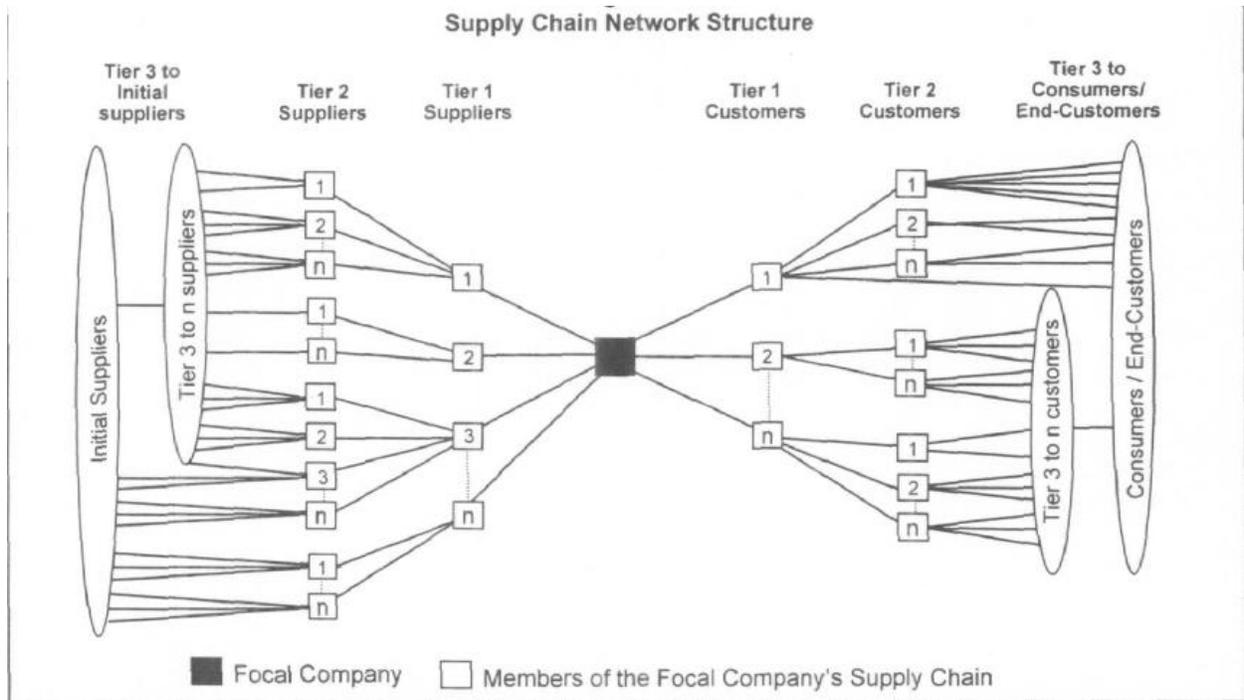


Figure 1: Supply Chain Network Structure

Depending on the company scale and the industry in which the company is operated, the degree to which the complexity of supply chain management may vary. Figure 2 below shows the entities and processes which are involved in SCM.

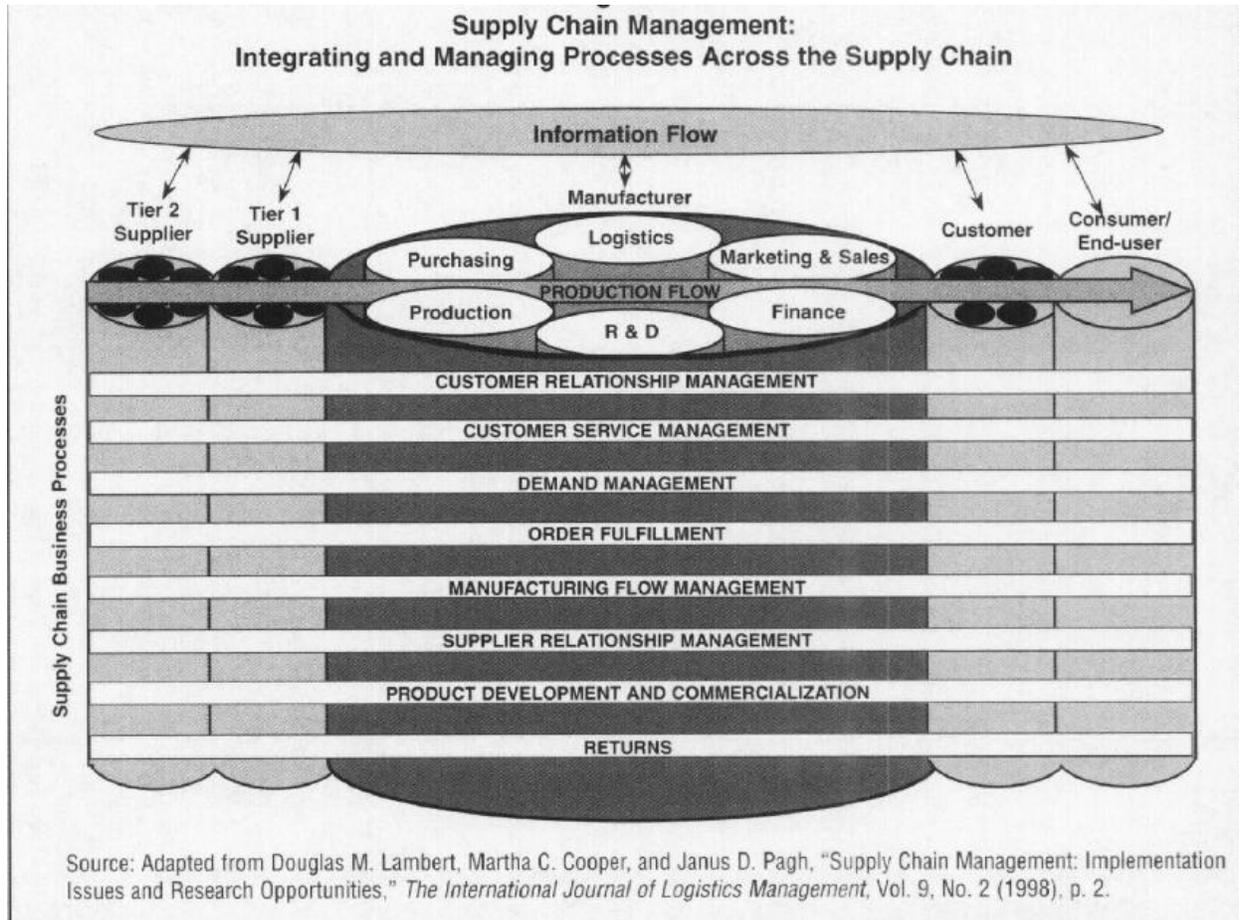


Figure 2: Supply Chain Management

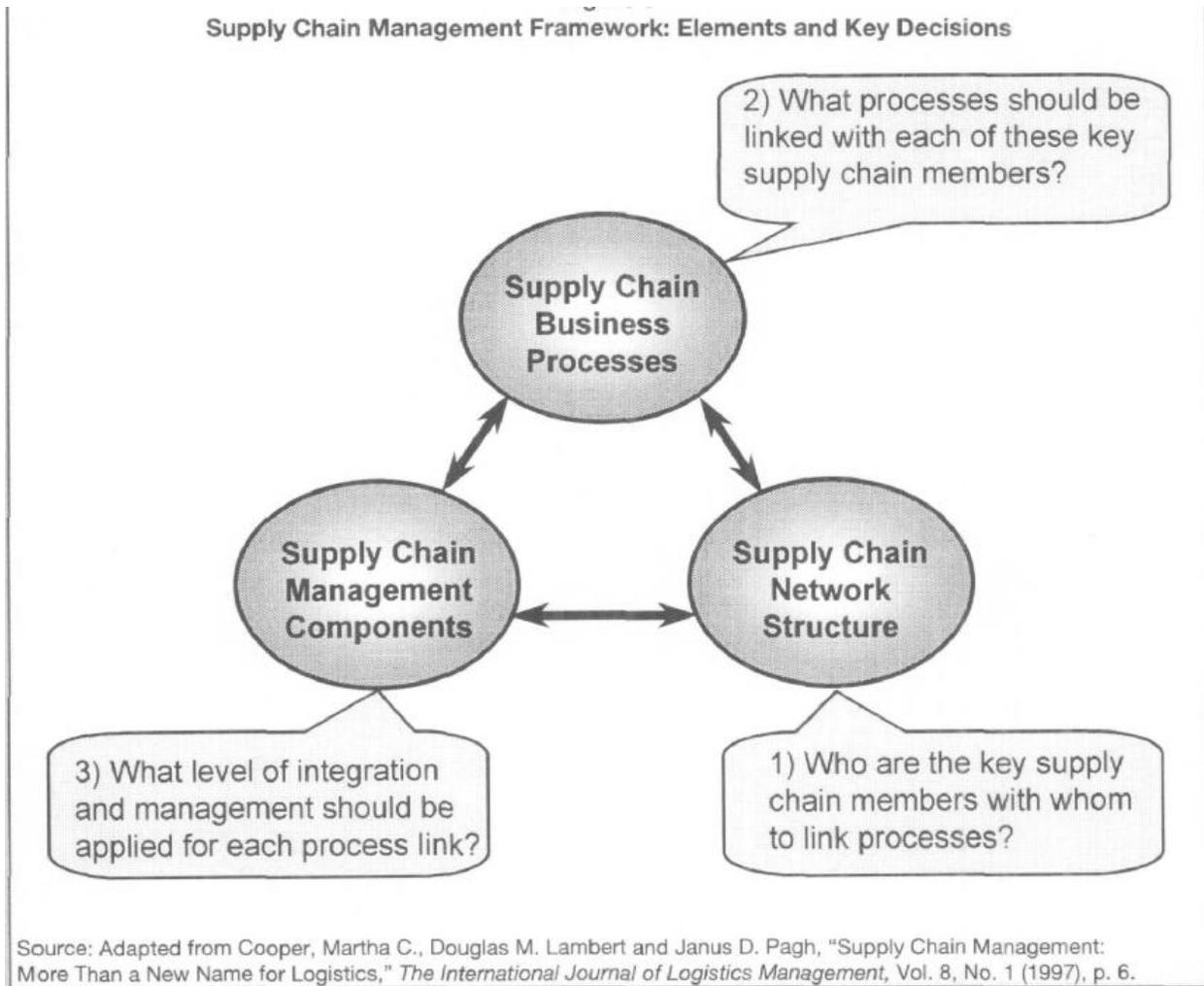
As shown in figure 2, the implementation of SCM contains the combination of information sharing with suppliers and customers, the production flow which starts from suppliers to end users, and the integration of operational process such as customer relationship management; all the processes are connected each other throughout the supply chain. SCM is complex due to the fact that the success of implementing SCM is not the responsibility of any entity on the supply chain, but the responsibility of all members involved the flow of products,

including customers. For example, the implementation of SCM to automobile manufacturing industry involves thousands of members in the production process since a car is composed of thousands of parts, which may be supplied by thousands of suppliers from different tiers. Again, the implementation of SCM may extend beyond the upstream and downstream boundaries showed in Figure 2, depending on the essence of industry, the composition of products, the number of suppliers, and the number of customers.

In the industry such as auto manufacturing, where SCM has developed and matured for decades, the entities and the operational process on the supply chain are clearly identified. However, in service industry such as hotel or casino, where SCM is on initial stage, management can't implement SCM successfully without knowing who should be involved and which process should be included in SCM. Therefore, before implementing SCM, management should answer several questions that are highly related to the components of supply chain so that the entities, the links between entities, and the level of integrations can be determined.

Similarly, it would be difficult for casino operators to implement SCM to operational process without knowing who are the members on the supply chain, what process should be linked to supply chain and what level of integration should be applied to each process link. Therefore, identifying the essential components of SCM is necessary for casino resorts operators to form the framework of casino resorts supply chain.

Lambert et al., (1998) provide the supply chain management framework (see Figure 3) to show the essential questions that should be solved before the implementation of supply chain. By answering questions such as "What are the key supply chain members with who to link processes?" management can have a better understanding of the components of the supply chain and determine which processes should be included in SCM.



*Figure 3: SCM key elements and key decisions*

In addition to the previous traditional SCM concepts, the inseparable idea of SCM is Kaizen, or continuous improvement, which contributes the progressive improvements in SCM application. Kaizen encompass many ideas of quality management, including customer orientation, total quality control, zero defects, quality improvement, just-in-time delivery and so on (The idea of Kaizen, 2011). Applying SCM should not be considered the panacea to the success of a business, however, it is Kaizen in SCM that gradually improve the process of doing business and improve the financial performance (Manos, 2007). Kaizen is a critical part in SCM because it is continuous, usually incremental in nature, and participative (Brunet & New, 2003).

There is no such universal SCM that fits all business entities in all different industries, but by making continuous modification to SCM from multiple perspectives such as customer opinion and employee participation, business entities can find the most suitable SCM model that brings the greatest benefit to them.

### **Review of Service Supply Chain**

The difference between manufacturing and service industries makes it difficult for service providers to apply the already matured manufacturing SCM directly to the process of service production and delivery. The reason why manufacturing SCM is inapplicable directly to the service industry is that the essence and the product delivery process of service are very different from those of tangible products. Generally speaking, services are deeds, processes, and performances provided or coproduced by one entity or person for another entity or person (Zeithaml, Bitner, & Gremler, 2009). Service cannot be stored, transported, resold, returned or even standardized since only through the coproduction of service between service providers and customers that the transaction will be completed. Without the co-existence of service providers and customers, the service consumption will never occur. In other words, the intangible and perishable attributes make service very unique from tangible products. In addition, personal relationship and interaction also play important roles in the success of service production and delivery while they are less important in the production and delivery process of tangible products. For example, a restaurant waiter has to interact with customers so that he can take the orders, understand customers' preference, make suggestion to customers, deliver the orders and follow up customers' needs. Gaming is one kind of services; customers won't experience the food and beverage service unless they present in the casino properties; customers won't feel the luxurious environment until they walk into the casino floor; customers can't buy wins unless they present

on the gaming floor to play the slot machines or table games. Almost every transaction happens in casino resorts is service-based. Therefore, in order to apply SCM to the gaming industry, it is necessary that the manufacturing-oriented supply chain should take the service characteristics into account and should be adjusted to a service-oriented one.

Even though several researches have tried to transform the traditional supply chain framework into a service-focused one, most of them focused either on service SCM of specific sector or on service procurement, investigating the relationship between the service provider and service consumer (Giannakis, 2011). That is to say, the SCM of the service industry has been studied from the seller-consumer perspective, but not from the perspective of the service industry as a whole. Fortunately, despite the applicability of conventional SCM, the studies of Giannakis (2011) and Baltacioglu, Ada, Kaplan M., Kaplan Y. & Yort (2007), have provided great move toward the development of service SCM, since both studies included the tangible and perish characteristics of service industry; even though these previous studies have not been tailored for the hospitality industry, the main idea of the two studies, continuous information sharing with partners, has already been put into practice in Food & Beverage supply chain by Hilton Hotels Corp., the leading company in the hospitality industry (Nessler, 2006).

Service management should also notice that the information flow of all business entities play critical role in the success of SCM. Study suggests that by providing real-time information such as product availability, inventory level, and shipping status, the SCM efficiency can be enhanced. The advent of technology makes it possible that information can be shared between suppliers and buyers through the combination of front-end application such as customer relationship management (CRM) and back office activities such as e-Procurement (Kothari et al., 2005). As the customer preferences always change, it is necessary for the customer-oriented

service providers to gather the latest information from their CRM and share it with their suppliers in order to provide the most preferred products and services for their customers.

## **Overview of Gaming Industry**

### **Gaming Industry World Wide**

Compared to manufacturing industry with hundreds years of history, corporate gaming industry has a relatively short history for only several decades. Due to the short history, the quantity of research studies related to gaming industry is also smaller than that of studies related to manufacturing industry. In recent years, the visibility of gaming industry is increasing in many different geographical areas in the world and the gaming revenue in these areas is accounting for a great portion of economic growth. For example, several Asian areas such as Macau and Singapore are now having gaming industries that contribute to the economic growth power. The increased visibility of gaming industry also leads to a growing number of studies focus on this industry; studies such as gaming revenue management, player psychology and characteristics, customer service, marketing strategy and so on are all popular research areas in gaming industry.

### **Review of Gaming Management**

Maximizing gaming revenue and optimizing the revenue combination have been the casino operators' main concern, especially in a competitive market such as Las Vegas. However, the characteristics in gaming industry also make it difficult for casino operators to explore a universal strategy to generate gaming revenue. For example, from the perspective of the casino property as a whole, it could be better to maximize the property profit by selling more rooms with higher room rate to non-gamblers than by selling the same rooms with lower rate to gamblers since the gaming revenue may be less than the revenue from high room rate (Lucas, 2011). However, some rooms with higher room rate may have to be reserved to accommodate

gamblers who only pay for lower rate. Therefore, departmental conflicts may arise since each department operator may want to maximize her (his) own departmental profit rather than the profit of casino property. Besides, whether the increase of customer patronage of one department can contribute to the business of the other department is questionable (Lucas & Santos, 2003). For example, even though a great portion of casino operators believed that providing low-priced restaurant for customers may lure more customers to the property and increase gaming revenue, empirical studies have shown different results that support and confound this practice.

The other characteristic of the gaming industry is that a great amount of gaming revenue is untracked, and the untracked revenue is difficult for casino operator to analyze the revenue sources and patterns (Lucas & Kilby, 2008). For example, revenue sources from table games are difficult to track because either not every casino provides customers with automatic systems that record customers' profile or not every customer is willing to use the automatic system; in addition, the daily drop of table games that most casino tracked doesn't necessarily reflect wagers placed, making it inappropriate to measure the real gaming revenue (Lucas, Dunn & Katritonova, 2006). The difficulty and complexity of tracking gaming revenue sources can also be increased by special events such as concert and exhibition that may or may not contribute to the gaming revenue in a short period of time.

In addition to the difficulty of tracking gaming revenue, the complex environment may confuse casino operators in choosing which promotion strategy and which gaming floor combination that can really maximize the gaming revenue, especially in a very competitive market such as Las Vegas where short period promotions are common but failing to significantly influence gaming revenue (Lucas & Bowen, 2002); and the costs to promote gaming and accommodate players may also reduce the profit margin in casinos (Lucas et al., 2008).

Moreover, questions such as whether the special events bring in more gaming revenue or whether the increase of foot traffic in restaurants, bingo rooms, or entertainment amenities can increase gaming revenue would be problematic for casino operators to answer because a great number of factors should be put into consideration (Lucas et al., 2006).

Among the different game types in casinos, slots have been consistently critical to the success of casino resorts in the U.S. In 2010, slot revenues accounted for 63% of Nevada's gross gaming revenue (Nevada Gaming Control Board, 2012). From gaming revenue perspective, the importance of slots operation in casinos attracts attention from practical and academic fields (Lucas, 2003; Suh & Erdem, 2009). Additionally, the advancement of technology improves the ability of slot machines to track gaming revenue, making it easier for researchers and casino operators to analyze data in first hand. As for the importance and tracking capability of slot games, a better understanding of slot operation may provide casino operators with an edge over their competitors in the gaming industry (Lucas, 2003).

### **Importance of Casino Resort Supply Chain**

Even though gaming revenue is one of the indicators that determine whether a casino business is successful or not, casino operators are more willing to know the cash flow in the casinos; that is to say, operating profits should be more important than operating revenue from casino operators' perspective. Gaming revenue depends heavily on the economic environment and market segment. The occurrence of high-tech bubble burst in 2000, September 11<sup>th</sup> event, and the financial crisis that started from the half year in 2008 has been striking the gaming industry in the US, especially in the area such as Las Vegas where the casino industry depends heavily on tourists. On the other hand, even though Asian countries were also influenced by the financial crisis, the economy in countries such as China, Korea, and Singapore has been

relatively strong, leading to the prosper growth of gaming industries in this area. In a time when economy is in turmoil, it is hard for casino operators to generate revenue. Once the growing power of revenue decreases or disappears, the way that casino operators use to keep the operating profits is to reduce the operating costs, which may include labor costs, material costs, utility costs, marketing costs and so on.

Since casino resorts are in a labor intensive market, cutting labor cost to improve the short-term financial performance is always the simplest decision that comes to casino operators' minds during an economic downturn because labor costs account for great part of cost structure and obvious to identify. Compared to the value of customer service, the cost of customer service is often easier to calculate, and unfortunately, the primary focus of most corporate management team is cost control (Lucas et al., 2008). However, the consequences of cutting labor costs such as reduced service quality, decreased employee morale, and business reputation are hard to evaluate.

In service industry, the procurement products and services may account for 35% of the average company's total cost, and a 5% reduction of procurement cost may translate into 30% jump in profits (Roodhooft, 2001). Except for the cost of procurement products, many procurement transaction costs are hidden from management; if the transaction costs can be identified and reduced through SCM, sorting SCM will be a better alternative in managing casino resorts during bad economy. The paucity of casino resort SCM researches may also make it difficult for casino operators to sort for SCM to reduce cost other than laying off when casinos struggle to increase revenue in bad economy. However, sorting efficient SCM in casino resorts can be a better way than sorting layoffs to cut operational costs without hurting service quality, employee morale and business reputation in the long run.

## **Definition of Casino Resorts**

### **Definition of Mega Resort**

Mega resorts are destination resorts which are known to be exceptionally large in size and mostly contain several large features within their complexes such as large hotels, water parks, theme parks, golf course and casinos (Anonymous A, 2012). The mega resorts have one thing in common: they are like self-sustained small cities with different kinds of amenities that can satisfy customers' needs. Amenities such as theme park, shopping mall, cuisine restaurants, hotels, casinos, and convention centers are not uncommon in mega resorts. One of the famous mega resorts in the world is Walt Disney Resorts, which include hotels, theme park, restaurants, and shopping malls that can meet a variety of customers' needs. Without stepping out of the property, customer can scan the horizon in the property and find the appropriate amenities that can provide service for them (Maximizing Mega-Resorts, 2005). Similar to Walt Disney Resort, many mega-casinos that cropped up all along the strip in Las Vegas are mini cities that have the entire infrastructure of metropolis, including hotels, restaurant, convention, and entertainment spaces that are all in one overarching architectural plan (Rudd, Mills & Racic, 2010).

### **Review of Mega Resorts in the World**

There are a variety of mega resorts in the world. Except Walt Disney Resorts, many of the mega resorts contain casinos in the properties. For example, the Chenju Grand Casino and Hotel in Korea, the Hilton Sharm Dreams Resrot in Egypt, the Metropol Casino and Hotel in Russia, and Spielbank Berlin in Germany are all mega resorts with casino properties. The casino resorts in Las Vegas strip are also viewed as mega resorts because of the property size and a great number of amenities provided in the properties (Anonymous B, 2012). However, the

density of casino resorts and the fierce competition between casino resorts make Las Vegas very unique out of other counterparts in the world.

### **Reasons for Focusing on Casino Resorts in Las Vegas**

Las Vegas is known for its extravagant hotels and vast casinos. In 1990's, several contemporary renounced mega casinos projects, such as the MGM, were completed and opened, not only making the current famous Las Vegas strip but also boosting gaming revenue and visitor ship by over 20% (Eadington, 1996). As of March 5<sup>th</sup>, 2010, twenty out of twenty-seven largest hotels in the world (by room count) are located in Las Vegas (Anonymous B, 2012). Since the number of casino resorts in Las Vegas is greater than that of other areas in the world, the proximity to different mega casino resorts makes it more convenient to observe the SCM operation and practice in different casino brands than other areas worldwide. Besides, the complexity and large scale of the mega casino resorts also make it more difficult than other type of casinos, such as riverboat or Indian tribe casinos, to analyze the SCM operations. Therefore, selecting the mega casino resorts in Las Vegas as the SCM study objects will be beneficial to this study under time and scope constraints. In this study, casino resorts refer to the major casino resorts with over than 2,000 rooms in Las Vegas (Lucas, Dunn & Roehl, 2004).

### **Definition of Key Stakeholders in Casino Resort Supply Chain**

#### **Casino Service Delivery Process**

As mentioned earlier, the service delivery is the coproduction between customer and service provider; and since casino resorts are in a service-based industry, the prerequisite of the service delivery process is the co-existence of customer and casino resorts when service is delivered. However, the difficulty of standardizing service in service industry also makes it difficult for casino operators to have a standardized service delivery process that fits all

customers' needs, since customers in casino resorts will demand a variety of services, depending on factors such as customers' demographic composition such as gender, customers' purpose to go to the casino resorts, and customers' anticipation of service in the casino resorts. For example, customers who spend a vacation in the casino resort may need services from hotel, restaurant, gaming floor, and entertainment amenities while frequent gaming players may only need a comfort seat on the slot floor. Therefore, due to the lack of standardized service delivery process, understanding customer's intent to stay and the factors that influence customer's perception and satisfaction during the gaming service delivery is critical for casino operators to allocate resources to areas for improvements.

One characteristic that differentiates service industry from manufacturing industry is that personal encounter accounts for a great portion of service product delivery. Even though the requirement for personal service may vary during the trip to the casino resorts, customers may still encounter casino resorts employees from the very beginning to the very end. High quality service may encourage customer's positive reaction such as repatronage and word of mouth while low quality one may discourage customers from going back to the property, increase the cost of service recovery, and lose potential business (Zeithaml et al., 2009). Therefore, the employee training will determine the quality of service delivery in casino resorts. It is also noticeable that the advent of technology makes it possible that employees can be trained to improve soft skills to serve customers for lower costs in the hospitality industry (Kim, Erdem, Byun & Jeong, 2011).

Studies have shown that during customers' long stay in the leisure facility, the service capes will play important role in determining customer satisfaction since customers encounter the physical surroundings provided by the leisure facility providers (Bitner, 1992; Wakefield &

Blodgett, 1996; Johnson, Mayer & Champaner, 2004). People who go to the casino resorts located in destinations such as Las Vegas may want to experience not only gaming but also leisure services, and they would also spend a great amount of time when they stay in the casino resorts. From casino operators' perspective, the longer the time customers spend in the casino properties, the greater the chance that people will spend more on gaming. There is an agreement in the literature that time spend on slot machines is an important determinant of player satisfaction (Lucas, 2003). Studies have also shown that overall satisfaction of customers' gaming experience will increase the likelihood of customers' returning to a casino, word of mouth, and desire to remain in the casino environment (Suh et al., 2009; Lucas, 2003).

Lucas (2003) found that ambient conditions, floor layout, cleanliness, interior décor, and seating comfort contribute to the overall customer satisfaction of slot experience in Las Vegas area. Based on their previous study, Johnson et al., (2004) also conducted survey in Blackhawk, Colorado and found that theme, employee uniforms, and noise level are highly related to customers' overall casino service satisfaction. Even though these two studies surveyed customers in different areas, both studies concluded that service capes in casinos can influence customers' perception, willingness to stay in the casino, and the total satisfaction of service experience in casinos. However, casino resorts are not capable of building the overall service capes that contribute to customer satisfaction alone without efforts from customers, vendors or suppliers. That is to say, the environment of casino resorts is created through the corporation between casino operators and customers, vendor, and suppliers on the supply chain. For example, without slot machine makers, casino resorts could not provide the great variety of enchanting slot machines for customers to play on the gaming floor. Therefore, managing the supply chain members who build the service environment on the gaming floor is critical for casino resorts to

satisfy customers' needs, encouraging positive reactions from customers such as repatronage and word of mouth.

### **Key Stakeholders in Service Delivery Process of Casino Resorts**

The casino resort is the focal entity on casino resorts SCM since it not only provides service to customers but also cooperates with other stakeholders in order to complete the service delivery process. Since the service is produced and delivered within the casino resorts, the departments of the casino resorts should cooperate with each other to complete the service delivery process. For example, human resource department should provide training courses that can improve employees' soft skill so that employees can deliver higher quality service to customers consistently. In other word, the inter-department corporation within the casino resorts is necessary to insure the quality of gaming service. The casino resorts should also keep constant communication with their suppliers and customers on the supply chain so that the casino resorts can adjust the contents of service and the way to deliver service to meet customers' demands and preferences.

As the coexistence of service providers and customers is required for the completion of service delivery and customers may require different types of services during their stay in casino resorts, service capes of casino resorts are the only service components that every customer will directly encounter in the service delivery process regardless of the service type customers require; therefore, since the service capes should be built by the effort from suppliers, the identification of stakeholders of casino service capes can be a good start in this study. Based on the five important elements that Lucas (2003) found critical in service capes that would influence customers satisfaction of slots experience in Las Vegas, this study identifies key stakeholders in

casino service delivery, including casino resorts, customers, vendors, and suppliers who play important roles in constructing the service capes in the casino resorts.

Ambient conditions include comfortable indoor climate and air quality, slot machine video graphics and sound, and level of music and lighting (Lucas, 2003). Ventilation infrastructure is responsible for the control of indoor climate and air quality. Unfortunately, due to the irregularity of slot floor plan and smoke filled air, it is difficult to maintain a comfortable climate in the gaming area. Professional ventilation suppliers are the main stakeholder of indoor climate not only because they design and construct the ventilation system, but also because they always take the responsibility of maintaining the ventilation system, especially when casino resorts mechanics are not able to fix the problem. Regulated gaming equipment suppliers are the stakeholders who are responsible for the video graphics and sound that may stimulate customers' sensory experience in slot play and increase excitement. As the technology advanced, more and more fascinating slot machines are created in order to attract customers to stay and play on the slot floor. Generally, the level of music and lighting is controlled by casino resorts operators; however, since the lighting may influence customers' perception of the interior design and sense of quality, lighting is also related to the designer of interior décor. Power infrastructure is the backbone that supports the functionality of every element that composes ambient conditions, so professional mechanics or companies who construct the power infrastructure in the casino resorts are also key stakeholders.

Casino resort operators, interior décor designers and suppliers, and regulated equipment suppliers are responsible for the floor layout in the casino resorts. It is possible that the slot floor is crowded with slot machines, making it difficult for customers to navigate (Lucas, 2003). In addition, the accessibility, visibility and proximity to table game areas of slot machines may also

influence the customers' intention to play (Lucas et al., 2004), making floor layout critical to revenue generation. Mutual communication between these stakeholders plays important role in the creation of satisfying floor layout. Besides, the power mechanics should provide necessary infrastructure that powers the slot machine, the lighting of the signage and other interior lightings that compose the casino resorts floor layout.

Casino resort operators are mainly responsible for the cleanliness of the slot floor in casino resorts if the casino resorts have their own sanitary employees. It is also possible that casino resorts would outsource the cleaning business with outside suppliers. In this study, the stakeholder of environmental cleanliness is the casino resorts that are responsible for the duty.

Casino resorts operators and interior designers are responsible for the interior décor of the casino resorts, including not only private lodging but also public gaming, dining, and entertaining areas. Colors, lighting, and space appearance which are central to the interior décor play important role in attracting customers into the properties, especially in a competitive market of Las Vegas. However, the interior décor also involves ambient conditions and floor layout that determine the appearance of interior décor, therefore, the stakeholders mentioned in ambient conditions and floor layout are also included in interior décor.

Seating comfort may determine the length of time that customers will spend on playing slot machine (Hodl, 2007); and time on machine is one of the elements that are related to customers' overall satisfaction of slot experience (Lucas, 2003). A good seat should provide customers with proper height, body support, and good position (Hodl, 2007). As the variety of slot machines increases, the size of slot screen and the height of slot machine interface also vary, requiring different seat to provide seat comfort. Besides, floor layout may influence seating comfort because insufficient seating space may make customers feel crowded and loss of privacy.

In a brief, furniture makers, regulated equipment suppliers, interior décor designers and suppliers, casino resort operators and customers are the stakeholders of the seating comfort on the gaming floor.

In addition to the aforementioned stakeholders who are related to the service capes, governmental supervisory agencies are also critical in the service delivery process of casino resorts. For example, since the gaming industry is a highly regulated business, any gaming related administrative and operative business in Nevada should be under the supervision of Nevada Gaming Commission and State Gaming Control Board; therefore, casino resorts, gaming equipment suppliers, and any other stakeholders who are involved in providing the gaming related products should be regulated and supervised by government agencies. Without the permission from the authorities, such as gaming license, casino resorts and suppliers cannot deliver any service to customers.

Application of technology can be seen almost everywhere in the casino resorts; for example, customer tracking system, slot club card system, customer relationship management, point of sale, in-room entertainment system are all prevalent technologies adopted by casino resorts. Technology suppliers can be hardware or software oriented, both providing the necessary tools for casino resorts to manage daily operation. Even though there is an increasing number of casinos continue to invest high technology such as CRM that is asserted to support customer service, however, the success of technology application relies on the devotion both from the inside of casino resorts and from the effort from the suppliers (Kale, 2005; Kothari et al., 2005). Besides, since the gaming business is highly regulated, technology suppliers who involve the gaming business in the casino resorts supply chain should be cautious about industry regulations and, in this study, be categorized as regulated equipment suppliers. Slot machine makers, for

example, should design their products according to Gaming Standard Association protocol standards, which contain the requirements critical to the success of a system-linked environment (IGT's Global Tech & Interoperability Center, 2011).

To sum up, the main supply chain stakeholders who are responsible for the satisfactory service delivery in the casino resorts are casino resorts, customers, ventilation suppliers, technology suppliers, regulated gaming equipment suppliers, interior décor designers and suppliers, professional power mechanics, and gaming control board and government agencies.

### **Roles of Key Stakeholders in Casino Resorts Supply Chain**

The aforementioned basic functionalities of key stakeholders in casino resorts supply chain are obvious. However, in the concept of SCM, continuous communication between stakeholders determines the success of SCM. There is no single stakeholder can complete the whole service delivery in the casino resorts. That is to say, in addition to the basic functionalities, each stakeholder in casino resorts supply chain should cooperate with each other in order to reach the ultimate goal of customer satisfaction. For example: in order to provide customers with comfort seat, casino resorts may observe customers' behaviors or survey customers' needs on the slot floor. Casino resorts operators would like to share the collected customers' needs to their seat makers and slot machine makers so that those makers can amend products design to fit customers' preference. On the other hand, seat makers and slot machine makers would like to share with casino resorts operators that the latest products and technology such as ergonomic seats and moveable slot machines which can deliver comfortable slot experience to customers (Grochowski, 2008). Besides, interior designers have to know the size of slot machines and customers' preferable space before drawing the slot floor layout. Interior constructors, ventilation system mechanics and power mechanics should follow the floor layout to install

necessary infrastructures; when problems arise during the installation period, those stakeholders should communicate with each other in order to solve problems as soon as possible. Therefore, the roles of the key stakeholders in casino resorts supply chain shall not only do their basic functionalities, but also exchange information continuously to reach the goal of service satisfaction.

## **PART 3**

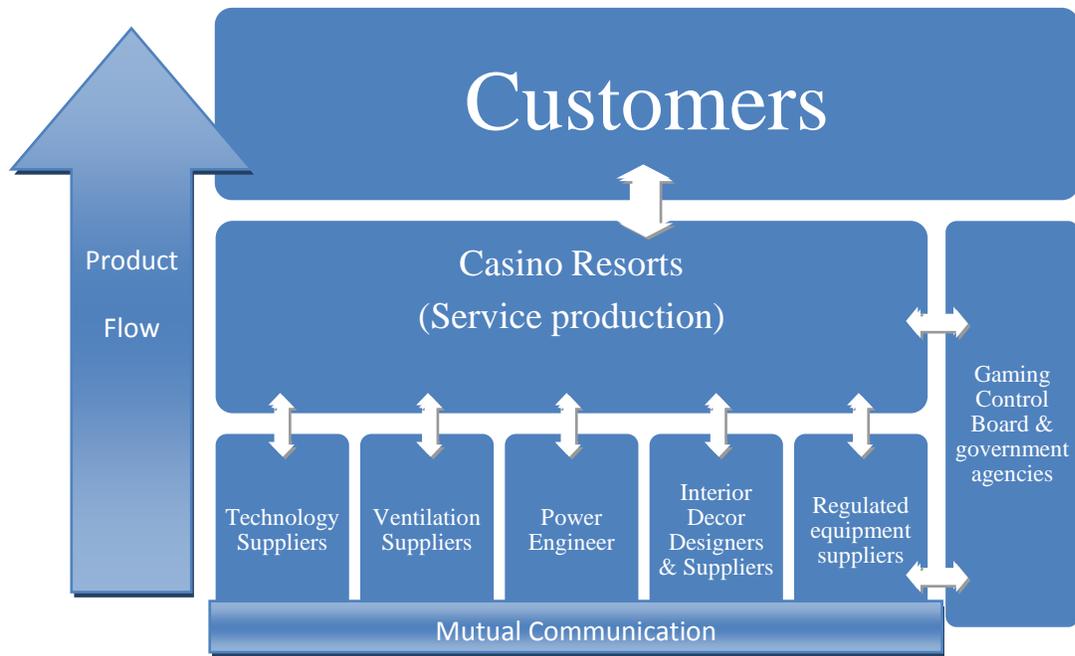
### **Introduction**

In service industry, satisfied customers are critical for business success because they are more willing to return to the service, stay in the property, and recommend service providers to others through word of mouth. An inappropriate service environment will result in customers' complaint, reduce customers' intent to return, and lower business reputation by negative word of mouth. The difficulty and complexity of gaming revenue analysis also make it difficult for casino operators to generate gaming revenue through less costly promotions. By considering the key determinants of satisfying service delivery process and implementing SCM to casino resorts operation, management can deploy a more satisfying service environment and process of casino resorts. Compared with revenue management, SCM is a more controllable factor for casino operators to influence customers' overall service experience; and it is the corporation and communication with stakeholders on the casino resort supply chain that casino operators can create and deliver the satisfying service. It is difficult to find a universal casino resort supply chain to fit each casino resort in different geographical areas, however, casino operators can take advantage of the stakeholders' knowledge and consider casinos' specific characteristics and customers' preference to construct an attracting service environment for less cost. The following paragraph contains the framework and key stakeholders for the gaming area of casino resort supply chain.

### **Framework of Casino resort Supply Chain**

#### **Figure of Casino Resorts Supply Chain**

The supply chain figure below shows the framework of casino resorts supply chain which may improve the gaming service delivery and gaming service experience in casino resorts.



*Figure 4: Framework of Casino Resorts Supply Chain*

The casino resorts, the focal entity on the supply chain, contain the departments which produce the gaming related service provided in the property. Except the arrows between Gaming Control Board, casino resorts and regulated equipment suppliers, the arrows between each entity represent the two-way direction of products flow and entity communication; in other word, product can be delivered or returned while communication being transmitted between entities. Even though the Gaming Control Board can influence the product of regulated equipment suppliers and casino resorts, it only supervises these regulated entities without delivering any gaming product and service. All the first tier stakeholders below the casino resorts not only can contact casino resorts directly, but also can communicate with each other in order to fulfill the task of providing products that meet casino resorts customers' needs. For example, regulated equipment suppliers, such as slot machine makers, and interior décor suppliers, such as furniture makers, can work together to make slot machines and seats that match each other and provide players with comfortable position to stay in the game for a longer time. Customers are those who

spend time and money on playing games and experiencing the service of gaming floors of casino resorts; both casino resorts and customers can communicate with each other in order to fulfill the task of gaming service delivery.

This figure can stretch beyond the first tier gaming related stakeholders to second or third tier in order to contain a more complete picture of casino resort supply chain. Besides, this figure can also stretch beyond the scope of casino floor in casino resorts, making this figure more applicable to the casino resorts as a whole. However, due to the constraints of this study, only first tiered stakeholders related to gaming floor are shown to explain the idea of casino resorts supply chain framework.

### **First Tiered Stakeholders in Casino Resorts SCM**

The first tiered stakeholders in this study are those who can be responsible for the creation of satisfying gaming service and can contact with the casino resorts personnel directly. As shown in the Figure 4, they are technology suppliers, ventilation suppliers, power engineers, interior décor designers and suppliers, regulated equipment suppliers and Gaming Control Board. On the other hand, even though customers are not directly responsible for the gaming products, they are the consumers who experience the gaming products, therefore, customers are also the first tiered stakeholders as consumers.

### **Second Tiered Supportive Stakeholders in Casino Resorts SCM**

The second tiered stakeholders also play important role in the creation of gaming service, however, they don't contact directly with any personnel of the casino resorts; in contrast, they supply the materials and other supportive products necessary to the first tiered stakeholders to complete the construction of gaming service. They can be subcontractors or the direct component suppliers of the first tiered stakeholders. For example, computer chip makers, slot machine light

bulb makers, screen makers, speaker makers and so on are all critical suppliers for slot makers, who are the first tier regulated equipment suppliers, to construct the fascinating slot machines; all the second tier suppliers rarely contact with casino resorts personnel because any one of them can't make the desired slot machines alone. It is through slot makers' manufacturing process that the slot machines can be combined and settled on the slot floor.

Even though the second tiered stakeholders may not communicate with casino resorts personnel directly, the first tiered stakeholders are responsible for the transmission of information that is highly related to the second tiered stakeholders' product. For example, slot makers need to communicate the information, which is gathered by communicating with casino resorts personnel or by retrieving data from casino resorts' CRM system, about how slot players prefer the brightness of slot machine screen to the screen makers so that screen makers can adjust the screen production in order to supply the products that can satisfy slot players' preference.

### **Stakeholders Who Serve the Casino Gaming Floor only and Who Serve Other**

#### **Departments in Casino Resorts**

Stakeholders identified in Figure 3 can also be the stakeholders for the other departments of the casino resorts, that is to say, they can serve the casino resort beyond the scope of casino. In fact, the scope of SCM should cover the casino resorts as a whole, not limit to specific department such as casino. The SCM of casino in this study is the initial point for implementing SCM to the whole casino resorts in the future, not the end point for improving performance of specific department. As shown in Table 1 below, the stakeholders who serve gaming floor can also serve other departments in the casino resorts. By considering the stakeholders' ability and functionality which can contribute to the success of SCM of casino resorts, casino resorts

operators will be able to construct a more complete supply chain that fits the casino resorts as a whole.

*Table 1: Applicability of Stakeholders to different departments of casino resorts*

Stakeholders	Belong to Slot Floor	Belong to Other Department
Technology Suppliers	•	•
Power Engineer	•	•
Ventilation Suppliers	•	•
Regulated Equipment suppliers	•	NA
Gaming Control Board	•	NA

### **Observation of Current Gaming Operation in Las Vegas Casino Resorts**

This study also observes slot floors in Aria, Caesars Palace, MGM Grand, Venetian/Palazzo, and Wynn in Las Vegas, each casino resort has over 3,000 rooms, in order to gather current industrial practice to supplement the theory of casino resort supply chain. As mentioned earlier, slots have been consistently critical to the success of casino resorts in the U.S. In 2010, slot revenues accounted for 63% of Nevada’s gross gaming revenue (Nevada Gaming Control Board, 2012). The observation of slot floor is a convenient and inexpensive way to get a brief view of the current casino resorts operational practice that generates a great portion of gaming profit in Las Vegas. The casino resorts selection is based on the fact that these 5 casino resorts are owned by 4 different casino groups, including Caesars Entertainment, MGM Resorts International, Las Vegas Sands Corp., and Wynn Resorts, and that 4 different groups may have different operational policy toward slot service delivery process. Since Aria is the relatively new casino resort which opened in 2009 and may incorporate new technology into slot service, MGM

Group is the exceptional casino group which owns two casino resorts in the observation. The observation describes the current practice of Las Vegas casino resorts; however, the observation only serves as complementary information to this study and does not determine whether the different casino resorts are financially successful in slot operation.

For ambient conditions in slot floor, indoor air quality is the most noticeable thing since players in the five casino resorts are allowed to smoke inside the casinos and the smoke can spread out the gaming floor through ventilation system. Even though each casino may spray different concentration of fragrance into the indoor air and filter polluted air by ventilation system, the smoke is still filled in the indoor air, making low indoor air quality in these casinos. Aria, the latest casino resort in the observation, has different development of slot machine bases that serve as floor air conditioning unit while other casinos have ventilation system from the high ceiling; the system may bring fresh air as close to customer as possible and may consume less energy than traditional air conditioning system which provides fresh air from the ceiling. Music and slot lighting can be observed on each casino resort slot floor, creating a sense of entertaining environment for customers to play. Relatively old casinos such as MGM Grand and Caesars Palace have dimmer slot environment while other new casinos provide brighter alternatives.

For floor layout on slot floor, each casino provides variety of signage to direct players on the slot floor. However, due to the large space, it is not uncommon for customers lost direction because the density of signage may not high enough to become visible for customers in every corner. Each casino deploys slot machines on the slot floors in high density, but players still can move without interrupting others.

For cleanliness on slot floor, janitors can be seen on the slot floors to clean up the wine glasses or beer bottles left by previous players and during most of the observation periods the slot floors were clean, however, wastes are easily be seem on the slot floor during peak hour when high frequency of janitor inspection is required.

For interior décor on the slot floor, each casino has its own interior design which is fascinating and enchanting. For example, Caesars Palace is renowned for its Rome Empire style decoration which has been one of the famous destinations in Las Vegas since 1960's. In addition to the iconic interior design, even though those relatively old casino resorts still maintain the interior environment, the wear and tear of the interior decoration may show the sign of unfavorable slot service cape and encourage players to go to the new casino resorts. Besides, old interior design may lose the overall appeal to customers who return to the destination.

For seating comfort of the slot floor, due to the observing time limitation, it is hard to test each seat on the slot floor of the five casino resorts. Generally, most casinos provides soft and supportive seat for slot players to play for a period of time. However, most slot machines in the five casino resorts don't have enough space for players to place their feet comfortably under the machines. That is to say, most slot machines may be constrained to the deployment of power and the machine design so that there is little space under the slot machine for players to stretch their legs. During recent years, slot machine makers not only focus on creation of game types but also notice the importance of player comfort, making several slot machines that are adjustable and suitable for longer playing time (Grochowski, 2008).

## **Conclusion**

Applying SCM in casino resort to build satisfying service environment and deliver service product can be an ideal alternative for casino operators to consider except traditional cost control such as employment cost reduction when casino resorts are operated in bad economic situation. SCM in casino resort should not be seen as a one-time resolution, especially when casino operators pay most of their attention to service cape during the design phases (Lucas, 2003); instead, similar to SCM practice in other industries such as manufacturing, SCM in casino resort is a continuous improvement in operational process so that the product and service provided by casino resorts can meet or even exceed customers' expectation. Like the casino resort promotions in a competitive market as Las Vegas, the gaming service should also be constantly adjusted to satisfy customers' preference in order to attract and maintain customer patronage. On the other hand, unlike casino promotions, SCM can be more controllable from operational effectiveness and efficiency perspective. However, on top of the SCM application, it is equivalent important for casino operators to measure the performance of stakeholders on supply chain. Quantifiable measures that are used in manufacturing industries may not suitable for measuring performance in service industry, therefore, a well designed performance measurement is necessary when casino operators intend to know whether the SCM is working as expected. The SCM of casino resorts is still on initial stage and not fully utilized in casino resorts, however, it can be an industrial practice that worth being studied and invested since the potential of applying SCM to casino resorts may transfer the casino resort operation into a less costly but more effective one.

### **Recommendation**

This study serves as a starting point for future academic study and industrial practice focus on application of SCM to casino resorts. Future empirical studies on casino resorts SCM

are recommended to add value to this study. Studies of finding other critical determinants of slot service cape can also be beneficial to supplement areas that might be omitted in previous studies. In addition, studies in other geographical areas where different type of casino resorts are operated can be valuable for casino operators to efficiently operate casinos from different perspective other than the one provided in this study. Besides, quantifiable measures which examine the effectiveness of the SCM application and customer satisfaction related to slot service cape are necessary in order to make casino resorts SCM acceptable and practical. Costs of integrating different departments of casino resorts into SCM can also be explored by future studies since cost-benefit is always the main concern for casino management before taking any action.

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