

# An Examination of Service Quality in the Gaming Industry in Macau

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**Abstract.** The purpose of this study is to examine service quality in the gaming industry by developing a conceptual framework and measurement scale. Through using a multi-dimensional and hierarchical model as a framework, service quality in the gaming industry is indicated by three primary dimensions each of which is defined by three or more sub-dimensions. The primary dimensions are (a) interaction quality (composed of conduct, expertise and problem-solving), (b) physical environment quality (including the equipment, ambience, design and security), and (c) outcome quality (comprised of valence, food & beverage, and waiting time). The proposed multi-dimensional and hierarchical model of casino quality would facilitate research into the dynamics of gaming industry and offer guidelines for practitioners as they constantly strive to provide the very best experience for their customers.

**Keywords:** Multi-dimensional and Hierarchical Structure; Service Quality; Gaming Industry

## 1. Introduction

Today, casino gaming is considered a highly competitive business. Gaming has been a significant part of the tourism industry in Macau. Macau is a gaming place where it can attract tourists to go traveling. This place may be considerably enhanced with the introduction in the near future of mega projects planned by three international gaming concessionaires (Song & Witt, 2006). A high-quality casino is required to possess the core product features, such as a good location, a variety of games, and good restaurants (McCain, Jang, & Hu, 2005). Up to July, 2007, there are 26 gaming organizations competing in Macau (Koo & Koo, 2007). In order to maintain a strong, long-term relationship with customers, casinos are required to provide good services resulting into a high level of customer satisfaction.

It is important not only to understand how customers evaluate their integrated service process, but also to identify the critical primary and sub dimensions with which to measure integrated service quality in the gaming industry. Defining and measuring quality of service is of importance to the casino service providers. However, a number of casino providers have difficulties in using a proper scale to evaluate service quality in order to appropriately assess and improve their service performance. Therefore, the purpose of this study is to present an alternative approach to measuring the customer perception of service quality in the gaming industry. The proposed instrument incorporates performance-based measures on the basis of scales developed by Dabholkar, Thorpe and Rentz (1996) and Brady and Cronin (2001).

The contribution of this study is twofold. Firstly, casino service quality is conceptualized and measured based on a multi-dimensional and hierarchical approach. This approach helps to overcome some of the weaknesses of traditional SERVQUAL and SERVPERF models as the measurement of service quality and thus provides a more accurate tool for assessing service quality in the gaming industry. In addition, the key manifestation of service quality from the customers' point of view is identified. Secondly, some practical

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implications for using this type of model for measuring perceived service quality in applied research is discussed in this study.

## **2. Conceptualization and operationalization of service quality**

Several researchers have identified that the existing measurement of service quality using the SERVQUAL (a disconfirmation-based measure of service quality) and SERVPERF (a performance-based measure of service quality) instruments has been found to be insufficiently comprehensive to capture the service quality construct (Cronin & Taylor, 1994; Dabholkar, Shepherd, & Thorpe, 2000). According to Martinez Caro and Martinez García (2008), many marketing researchers propose that the use of the generic models such as SERVQUAL or SERVPERF to measure service quality across industries is not feasible. Likewise, there are several studies failing to replicate these models. This may be due to the theoretical and operational problems of SERVQUAL (Cronin & Taylor, 1992) or the generic dimensions of SERVPERF (Buttle, 1996).

Several researchers have identified that the existing measurement of service quality using the SERVQUAL and SERVPERF instruments has been insufficiently comprehensive to capture the service quality construct (Cronin & Taylor, 1994; Dabholkar et al., 2000). Therefore, in light of the problems associated with those models, the purpose of this study is to develop a scale using a multi-dimensional and hierarchical model which takes the specific characteristics of the gaming industry into account.

## **3. Scale development**

In order to examine the customer perception of casino service quality further, a specific multi-dimensional and hierarchical model of service quality for the gaming industry is developed. To achieve this target, the procedure for scale development suggested by Churchill (1979), conducting both qualitative and quantitative studies are followed.

### **3.1. Qualitative research**

Cox, Higginbotham and Burton (1976) propose that the focus group is an effective qualitative technique for use in the marketing and management research. Cooper and Schindler (2006) recommend that a focus group interview should consist of 6 to 10 respondents. Hair, Bush and Ortinau (2000) suggest that the focus group interviews should be as homogeneous as possible. Therefore, four focus group interviews will consist of participants who are eighteen years or older, and have stayed in the Macau casinos in the past 12 months.

Following Brady and Cronin (2001), the respondents were encouraged to list all factors influencing their perceptions according to their experiences in the Macau casinos. The findings generated in four focus group interviews were recorded and transcribed. Subsequently, the findings from focus group interviews and literature review were used to help identify the sub-dimensions in the conceptual research model and to assist with item generation in the questionnaire development process.

### **3.2. Proposed factor structure**

After combining the findings from the qualitative research with the service quality literature revision in this study, the following model is proposed. Namely, a multi-dimensional and hierarchical model of service quality is a higher order factor defined by three primary dimensions and 10 sub-dimensions. The primary dimensions comprise interaction quality, physical environment quality and outcome quality, which are defined by their sub-dimensions: conduct, expertise, problem-solving, equipment, ambience, design, security, valence, food & beverage, and waiting time (see Figure 1).

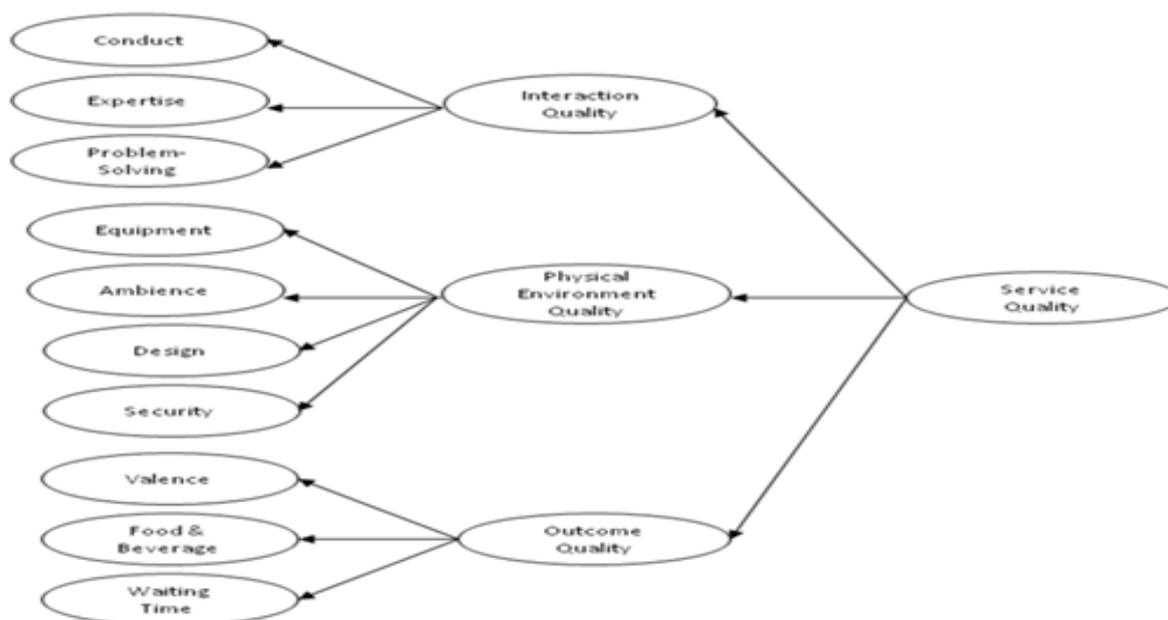


Figure 1. A proposed multi-dimensional and hierarchical model of service quality

### 3.3. Generation of scale items and scale purification

The generation of a list of items was developed adapting the items of existing generic scales (e.g., Parasuraman, Zeithaml, & Berry, 1988; Dabholkar et al., 1996; Brady & Cronin, 2001) and specific casinos' scales (McCain et al., 2005; Fong & Wang, 2009; Wong & Fong, 2010). On the basis of literature review, an initial pool of 58 items using a performance-only measurement was generated. These items were indicators of each theoretical sub-dimension. A seven-point Likert scale was applied to measure the different items anchored, from strongly disagree to strongly agree. The purification of the scale was carried out in two steps: the first step consisted of an assessment of content and face validity through a panel of experts and a field test as suggested by Brady and Cronin (2001). The panel members were five executives from casinos and three academics. As a result of this panel, 19 items were dropped; in the second step, a questionnaire containing the 39 remaining items was developed. This questionnaire was pilot-tested with 45 respondents who had visited the Macau casinos. The aim was to study the correlation structure of the items of each sub-dimension. To accomplish this end, Cronbach's alpha together with item-to-total correlation and exploratory factor analysis for each one of 10 sub-dimensions were achieved (Parasuraman et al., 1988). These patterns of correlations are relevant information for selecting the final model, which will be shown later.

Based on the results of the pilot-test, some items were removed and others were reworded to avoid confusion. The final instrument had a total of 32 items reflecting 10 sub-dimensions of casino service quality.

### 3.4. Data collection

A sample size of at least 382 respondents will be considered adequate as this provides a 95% confidence level. After pre-testing procedures are conducted, a personalized cover letter explaining the purpose of the study, the voluntary nature of participation, and an assurance about the confidentiality of the responses and questionnaire will be distributed to 600 customers who have experienced with service quality in the gaming organizations of Macau between February 15 and April 15, 2012. The data will be collected from a convenience sample of individuals, with restrictions that respondents who have experienced the casino service quality in the past 12 months prior to the data collection period and aged 18 years and above.

## 4. Limitation and further study

This study has several limitations. First, this study developed a conceptual model based on service quality as a reflective construct rather than a formative one. Diamantopoulos (1999) and Diamantopoulos and Winklhofer (2001) note that a formative measurement is used to examine how dimensions of service

quality influence the service quality construct. In contrast, Brady and Cronin (2001) suggest adopting a reflective measurement based on confirmatory factor analysis using a structural equation model (SEM) if researchers intend to examine the influence of the service quality construct on its relevant dimensions. Therefore, modeling casino service quality as a formative construct, rather than in the more traditional reflective way, may place an emphasis on the need for further research examining and comparing these approaches. Second, this research conducts convenience sampling belonging to a non-probability sampling method. Future research can use probability sampling methods in order to make the sample more representative of the population. Finally, in spite of a lot of literature on service quality, it has been difficult to offer a full description of the nature of the casino service quality construct. Despite this difficulty, this research conducts in-depth focus group interviews to identify and examine all of the dimensions of the service quality construct for gaming industry, because focus group interviews are believed to be more useful than relying only on a literature review. However, there may be some other dimensions of service quality that have not been identified in the conceptual framework of this study. Thus, future study may attempt to explore more dimensions influencing the service quality construct for gaming organizations.

## 5. Acknowledgements

The author would like to acknowledge the great support from Macau Gaming Enterprises Staff's Association.

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