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# The long-term impact of a loyalty program: An evaluation from a Las Vegas casino hotel

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# THE LONG-TERM IMPACT OF A LOYALTY PROGRAM:

# AN EVALUATION FROM A LAS VEGAS CASINO HOTEL

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ABSTRACT

**THE LONG-TERM IMPACT OF A LOYALTY PROGRAM: AN EVALUATION FROM A LAS VEGAS CASINO HOTEL**

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Loyalty programs are popular marketing strategies intended to attract, maintain, and enhance customer relationships. Despite the widespread usage of loyalty programs across various businesses, its effectiveness has not been well validated. Few empirical studies attempted to evaluate the value of loyalty programs but the findings have been conflicting with each other. Given the competitive climate of such a highly saturated competitive market of the hospitality industry, it is meaningful for hospitality marketers to evaluate the effectiveness of loyalty programs to increase customer retention and profitability. Therefore, the main purpose of this study was to examine the effectiveness of a hospitality loyalty program from a longitudinal perspective.

The literature review is separated in four sections. The first section is the theory building section, which examined social exchange theory, equity theory, and the relationship marketing theory to understand the development of customer loyalty. The second section describes the definition of loyalty and the factors that affect customer loyalty. It gives an understanding about loyalty marketing from a general perspective. The third section describes the purpose of loyalty programs, and finally the last section summarized the investigation of loyalty programs from previous studies. Overall, the literature review section suggested that despite the prevailing usage and attention on

loyalty programs, the effectiveness from the customers' behavioral standpoint has not been well understood. For this reason, this study aims to find out the effectiveness of loyalty programs from a longitudinal perspective and study hypotheses were advanced.

This study obtained secondary data from a Las Vegas casino hotel and performed time series ARIMA modeling to test the study hypotheses. Results of this study supported the research hypotheses and indicated that loyalty programs do have a positive impact on customers' behavioral loyalty. The findings are expected to provide valuable insights for casino marketers to understand the impact of loyalty programs and develop marketing tactics to maintain loyal customers and maximize profitability as well.
Key Words: Consumer Behavior, Loyalty Marketing, Loyalty Programs, Rewards Program, Marketing Strategy, Time Series Analysis

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# CHAPTER I

## INTRODUCTION

Hospitality marketers today are faced with many challenges that can only be characterized as revolutionary as the industry emerged to become somewhat saturated and mature. Customers have massive sources of information on which to base their selections and many more alternatives to choose from, leading many companies to experience difficulty in increasing market share (Berthon, Holbrook, & Hulbert, 2000). In response, businesses no longer rely on merely being "product centric" and strive to become more "customer centric" by incorporating various customer relationship management tools and systems and focusing on customer attentive business approaches. Although sales can increase by utilizing marketing strategies such as discounting prices, employing various promotional campaigns, and increasing distribution channels, hospitality firms are recognizing that they are rather effective only short-term and not enough to survive in today's business environment. Consequently, many service organizations progressed relationship strategies intended to attract, maintain, and enhance customer relationships and further obtain long-term competitive advantage (Bolton, 1998; Olsen, Chung, Graf, Lee, & Madanoglu, 2005).

In the past, hospitality businesses focused on creating as many new customers as possible. However, hospitality marketers realized that just by searching for new customers is not enough for today's aggressive market (Shoemaker & Lewis, 1999). Moreover, as it was discovered that the top 1% of the customers of the pyramid top generated as much profit as 50% of those at the bottom end of the pyramid, companies realized they need to do all they can to retain such customers (Forte, 2011). Nowadays,

the ultimate goal of hospitality marketers has evolved to increase customer loyalty and thus, loyalty marketing emerged as being necessary and ideal (Shoemaker & Lewis, 1999). Hospitality businesses recognized the fact that keeping their customers is just as important as creating and loyalty marketing has become a key factor for success in the service industry over the past years (Lam, Shanker, Erramilli, & Murthy, 2004; Shoemaker & Lewis, 1999).

Customer loyalty has become a major source of competitive advantage for businesses as it showed to have a powerful impact on a firm's performance. It has been recognized that enhanced customer loyalty reduces customer acquisition costs and increases revenue, thus, ultimately leads to greater profitability (Lam et al., 2004). Numerous studies emphasized the significant value of repeat patronage of customers. It has been known that existing patrons tend to visit the property more frequently and their purchase amount increase over time as the number of visits increase. Additionally, they bring in new customers through positive word-of-mouth, which can save a significant amount of advertising expenses (Haywood, 1988; Kandampully, 1998; Lee, Graefe, & Burns, 2008; McAlexander, Kim, & Roberts, 2003; Reichheld & Sasser, 1990; Rundle-Thiele & Mackay, 2001). Petrick (2004) also argued that repeat customers are more than just a secure source economically, but they can also be information channels that casually create a linkage to potential customers such as their friends, relatives, and colleagues.

Loyalty programs, also known as rewards programs or frequency programs, are popular marketing relationship strategies developed to increase customer loyalty. First developed as a frequent flyer program by American Airlines in the early 1980s, major competitors also introduced similar programs and loyalty programs have now become a

mainstay in the hospitality industry since then including hotels, restaurants, and casinos. They were initially developed to attract customers by encouraging them to earn credits or points that offer certain rewards in return (Dowling & Uncles, 1997). To obtain the rewards, customers would often need to make a series of efforts or investments that are extended over time. Airlines would reward travelers with free flights based on their accumulated travel miles, and hotels would offer customers with free rooms based on their number of nights stayed. The main objective of frequency programs was to encourage customers' repeat purchase through the provision of benefits, whether tangible or intangible, as a reward (Meyer-Waarden, 2008).

The scopes of loyalty programs vary considerably across industries and they play a critical role in marketing strategies that account for a significant portion of marketing budgets (Dowling & Uncles, 1997). The goal of these programs is predominantly marketing focused, but they can also benefit other business units and functions. The major focus of loyalty programs is to increase revenue, profit, and market share by increasing customer loyalty. Loyalty programs can identify if members are profitable and can attempt to increase their usage levels and market share. They can also be utilized to identify potential markets. For example, businesses obtain customer data from tracking the services and products purchased by loyalty program members, which further can be utilized in product planning, promotions, and many other areas including even human resources. Most importantly, there is an assumption that loyalty programs provide value to customers, which ultimately encourage customers to stay with the brand (Gómez, Arranz, & Cillán, 2006; O'Malley, 1998; Sharp & Sharp, 1997).

Increased competition has driven various industries to validate their marketing

strategies by attracting and retaining valuable customers. Almost every business offers a loyalty program of some kind or another and companies are challenged with the growing number of loyalty cards (McCall & Voorhees, 2010). Numerous variations of loyalty programs have come and gone or modified and evolved. While there are companies benefited from well-designed and managed programs, there are also others that struggle from unsuccessful loyalty programs (Forte, 2011).

Launched in 2001 by Barsky and Nash, the *Market Metrix Hospitality Index* (hereafter, "MMHI") is a national indicator of customer experience including satisfaction, emotions, loyalty, and price sensitivity, regarding services available in the hospitality industry (Barsky & Nash, 2003). According to the MMHI, loyalty membership programs played a very important role to customers in selecting what hotel brand to stay. The percentage that guests indicated the loyalty program as a key factor in deciding where to stay grew from 32 percent in 2002 to 34 percent in 2005. Thus it showed that more than one third of hotel guests are influenced by loyalty programs. However, it was also indicated that not all loyalty programs among diverse hotel brands performed effectively (Barsky & Nash, 2006).

There are also well-known brands that are investing more and totally revamping their loyalty programs. Dorothy Dowling, senior vice president of marketing and sales for Best Western claimed that their rewards program is their most important marketing program and prioritized it higher than any other marketing strategies (Ricca, 2009). Southwest airlines announced recently that they invested $100 million and changed its flyer program offering greater rewards and more complex point system (Moss, 2011).

On the other hand, there are companies that decided to get rid of their loyalty

programs or rewards program in the past few years. For instance, Subway, a restaurant chain, used to own the Sub Club cards, which allowed customers to earn a free sandwich after the eighth purchase, but it was gone in 2005 (Nunes & Dréze, 2006). The globally successful Air Miles program lost $25 million dollars and shut down after one year when it was introduced in the U.S. market (Forte, 2011). Referencing Colloquy's study of 2,000 loyalty programs 14% of loyalty programs disappeared, 45% had to be disbanded or re-designed (Keenan, 2007).

## Problem Statement

Loyalty rewards programs have now become ubiquitous in the market as customers found them to be appealing. Firms utilized these programs with the expectation to obtain repeat business and rich customer data at the same time. Many companies employed loyalty programs as customer relationship marketing instruments and they have developed into key marketing activities. Accordingly, loyalty programs have increasingly earned interest and have been studied in the academic and professional marketing literature. Despite the prevalent use and attention of loyalty programs, their effectiveness has not been well understood (Bolton, Kannan, & Bramlett, 2000). There were studies that showed the positive impact of loyalty programs on customers' repatronage and their share of wallet (Meyer-Waarden, 2007, 2008; Verhoef, 2003), and others suggested that loyalty programs are one of the most evident and lucrative investments for customer relationship marketing (Reinartz, 2005; Reinartz & Kumar, 2002). On the other hand, Nunes and Drèze (2006) argued that loyalty programs do not necessarily foster loyalty and are not cost effective and there were studies that showed negative cash flows of

loyalty programs (Yamanouchi, 2005). Furthermore, previous research found mixed results of loyalty programs that they were effective for only a short period or only to a specific group/segment (Magi, 2003; Meyer-Waarden & Benavent, 2006; Lewis, 2004; Leenheer, Liu, 2007; Van Heerde, Bijmolt, & Smidts, 2007). Even the same scholar found inconsistent results (Meyer-Waarden, 2007, 2008; Meyer-Waarden & Benavent, 2006).

The divergent perspectives of loyalty programs indicate the desperate need of rigorous empirical evidence regarding the effectiveness of loyalty programs. There are limited empirical validations, thus creating opinions that the proliferation of such programs across industries has become a result of a progression of competitive reaction. Some even argue that loyalty programs are just cheap promotional gimmicks or short-term fads designed to fool customers. As a result, it has been questioned whether these loyalty rewards programs were employed within the context of marketing strategies or merely provoked by competition (Meyer-Waarden, 2008; Uncles, Dowling, & Hammond, 2003).

The rationale of this study emerged as such contradictory evidence and the ambiguity results of loyalty programs appeared. Regardless of all the strong interest, there has been scarce empirical academic work that investigated the impacts of loyalty programs on real customers' behavior. Much of the ambiguous study results or lack of empirical evidence was noted for limited data and methodologies that hinder proper assessments. Thus, although there has been progress made in recent studies, much remains to be done (Meyer-Waarden, 2008).

## Purpose of the Study

The purpose of this study is to understand the financial impact of loyalty programs from a longitudinal perspective. The key research question is whether loyalty programs change customers' behavioral levels and generate profitability. Relatively few empirical studies have examined the longitudinal aspect of loyalty programs, especially from the standpoint of continuous loyalty programs leaving a gap in understanding the true effect. Existing studies that attempted to investigate the effectiveness of loyalty programs mostly focused on short-term outcomes or limited factors. Given the long-term orientation of loyalty programs and their transformation of single purchases into multi-period decisions, it is natural to observe the effectiveness longitudinally (Liu, 2007).

What is more, since loyalty program members are more likely to be frequent customers already, simply comparing the behavior of loyalty program members to those of nonmembers does not fully explain the causal relationship (Leenheer et al., 2007). It has been advised that longitudinal data is preferred because self-reported data or cross sectional data cannot establish causal relationship as well (Meyer-Waarden, 2008), and that examining dynamic customer behavior change is more powerful than cross-sectional studies of behavior at a certain point of time (Verhoef, 2003).

In response to the scarce and ambiguous empirical evidence, supplementary examinations that take such limits into account seemed to be necessary. As suggested by Bolton et al. (2000), this study attempted to quantify the influence of a loyalty program on customers' purchase behavior to determine the long-term efficacy. Quantified results are meaningful because they are directly associated to the effectiveness of loyalty programs financially (Bolton et al., 2000; Chao, 2008). It has been recognized that

attitudinal measures have limitations as a proxy measure, hence, behavioral measures such as recency, frequency, and monetary values have some advantages in measuring loyalty. Behavioral loyalty measures are known to be more realistic in providing information on how well the brand is doing vis-à-vis competitors. Moreover, the data generated from loyalty programs help determining customer lifetime value, enhance forecasting customer's future purchase behavior, and facilitate in developing cost-effective marketing tactics (O'Malley, 1998). It has been also pointed out that revenue growth is the most significant financial benefit for a firm from increasing customer loyalty (Reichheld, 1996).

On the whole, this study targeted to examine whether the loyalty program actually change customers' behavioral levels and if it generates profitability in reality. As this study attempted to analyze customers' real behavior from a financial perspective, it specifically takes account the fact that not all customers are equally valuable and incorporated the different tier levels of a loyalty program. Loyalty programs were developed to act as a company's competitive advantage by increasing customers' loyalty and value contribution and eventually generating increased profit margin (Lam et al., 2004) so it is imperative to validate whether the objective is achieved.

This study investigates the impact of loyalty programs on customers' purchase behavior and thereby attempted to contribute to a more general knowledge in this context. The study first elaborated on the framework and observed previous research. Then, study method is described and study results will be reported. Lastly, study conclusion will be provided with significant findings and implications for both researchers and industry practitioners. The findings are expected to provide valuable insights for hospitality

marketers to understand the impact of loyalty programs and develop marketing tactics to maintain customer loyalty and maximize profitability as well.

## Definitions of Terms

The following terms are the definitions of terms that were used in this research.

Buy-in: represents the dollar amount of chips purchased for table games (Lucas, 2004).

Coin-in: a commonly used performance measure and it is represented in the total dollar amount of wagers accumulated by each slot machine (Lucas, 2004).

Complimentary offers: Given free as a courtesy or a favor such as free room nights, dining credits, and gaming credits (Lucas & Bowen, 2002).

Customer Lifetime Value: Customer lifetime value is the net present value of cash flows attributed to the relationship with a customer (Kale, 2003).

Frequent Flyer program: A Frequent Flyer Program is a service offered by many airlines to reward customer loyalty. Typically, airline customers enrolled in the program accrue points corresponding to the distance flown on that airline. Accrued points (also known as *frequent flyer miles*) can be redeemed for free air travel and other products or services, as well as allowing passengers to have increased benefits (Gilbert, 1996).

Loyalty: A the likelihood of a customer's returning to a hotel and that person's willingness to behave as a partner to the organization (Shoemaker & Lewis, 1999).

Loyalty Program: A structured marketing effort which reward, and therefore encourage, loyalty behavior that is expected to benefit to the firm (Sharp & Sharp, 1997).

Rewards Program: A marketing scheme to reward customers for their repeat purchase behavior (Gilbert, 1996).

# CHAPTER II

# LITERATURE REVIEW

## Introduction

The objective of the literature review chapter is to better understand the concepts underlying loyalty marketing and the implementation of loyalty programs as a marketing strategy for businesses. The literature review is classified into four main sections. This chapter first starts by building the theoretical framework to understand how loyalty marketing and loyalty programs were emerged in the business industry. The second and third section provides a cohesive and thorough description on customer loyalty and loyalty programs respectively. The last section of this chapter reviewed existing empirical research on loyalty program performance to comprehend how studies progressed and ascertain what aspects are lacking.

## Building the Theory

### Social Exchange Theory

Marketing has been influenced by other social sciences such as psychology, sociology, and anthropology, but the core discipline derived from economics primarily based on transactions and exchanges (Sheth & Parvatiyar, 2000). In general, the transfer of resources such as goods, services, money, and the symbolic aspects such as social rewards are involved in exchanges and there are ranges of reasons why customers and businesses engage in exchanges (Bagozzi, 1975; Levy, 1959). Social exchange theory is a social psychological and sociological perspective that explains social change and

stability as a process of negotiated exchanges between parties. It posits that all human relationships are formed by the use of subjective cost-benefit analysis and the comparison of alternatives. Social exchange theories have been useful in explaining customer loyalty (Wangenheim, 2003).

The basic assumption of the social exchange theory is that parties engage in relationships with the expectation of being rewarded (Blau, 1968). That is to say, parties engage in relationships that will be the most beneficial depending on the costs and benefits, weighted against the expected benefits of alternative relationships. The relationship remains as long as expectations regarding the costs and benefits surpass a certain threshold. Expectations on future costs and benefits are generally determined by past experiences resulting in longer relationships if they are satisfying (Thibaut & Kelley, 1959; Wangenheim, 2003).

Social exchange theory includes cost (e.g. time, money, opportunities), benefit (e.g. material or financial gains, social status, and emotional comforts), outcome, comparison level, satisfaction, and dependence as its basic concepts. First of all, an exchange interaction results in an economic or social outcome and those outcomes are compared to other alternatives to determine the dependence level on the relationship. The outcome is positive when the benefit obtained is greater than the cost, which further increase the trust and commitment in maintaining the exchange relationship. Such positive outcomes over time also produce relational exchange norms that govern the exchange partners' interactions (Befu, 1977; Lambe, Wittmann, & Speckman, 2001; Thibault and Kelly, 1959).

On the other hand, an individual's satisfaction with a relationship depends on more than just the outcome since everyone has different expectations. For example, it is likely that one could be more satisfied than the other with the same outcome because of a lower expectation level (Lawler & Thye, 1999). Furthermore, satisfaction is not enough to determine whether a person maintain the relationship or leave for an alternative. It is the options of alternatives that conclude the engagement of the relationship. The more alternatives are offered, the less dependent individuals are within the relationship. Both intrinsic and extrinsic factors influence the level of dependence of the individual on their current relationship, thus allow them to seek for an alternative (Cook & Emerson, 1978).

Thibault and Kelly (1959) conceptualized how outcomes are determined by comparing the rewards of an exchange relationship to the alternatives. Based on present and past experiences, the expected level of the outcome is standardized and compared to the current relationship. The average quality of outcomes of the alternative exchange relationship is also represented as the comparison levels of alternatives. Comparison levels of alternatives are used to decide whether to continue or terminate the relationship. Firms who receive outcomes that meet or surpass their expectations, and are equal to or superior to outcomes available from alternatives are likely to remain in the relationship.

Social exchange theory also involves the trade of personal information during marketing transactions for other resources (Brinberg & Wood, 1983). In the case of loyalty programs, customers who are engaged in the program are offered an enhanced value proposition, and firms obtain customers' personal information in return. Although some are more reluctant in sharing their personal information's, customers generally show a willingness to provide information about themselves as they expect to receive

benefits (Milne & Gordon, 1993). Upon agreement of joining a loyalty program, customers approve the firm to use discretionary personal information. Firms offer benefits so that they will lead to continued exchange relationships, and use the data to enhance products or services. Customers continue to participate in programs when they believe the relationship is equitable (Introna & Pouloudi, 1999).

Social exchange theory is used to explain how antecedents contribute to relational exchanges, and then looks at the outcomes (Lambe et al., 2001). The outcomes of exchange relationships are primarily conceptualized in terms of increased loyalty, perceived through repeat purchasing behavior. Loyalty programs have the dual purpose of rewarding loyalty and keeping competitors out of the market. In many cases, loyalty programs are also components of much larger sophisticated sales promotions. Within the context of relationships, value is generally perceived in terms of the rewards that accrue from relationship participation both through tangible and intangible rewards such as discounts and club memberships.

**Equity Theory**

Equity theory was developed to explain that people derive job satisfaction and motivation by comparing their efforts (inputs) and income (outputs) with those of other people in the workplace. In essence, equity theory states that the exchange or transaction is fair if the cost/benefit ratio is the same for both parties (Adams, 1965). The concept of equity theory has been widely used in studies of consumer purchases of goods and services (Fisk & Young, 1985; Oliver & Swan, 1989). It provides a theoretical framework for this study in terms of customer-business relationship, because businesses are expected to generate profit while maintaining an equitable perception from both

parties and explains the fairness and/or discrimination in customer loyalty programs (Huppertz, Arenson, & Evans, 1978; Oliver & Swan, 1989).

Oliver (1997) described equity as something that is fair, right, or deserving in comparison to other entities. According to the equity theory, customers form perception of inputs such as money, time, opportunity costs, and outputs, either tangible or intangible benefits that are associated within the exchange. In essence, equity theory suggests that the exchange is fair if the cost/benefit ratio is the same for both parties (Adams, 1965). However, it is important to differentiate equity and equality. Equality accounts for all customers to receive the same value proposition regardless of their individual contributions while customer loyalty programs are practiced under the fairness of value proposition discrimination.

Equity theory posits that an individual makes either internal or external equity judgments (Adams, 1963). When purchasing a product, a customer puts an input into the exchange expecting some type of a proportional outcome from the firm. Internal judgment occurs in this case by comparing the input invested to the outcome obtained based on prior experiences. Perceptions of unfairness and dissatisfaction are resulted if the customer feels the outcome is lower than the input. Internal equity judgments only include the interaction between the customer and the service provider (Oliver & Swan, 1989). Meanwhile, external equity judgment occurs when the output is compared to the input in an exchange with the ratio of a reference person or an alternative (Adams, 1963; Oliver & Swan, 1989).

Based on equity theory, customer equity theory provides a theoretical framework for this study. Blattberg and Deighton (1996) suggested that customer equity should be used

in finding a balance between customer attraction and customer retention. They found the optimal acquisition level and the optimal customer value to determine the appropriate point when the company should not invest further in acquiring customers based on their value. Customer equity has also been used to verify the effect on return on investment strategies. Rust, Lemon, and Zeithaml (2004) estimated the effects of individual customer equity drivers that allowed projecting the return on investment occurred from expenditures. Results provided guidance to efficient investments by estimating brand switching from separating the drivers' effects from the inertia effect.

Hansotia (2004) proposed that firms should evaluate the financial consequences in employing customer equity strategies. Customers are the greatest assets to a firm since they generate revenue, therefore, managing customer equity indicates producing the greatest benefit upon careful investments. Firms should also evaluate their marketing programs to maximize the utility. Businesses should either increase the number of customers or increase the equity of the customer's lifetime value. The study suggested firms to acquire only those customers whose lifetime value exceeds the acquiring cost, continuously make marketing investments through add-on selling and increase customer equity that exceeds cost, and retain only profitable customers so customer equity exceeds the retention investment costs.

Increasing customer equity became a key success factor in today's business strategy. Companies have been improving their financial performance by directly managing customer's equity and focusing more on the long-term relationship (Hansotia, 2004). According to the literature of previous studies, the ability to increase customer equity can be summarized into the following points: a) how well a company understands their

customers, b) how competitive the market is, c) how well a company make their marketing investments, and d) how mature the company may be (Blattberg & Deighton, 1996; Blattberg, Getz, & Thomas, 2002; Rust et al., 2004).

Customer lifetime value is an indicator for customer equity by estimating a customer's future profit flow that is essential in marketing implementation and budgeting (Dwyer, 1989). It is defined as the sum of the revenue provided to the company less the company's cost associated with maintaining the relationship with a customer (Berger & Nasr, 1998). Once a firm is able to identify a customer's lifetime value, it would be easier to determine the reinvestment amount in an exchange relationship (Rust et al., 2004). Although companies should observe all potential opportunities possible, in general, it may not benefit them to maintain a relationship with customers with those who do not have a profitable lifetime value or a short life-cycle. Estimating a customer's lifetime value is challenging for companies but advances in technology are making it more feasible to track and understand customer behavior nowadays (Berger & Nasr, 1998; Bolton, Lemon, & Verhoef, 2004). It has been pointed out that customer lifetime value is influenced by relationship marketing programs (i.e., rewards program) (Bolton et al., 2004).

Research has shown that customer lifetime value can be used to generate estimates of customers' individual future profitability and optimal allocations of resource (Bolton et al., 2004; Gupta & Lehmann, 2003; Kumar, Ramani, & Bohling, 2004). Pfeifer and Bang (2005) proposed a model for calculating the customer's lifetime value to be used as guidance for proper investment in customers. Gupta and Lehmann (2003) proposed forecasting customer lifetime value by incorporating customer acquisition, retention, and

gross margins. Further, they recommended forecasting customer lifetime value from a customer's segment level instead of the company's because it can explicitly account for changes over time and it will less likely under-evaluate the customers.

**Relationship Marketing Theory**

Relationship marketing has been widely accepted within various industries as an effective strategy to provide businesses with competitive advantages by establishing a long-term positive relationship with customers, suppliers, and other marketing actors (Hunt, 1997). Fundamental to relationship marketing is the belief that firms gain from customer longevity, thus, the theory is related to customer loyalty because of the benefits associated with customer retention (Morgan & Hunt, 1994). Many studies attempted to the link between profitability and customer longevity (e.g. Morgan & Hunt 1994; Rosenberg & Czepiel 1984; Rust and Zahorik 1992; Sheth & Parvatiyar 1995).

Berry (1983) formally introduced the term relationship marketing into the literature but the idea actually appeared much earlier from other scholars. Many relationship marketing studies emerged from the tradition of channel cooperation research. For example, McGarry (1950, 1951, 1953, 1958) implied the relational orientation and the importance on the development of cooperation and mutual interdependence among marketing actors. Alderson's (1965) research on inter- and intrachannel cooperation became one of the groundwork for relationship marketing literature.

In practice, relationship marketing existed back from the preindustrial era where direct interaction between producers of agricultural products and their consumers existed. The direct interaction led to relational bonding between the producer and the consumer that surpassed economic exchange. It was after the World War II, when the focus on

marketing shifted from distributive functions to other aspects such as sales promotions, repeat purchase, and brand loyalty, which concentrated on the customer, not the distributor. Thereon, relationship marketing research evolved from the tradition of channel cooperation research as relational engagements became a key success factor. Due to technological advancements and a variety of organizational development processes, direct interaction between the producers and the users returned and further led to a relational orientation among marketers.

Relationship marketing has constantly been an interesting subject matter for scholars and practitioners in the current era of intense competition and demanding customers for many decades (Sheth & Parvatiyar, 2000). Some scholars describe relationship marketing as a marketing tactic to merely retain customers. However, relationship marketing is fundamentally different from frequency marketing in terms of the extent of customers it attempts to retain. While frequency marketing increases the long-term yield from only the customers that shows the highest visit frequency, relationship marketing focuses to move all customers up the ladder of loyalty (Voss & Zannie, 1997). Nevin (1995) pointed out that relationship marketing has been used to reflect a variety of themes and perspectives. Some take a broader scope while others take a narrower functional approach.

Berry (1983) viewed relationship marketing in broader terms and emphasized its strategic standpoint. He indicated the importance of attracting, maintaining, and enhancing relationships with customers to turn them loyal in multi service organizations. Similarly, Grönroos (1983), Gummensson (1987), Morgan and Hunt (1994) stressed out the significance of customer relationships as a dominant paradigm in marketing.

Grönroos (1990) stated that "Marketing is to establish, maintain, and enhance relationships with customers and other partners, at a profit, so that the objectives of the parties involved are met. This is achieved by a mutual exchange and fulfillment of promises" (p.138). According to Morgan and Hunt (1994), "Relationship marketing refers to all marketing activities directed toward establishing, developing, and maintaining successful relationships" (p.22). Such studies imply that establishing relationships are essential factors in marketing.

The narrow perspective on relationship marketing focuses on areas such as database marketing applying information technology or customer retention implementing a variety of after-marketing tactics. Such aspects integrate the recent application of information technology as a focus to build relationships with customers. More recently, the focus on relationship marketing shifted towards to one-to-one relationships by integrating both database knowledge and long-term customer retention. Scholars such as Jackson (1985), Paul (1988), O'Neal (1989), Doyle and Roth (1992), and Shani and Chalasani (1992) have attempted to define relationship marketing in such perspective. Other scholars examined relationship marketing from a more strategic point of view by emphasizing customer's involvement. Levitt (1981), Berry (1983), Grönroos (1983), Gummensson (1987), McKenna (1991) emphasized customers' interactions and its impact on customer relationship. Alternatively, Morgan and Hunt (1994) approached relationship marketing from a strategic perspective but focused on the relational aspects of marketing including suppliers and internal employees as well as customers (Sheth & Parvatiyar, 2000b).

Although few different perspectives exist, it is important to note that the process of relationship development and maintenance was consistently recognized. Additionally,

the aspects of cooperative and collaborative relationships have been generally accepted in relationship marketing literature in various business contexts. Cooperative and collaborative relationships are formed between the firm and one or many of its customers and it is believed it ultimately leads to a greater market value creation, which benefits both parties engaged in the relationship. Therefore, the purpose of relationship marketing is the creation and enhancement of mutual economic value.

In general, relationship marketing is a subset of marketing that focuses on a specific approach. While some scholars include all types of partnerships in the relational aspects of marketing, Sheth and Parvatiyar (1995) suggested that relationship marketing should limit the domain to only those cooperative and collaborative marketing actions that are focused on the customers' needs. Other aspects of organizational relationships such as supplier relationships, buyer relationships, and internal relationships would rather fall under management or human resources. Based on the existing studies, Sheth and Parvatiyar (2000b) defined relationship marketing as "the ongoing process of engaging in cooperative and collaborative activities and programs with immediate and end-user customers to create or enhance mutual economic value at reduced cost" (p.9).

The improvement of information and technology resulted in de-intermediation increase and allowed producers to interact directly with their customers. Instead of the middlemen function from the past, database marketing and direct marketing tools enabled industries to individualize their marketing efforts and keep direct relationships (Sheth & Parvatiyar, 1995).

The service economy had an immense impact on relationship marketing as well. As the role of middleman decreased the need of emotional bond between the service

provider and the user raised and accentuated the importance of relationships (Berry & Parasuraman, 1991; Bitner, 1995; Grönroos, 1995). As businesses realized that retaining the existing customers is less expensive than to attract new ones, customer retention and customer loyalty became a key competitive advantage which influenced relationship marketing (Dick & Basu, 1994; Reichheld, 1996).

Taken as a whole, the paradigm shifted from transactions to relationships and the exchange paradigm itself became somewhat insufficient to understand the continuous nature of relationships. Therefore, the need of a paradigm that can account for the process of relationship engagements arose. The exchange paradigm mainly explained the *value distribution* between marketing actors where the roles of the seller and buyer were clearly defined. On the other hand, relationship marketing developed based on the concept of *value creation* (Sheth & Parvatiyar, 2000a). Consumers act as co-producers making the roles of producers, sellers, and buyers indistinct. Marketing actors participate, develop, produce, and consume goods and services all together and no longer seek for a particular exchange. Rather they pursue the creation for a greater market value through the relationship they built (Sheth & Parvatiyar, 1995).

**Theory Building**

Relational programs are those that offer some type of rewards or incentives for consumers in return to providing their information. Marketers implement relational programs to manage relationships with customers by creating relational exchanges and dialogues (Berry 1995; Grönroos, 2000). Relational exchanges involve not only collecting customer information but also using that information to benefit the customers (Partiviyar & Sheth, 2000). The objective of relational programs is to build a committed

customer base through collecting information, which can be used in relational exchanges. Direct communication, loyalty cards, rewards programs, and frequency programs are examples of popular relational programs (Verhoef, 2003).

Direct communications includes communications such as personally addressed letters including offers, information, or requests for customer's information (surveys, etc.) that seek for responses unlike mass communication such as traditional advertising, brochures, and sales letters (Grönroos, 2000). Loyalty programs, rewards programs, or frequency programs are all a subset of relational programs that are similar in design and received the most attention in marketing literature (Bolton et al., 2000). Other examples such as special treatment, which treat loyal customers as if they are of higher status by offering them special services, and affinity programs which emotionally associate with customers are common as well (Rust et al., 2000).

Customer loyalty programs are membership-based marketing activities designed to enhance marketing exchanges among pre-identified customers. They use targeted communications and customize the delivery of branded products or services to build stronger relationships with customers. Based on cumulative brand purchases, loyalty programs enhance value proposition offerings to maintain active customer status. Often, customers are rarely benefited from one purchase, thus, accumulated free rewards encourage customers' repeat purchase over time. Loyalty programs are distinctive from other forms of promotions that are short-term oriented such as instant scratch cards by their long-term nature and deliberate emphasis on preserving customer retention and intensifying purchase frequency (Sharp & Sharp, 1997). Overall, loyalty programs have been developed as a relationship marketing tactic to establish higher levels of retention

from the company's best customers by offering rewards for patronage that create consumer value (Verhoef, 2003).

Based on the reviewed literature, loyalty programs developed as a consequence of relationship marketing tactics to increase customer loyalty. Relationship marketing emerged as relational engagement became key success factors for businesses since direct interaction between the firms and consumers returned. Further, consumers enter into exchange relationships on the basis of expected equity and the desire to increase the predictability of exchange outcomes. The relationship continues to the extent where there is a positive equity in the relationship for each of the parties. Therefore, loyalty programs are expected to create positive equity, thus profitability from a company perspective. As a result, the theoretical framework for this study can be conceptualized by incorporating social exchange theory, customer equity theory, and relationship marketing theory.

Social exchange theory assumes freedom of choice and situations that require decision-making. Social exchange theory posits that all human relationships are formed by use of subjective cost-benefit analysis and the comparison of alternatives. For example, when a person perceived the cost outweighs the benefits, the theory predicts that the person will decide to leave the relationship (Thibaut & Kelley, 1959; Wangenheim, 2006). On the other hand, customer equity theory suggests the perceptions of fairness in a social exchange that affects the overall exchange. Therefore, the customer equity theory supports the prediction of equity and inequity in social interaction as illustrated in Figure (Messick & Cooke, 1983; Oliver & Swan, 1989).

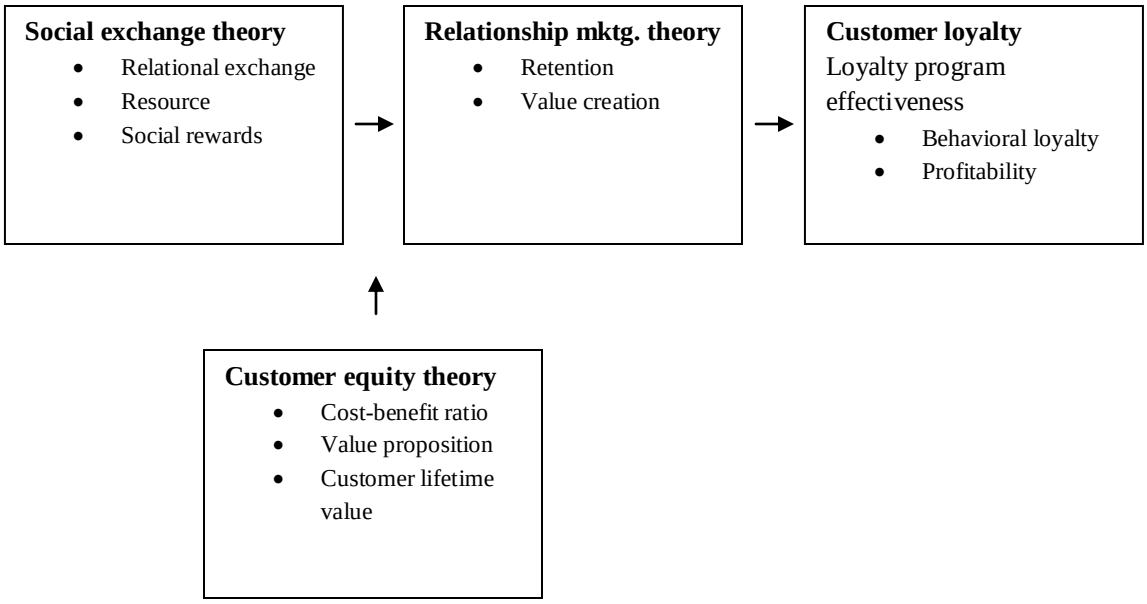


*Figure* 1. Proposed relationship between social exchange theory, equity theory, relationship marketing theory, and customer loyalty program effectiveness.

## Customer Loyalty

### Understanding Customer Loyalty

The definition of customer loyalty includes both behavioral and attitudinal dimensions of loyalty. Shoemaker and Lewis (1999) defined loyalty as "the likelihood of a customer's returning to a hotel and that person's willingness to behave as a partner to the organization (p. 349)." In more detail, Oliver (1999) defined customer loyalty as "a deeply held commitment to rebuy or repatronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts having potential to cause switching behavior (p.34)." Similarly, other researchers described loyalty as a customer's repeat visitation or repeat purchase behavior while including the emotional commitment or expression of a favorable attitude toward the service provider (McAlexander, Kim, & Roberts, 2003;

Petrick, 2004). The domain of loyalty was limited to customers' repeat purchase behavior in early studies. Numerous studies emphasized the value of repeat patronage of customers to be significant. Existing patrons tend to visit the property more frequently and as the number of visits increase, their purchase amount may increases over time as well. They also bring in new customers through positive word-of-mouth which can sometimes save a huge amount of the expenses for advertising (Brown, 1952; Cunningham, 1956; Haywood, 1988). Petrick (2004) argued that repeat customers are more than just a secure source economically, but they can also be information channels that casually create a linkage to their friends, relatives, colleagues, and other probable travelers to a property or destination. Thus, repeat patrons may provide a potential advertising of word-of-mouth for free and may be less expensive to uphold as a clientele base. Further, it is six times more expensive to plan marketing strategies to attract new customers than it is to retain existing customers.

However, research on customer loyalty evolved significantly and subsequent studies started to propose the customers' psychological attachment to the service provider or the brand as an important aspect of the construct. Such studies argued that loyalty is consisted of a customer's repeat purchase behavior followed by a favorable attitude (Jacoby, 1971; Jacoby & Kyner, 1973; Jarvis & Wilcox, 1977). Moreover, consumers may be loyal to multiple brands or products in the same or competing class making any inferences as to the amount of loyalty misleading (Jacoby & Chestnut, 1978). As suggested, Oliver (1999) described three hierarchical attitude stages corresponding to a continuum that identifies loyalty levels as the following: 1) preference over competing

brand attributes, 2) affective preference toward the product, 3) greater intention to purchase the product over the competing product offerings.

Loyalty has been well perceived as a two dimensional concept including both behavioral (e.g., repeat purchase) and attitudinal loyalty (e.g., favorable attitude towards the brand) (Backman, 1988; Dick & Basu, 1994). The behavioral perspective measures loyalty as the static outcome of a dynamic process including antecedents such as actual consumption, repeat purchase, duration, frequency, and proportion of market share. The attitudinal perspective measures loyalty as an affection toward a brand and indicates trust, psychological attachment, and emotional commitment (Baloglu, 2002; Mechinda, Serirat, & Guild, 2008; Petrick, 2004). Further research progressed and various constructs have been additionally associated. The majority of marketing research now represents loyalty as a multi-dimensional construct. To date, loyalty as a three dimensional conceptualization, behavioral, attitudinal, and composite, have been mostly accepted in marketing literature and details are addressed accordingly (Bowen & Chen, 2001; Jones & Taylor, 2007).

Grounded on a stochastic view of consumer behavior, where consumer behavior is characterized by randomness rather than rationality (Bass, 1974), behavioral loyalty has been focused primarily on behavioral outcomes such as repeat purchase intentions or purchasing sequence behaviors. According to Baluglu (2002), behavioral loyalty can be assessed through proportion of purchase, time spent, word-of-mouth recommendations, and cooperation. Proportion of purchase of one brand in relation to the total purchase of the same product category indicates repeat purchase behavior (Cunningham, 1956). It is represented by the total number of purchase made from a specific brand divided by the

total number of purchase made in that product category and it is usually accepted that a customer is more loyal when that ratio is higher (Baloglu, 2002). The total amount of money spent increases as the time spent for a particular purchase increases in general. Therefore, length of stay or the actual consumption time could be a good indicator for loyalty. Word-of-mouth recommendations include making positive comments to family and friends, business referrals, and promoting the company, and finally, cooperation indicates a customer's willingness to help the company.

Other authors recommend sequence of brand purchase to assess behavioral loyalty and four to six consecutive purchases of the same brand have been considered to be loyal (Kahn, Kalwani & Morrison, 1986). Probability of future purchase of a brand, and brand switching behavior are more examples that have been addressed to assess behavioral loyalty (Jacoby & Kyner, 1973; Ostrowski, O'Brien & Gordon, 1993). Although customer loyalty is a multifaceted substance and the multi dimensional approach helps to better understand customer loyalty, academia implied behavioral loyalty as the ultimate concern in their studies. It was referred that business practitioners also regard behavioral loyalty as one of the most important issues because it highly relates to revenue and prosperity (Chao, 2008). Other authors emphasized the importance of behavioral loyalty as it is of utmost crucial to the service provider. It involves the actual buying or using of the service which not only shows customer's current behavior but also their future purchasing intention (Jones, Reynolds, Mothersbaugh, & Beatty, 2007; Kim, Jin-Sun & Kim, 2008; Tanford, Raab, & Kim, 2010). Unfortunately, the aspect of behavioral loyalty has not been investigated exhaustively even though it has a direct impact on a firm's bottom line and facilitates the assessment of profitability. Relatedly, deeper

understanding on behavioral loyalty would guide decisions on effectiveness of loyalty programs or other strategic marketing activities (Liu, 2007).

The attitudinal approach conceptualized loyalty as attitudes, preferences, or even purchase intentions that are considered as a function of a psychological process (Jacoby & Chestnut, 1978). The most significant examples of attitudinal variables are trust and emotional attachment or commitment. Emotional attachment or commitment could be defined as liking the company or the brand, enjoying the stay at that particular property, and having a sense of belonging to the company. Trust has been considered as another key factor in building customer loyalty (Bowen & Chen, 2001; Morgan & Hunt, 1994). Morgan and Hunt (1994) proposed commitment and trust as major constructs of relationship marketing. Bowen and Shoemaker (2003) also argued that building trust and commitment is the solution to develop loyalty. However, attitudinal loyalty can be criticized because it lacks power in predicting actual purchase behavior. Purchase behavior is influenced by many constraining factors, thus there is limited explanatory power of attitudinal loyalty (Backman & Crompton, 1991; Morais, 2000).

Composite loyalty implies that neither the behavioral nor the attitudinal loyalty approach alone describes loyalty. Instead it suggests that loyalty should be simultaneously considered from a behavioral and attitudinal perspective (Backman & Crompton, 1991; Dick & Basu, 1994; Petrick, 2004). Dick and Basu (1994) proposed repeat patronage (behavioral dimension) and relative attitudes (attitudinal dimension) to conceptualize loyalty. Relative attitudes were described into three categories: cognitive- those related to informational determinants towards a brand, affective- those related to feelings towards a brand, and conative- those related with behavioral characters towards a

brand. They argued that true brand loyalty exists only when consumers' attitude and intention all point to a focal preference toward the brand at the same time. Since composite measurements of loyalty combine both the behavioral and the attitudinal perspective, customers' preference of product, frequency of purchase, recency of purchase, total amount of purchase, and propensity of switching brands are taken into consideration for measurement (Bowen & Chen, 2001).

There are four different levels of loyal customers as the following: high (true) loyalty, latent loyalty, spurious loyalty, and low (or no) loyalty (Baloglu, 2002). High (true) loyal customers tend to have a very strong attitudinal attachment and high repeat patronage. They almost always buy a product at a particular company or brand because they have strong preference over that product and are least vulnerable to the offerings of other competitor brands. High (true) loyal customers tend to remain loyal over time.

Spurious loyal customers have a high repeat patronage but they are not strongly attached to the brand. The high repeat patronage may be explained by such reasons as financial incentives, lack of alternatives, or the customer's individual situation. Although these customers make frequent purchases, they may even dislike the brand. The consumers may only be loyal temporarily and they are likely to be very open to competing offers. Spurious and low (or no) loyal customers are the most volatile customers who can easily response to other benefits or offers from competitor brands, however, they have the most potential to become high (true) or latent loyal customers at the same time depending on the types of marketing tactics companies employ (Baloglu, 2002; O'Malley, 1998).

On the other hand, latent loyal customers have a strong attitudinal attachment towards

the company but their repeat patronage is low. These customers favor a particular brand but the low repeat patronage may occur as a result of situational factors such as inconvenient store location, out-of-stock situations, and influence of other people. Finally, low (or no) loyal customers have weak attitudinal attachment and also have low repeat patronage. They neither have any feelings for a particular brand nor make any purchases.

## Factors that Influence Customer Loyalty

Numerous studies attempted to identify the determinants of customer loyalty (Dick & Basu, 1994; Lee & Cunningham, 2001; Yang & Peterson, 2004). Researchers may have distinctive ideas in conceptualizing loyalty, thus, resulted in different discussions in verifying the antecedents of loyalty. Overall, factors that influence customer loyalty were categorized into two big sets. One related to internal factors such as service quality and costs, and the other related to external factors such as switching costs, situational factors, satisfaction, commitment, and trust.

### Internal factors.

#### *Service quality.*

The quality of service that customers perceive is a critical determinant of loyalty. Perceived service quality has been measured as a form of attitude often linked to satisfaction. Whereas satisfaction is either an end state or appraisal process resulting from exposure to a service experience (Rust & Oliver, 1994), quality refers to the evaluation of the service attributes that is primarily controlled by the service provider (Baker & Crompton, 2000). While some researchers suggest that service quality directly or indirectly influences loyalty (Baker & Crompton, 2000; Lee & Cunningham, 2001),

other studies demonstrated satisfaction as a mediator where customer satisfaction determines service experiences which, in turn, affects loyalty (Bitner, 1990; Lee et al., 2004). Overall, it is expected that the better the perceived quality of services, the higher customers' intention to repatronize that service provider (Baker & Crompton, 2000; Bolton & Drew, 1991; Lee & Cunningham, 2001).

For instance, Baker and Crompton (2000) examined the interrelationship between quality, satisfaction, and behavioral loyalty intention in a festival participation context and discovered that perceived quality had a stronger effect on loyalty than satisfaction. On the other hand, Lee et al. (2004) investigated the relationships between service quality and satisfaction, and their effects on behavioral loyalty. Study results indicated that satisfaction played a mediating role between service quality and behavioral intentions.

The distinct views on the service quality and loyalty relationship are resulted from different ideas about satisfaction and quality. There have been considerations that quality and satisfaction are the same, but the two are mostly regarded as discrete, yet related constructs. Some scholars view satisfaction as an antecedent of service quality. They consider satisfaction as transaction-specific, while quality is more likely to be a general attitude toward the service provider (Bitner 1990; Bolton & Drew 1991; Parasuraman, Zeithaml, & Berry, 1988). Other scholars view service quality and satisfaction at the transaction level and suggest that service quality leads to satisfaction (Oliver, 1997; Petrick, 2004). Nonetheless, there are also suggestions that service quality and satisfaction relationship exists when both constructs are considered on a global level (Kotler, Bowen, & Makens, 2010).

***Costs.***

Costs can be categorized into economic and transaction costs. Economic costs are costs that customers have to sacrifice to acquire a product or service. Economic cost is consisted of monetary and nonmonetary costs. The effect of monetary cost together with the benefits determines the service value which influences the customer's purchase intention and behavior. In general, customers' intention to repatronize the service provider is lower when the perceived cost is higher. In other words, monetary cost has a negative impact on customers' behavioral intentions (Dodds & Monroe, 1984; Monroe, 1990; Zeithaml, 1988). Service time (the amount of time during which a service is provided) is a type of nonmonetary cost that affects repatronage intention as well. Even though there are situational differences in the value of time, customers normally prefer faster service. Especially in grocery stores, fast-food services, and express check-out services are where service time is recognized importantly. Thus, the longer the service time, the lower customers' intention to repatronize.

Transaction cost is another type of nonmonetary cost. Transaction costs exist in exchange processes as a consequence of the interaction among various factors (Williamson, 1987). One major source of transaction cost is the difficulty of evaluating service performance from a customer's standpoint. The intangible characteristic of service makes such difficulty prevailing and gives rise to differences in the transaction costs (Williamson, 1987). Moreover, the degrees of intangibility varies, hence encumber customers because they would not be certain if they are paying a fair price for their service (Bowen & Jones, 1986). Consequently, transaction difficulty negatively affects customer loyalty. In addition, a service provider's specific knowledge about the customer's idiosyncrasies and needs and wants is a factor associated to transaction costs

(Williamson, 1987). Opposed to the ambiguity and difficulty of assessing service performance, knowledge about customers reduces transaction difficulty and works positively on customer loyalty. The service provider's increase in understanding customers' tastes and preferences speeds up the transaction process and further increases customer satisfaction and loyalty through customization (Lovelock, 1983).

**External factors.**

***Switching costs.***

Switching costs are the costs involved in changing from one service provider to another (Heide & Weiss, 1995). Switching costs are the costs that is expected to encounter in the future, whereas economic and transaction costs are those incurred in the present (Lee & Cunningham, 2001). Switching costs include monetary, behavioral, search, and learning related, thus can be economic and emotional (Yang & Peterson, 2004). Once a customer is involved in a transaction relationship, he/she is more likely to become behaviorally loyal because the cost of switching transaction partners gets higher. Customers often become "locked into" their service provider after considering information search cost, perceived risk, and substitutability of the service provider (Bagozzi & Phillips, 1982; Dick & Basu, 1994; Lee & Cunningham, 2001).

Information search cost is the expense involved in gathering information about substitutes when customers consider switching a brand. Information search cost can be high or low but it eventually affects the overall level of switching costs. Particularly, switching costs will be higher when information search cost is higher and thus, customers will less likely switch to a new brand (Porter, 1985). Perceived risk in selecting a new brand is also related to switching costs. Studies found that consumers try to handle the

risks by deliberately searching for information before purchasing and remain more loyal once a choice is made (Cunningham, 1967). Thus, behavioral loyalty increases as perceived risk increases in selecting a new brand. Substitutability of the service provider denotes the extent to which alternative sources are available. Substitutability may vary across service industries, but it is expected to lower switching barriers and decrease customer loyalty. That is to say, customers' behavioral intentions of repatronage would decrease if the substitutability of the current service provider increases (Bagozzi & Phillips, 1982).

Research revealed that switching costs have a significant moderating effect on customer loyalty through satisfaction (Anderson & Sullivan, 1993; Lee, Lee, & Feick, 2001). Lee and Cunningham (2001) also identified transaction costs and switching costs as significant loyalty determinants in their study from bank and travel agency customers. Park (1996) found that the lack of alternative options and accumulation of investments affect tourists in switching to other options.

***Situational factors.***

Marketing literature also suggests that consumers make purchase based on situational factors (Lavidge, 1966; Wicker, 1969). Physical surroundings, social surroundings, temporal perspectives, task definitions, and antecedent are stated as the five primary situational factors that explain when and why customers make purchase decisions (Belk, 1975). Physical surroundings indicate factors such as facility location, the sights, sounds, and smells associated with the facility, and weather as it plays a significant role as well. The social surroundings indicate other customers' influence on a customer's purchasing behavior. Temporal perspective is assessed with items that identify the magnitude of the

time of day, time of year, and length of time since the last purchase, because it affects future purchase behavior. The task definitions imply the intent or requirement to select, shop, or obtain information about the purchase. Finally, the antecedent state items reflect a customer's emotional and physical state prior to purchase and determine the extent to which it will influence that purchase behavior (Belk, 1975). Situational factors can also be understood as the "actual or perceived opportunity for engaging in attitude-consistent behavior (e.g., in the case of stockouts of preferred brands), incentives for brand switching through reduced prices (i.e., deals) of competing brands, and effective in-store promotions that might increase the salience of a competing brand over one normally preferred by the consumer (i.e., by impacting on the evoked set in a decision environment)" (Dick & Basu, 1994, p. 105).

***Perceived value.***

Perceived value has been associated with loyalty either directly or indirectly as it is essential for various marketing activities. Customers are strongly motivated for repeat patronage when they are provided with high value (Yang & Peterson, 2004). Therefore, businesses are increasingly concerned about enhancing value for customers since it ensures successful long-term business performance (Woodruff, 1997). According to Zeithaml (1988), perceived value indicates "the consumer's overall assessment of the utility of a product based on perceptions of what is received and what is given (p.14)." Perceived value includes the 'get' component, which implies the benefits a consumer derives from the service provider's offering and the 'given' component which implies the consumer's monetary/nonmonetary costs in acquiring the offering (Parasuraman & Grewal, 2000). Customer perceived value results from evaluations of the relative

rewards and sacrifices associated with the offering (Yang & Peterson, 2004). While some researchers suggested that perceived value directly affects loyalty, others argued that perceived value indirectly influences loyalty or moderates the satisfaction-loyalty relationship (Anderson & Srinivasan, 2003; Lam, Shanker, Erramilli, & Murthy, 2004; Parasuraman & Grewal, 2000; Sirdeshmukh, Singh & Sabol, 2002; Yang & Peterson 2004). In general, perceived value is based on tradeoff between the quality or benefits that customers receive or forfeit to obtain (Oh, 2000; Yang & Peterson, 2004; Zeithaml, 1988).

***Satisfaction.***

Satisfaction refers to the overall affective response resulting from the service experience (Oliver, 1981). Many scholars related satisfaction to customer loyalty as a positive loyalty determinant (Anderson & Srinivasan 2003; Bowen & Chen, 2001; Lam et al., 2004; Yang & Peterson, 2004). Earlier studies viewed loyalty as a type of long-term effect that is closely associated to satisfaction (Oliver, 1997) and described loyalty as an antecedent of repeat visitors' satisfaction (Petrick, 1999). More recent studies emphasized the need to provide and improve customer satisfaction to achieve loyalty. The management of satisfaction is most useful for developing loyalty among customers that are not persuaded toward establishing enduring relationships with a certain brand (McAlexander et al., 2003). Lam et al., (2004) also contended customer satisfaction as one of the potential antecedents in building customer loyalty. They suggested that customer satisfaction influences variables that are indicators of customer loyalty and customers who are satisfied toward a service provider can be motivated to patronize that service provider again and recommend other customers to the provider.

***Trust.***

The concept of trust is derived from the analysis of personal relationships because it is considered an inherent characteristic of any valuable social interaction and became a popular issue due to the relational orientation in loyalty marketing (Morgan & Hunt, 1994). Trust can be a confusing terminology sometimes and altruism (Frost, Stimpson & Maughan, 1978), honesty (Larzelere & Huston, 1980), or dependability and responsibility (Rempel, Holmes & Zanna, 1985) are some other terms deeply related. Nevertheless, all the terms share the same idea that trust is a feeling of security based on the belief that the customer's behavior is guided and motivated by the favorable and positive intentions towards the service provider. Therefore, the lesser the doubt, the lesser the risk in the relationship, and thus, enables the development of a valuable relationship (Ballester & Aleman, 2001). Further, there exists a certain dependence on delivering expected outcomes and performing activities in the interactions between consumers and service providers. Businesses are required to respond to the consumer's needs and consumers suffer certain vulnerability to the company's actions and decisions that they might be taken advantage of. The abilities and capacities attributed to a business to perform activities and accomplish its obligations and promises affect the consumers to infer how they will be treated in unexperienced situations by the service provider (Ballester & Aleman, 2001).

***Commitment.***

Commitment has been characterized in a variety of ways that can be classified into affective (emotional), continuance (obligation), and value-driven (benefits). Affective commitment is an emotional attachment to the brand that creates a sense of belonging

(Allen & Meyer, 1990; Baloglu, 2002; Jones et al., 2007). Some authors in fact classify trust as a subset of affective commitment (Baloglu, 2002; Sui & Baloglu, 2003). Continuance commitment is based more on relational motives, focusing on termination, or switching costs (Kumar & Shah, 2004). It carries a sense of actual or perceived obligation that could engender negative emotions such as the feeling of "locked in" or "stuck" (Jones et al., 2007). Value commitment is the value of benefits received, yet distinctive from positive tangible benefits of reward membership, for being loyal to a specific brand. For example, the willingness to patronize an alternate service provider if the current service provider went out of business, or an alternative or competing brand offered specials would fall under this category (Mattila, 2006).

## Loyalty Programs

### Understanding Loyalty Programs

Initially introduced by the airline industry, loyalty programs started as frequency programs or rewards programs. The very first attempt to reward customers for their repeat purchase was the $50 discount voucher for passengers who had five flights from Western Airlines in 1980. However, the offer was abandoned shortly due to administrative problems. Afterwards, American Airlines' AAdvantage program was introduced in 1981 and became the first frequent flyer program from industry standard. Frequent flyer programs were brought into the industry as there was a need for a sharper focus of sales promotion techniques during the deregulation within the US air transport sector. The schemes were targeting especially the high-mileage travelers to purposely build preference for one brand over the other. They encouraged customers' repeat

purchase by offering them benefits such as free flights based on their accumulated travel miles (Gilbert, 1996). The success of the early frequent flyer program inspired other businesses and loyalty programs have now become one of the most popular marketing strategies across a broad range of industries (McCall & Voorhees, 2010).

According to Sharp and Sharp (1997), loyalty programs are "structured marketing efforts which reward, and therefore encourage, loyalty behavior: behavior which is, hopefully, of benefit to the firm" (p. 474). Loyalty programs, as one of the most common customer loyalty schemes, ultimately enable firms to create a relationship that is based on interactivity and individualization accompanied by personalized direct marketing techniques and communication. By utilizing the customer behavior information recorded by loyalty cards, loyalty programs serve as strategic tools to discriminate and individualize the marketing mix (Shapiro & Varian, 2000). In general, the positive effect on repeat purchase from marketing activities such as advertising, promotions, branding, and so on, is rather auxiliary. On the other hand, loyalty programs are distinguished by being more direct in lifting average purchase frequency and purchase amount. They explicitly reward customers for combining their purchases within the same brand (Sharp & Sharp, 1997).

The implementation of loyalty programs are known to be an emphasis on defensive marketing which focus on retaining existing customers and getting more from them, opposed to marketing activities that focus on attracting new customers. They ultimately pursue value-added, interactive, and long-term focused relationships by identifying, maintaining, and increasing the output of the best customers (Mayer-Waarden, 2008). Loyalty programs specifically emphasize repeat purchase over time, thus, rarely benefit

members on a single purchase. Therefore, it is significant to point out that short-term promotions, such as coupons and instant scratch cards, are not included in loyalty programs. Besides, it is difficult to expect customer lock-in as true loyalty programs just by one-time or even short-term promotions (Sharp & Sharp, 1997).

Businesses introduce loyalty programs for a range of reasons including to reward loyal customers, to generate information and understand customer better, to manipulate consumer behavior, and to be defensive from its competitors (O'Malley, 1998). Consumers are motivated to join loyalty programs just because they like to get something out of nothing (Dowling & Uncles, 1997). Rewards and incentives can further encourage customers to try new products, pay premium prices, or increase multi-pack purchase. Additionally, companies can improve targeting and save costs by knowing who their customers are and how their purchase pattern is. However, some companies develop loyalty programs just because other competitors do, as a defensive measure (O'Malley, 1998).

In order to maximize loyalty and profitability, companies must realize the fact that not all customers are equal, and treat their best customers with the best value. Customers who generate the highest profits become even more loyal and profitable if they are benefited of the value they created (O'Brien & Jones, 1995). The fundamental idea of loyalty programs is to encourage customers' purchase by rewarding them and providing targets at which various benefits can be achieved (O'Malley, 1998). Companies know that delivering enhanced value to profitable customers can turn them into loyal customers and those loyal customers become even more profitable over time. A well-designed loyalty program can target the right customer segments, which are most valuable and,

simultaneously discourage those customers who are not as valuable (O'Brien & Jones, 1995).

Loyalty programs offer a range of rewards as they stimulate customers to react within purchases. Yet, reaction such as a purchase decision or repeat purchase occurs only if the customer perceived the utilities of a reward outweighs the costs associated (e.g. membership fees, switching costs, repeat purchase obligations) (Meyer-Waarden, 2008). Rewards may be offered by monetary-based or special treatment-based. Monetary-based rewards could be in the forms of real cash, bonus points, and vouchers, and they are usually perceived to be analogous with utilitarian benefits (Furinto, Pawitra, & Balqiah, 2009).

Special treatment-based rewards are designed to persuade customers' attitudinal attachment such as trust and assurance. These benefits are rather analogous with hedonic benefits, which refer to experiential and enjoyment-related benefits (Furinto et al., 2009). It has been suggested that monetary-based rewards are most preferred by customers (Verhoef, 2003), and special treatment-based rewards have limited impact on relationship quality (McCall & Voorhees, 2010). Overall, a loyalty program can accelerate the loyalty life cycle, encouraging the loyalty program members to behave as the company's most profitable customers if it is planned and implemented with a strategic and sustainable approach (O'Brien & Jones, 1995).

**Structure of Loyalty Programs**

Marketers are challenged to better serve their most valuable customers without overtly discriminating against less valuable customers. All customers are not equally valuable so it is neither economically or operationally reasonable for companies to

expand their value proposition to everyone (Reichheld, 1996). Companies may waste resources if they over-satisfy less valuable customers and under-satisfy more valuable customers (O'Brien & Jones, 1995). Given that, loyalty programs are usually structured in a number of tiers. They are purposely designed to reduce costs by flexibly segmenting members within the loyalty program, which has significant influence on the program's effectiveness (McCall & Voorhees, 2010). Rooted in the 20/80 rule, which suggests that 20 % of the firm's heaviest spenders contributes to 80 % of the firm's revenue (Pareto, 1897), tiered loyalty programs aim to reward customers who make up larger share (McCall & Voorhees, 2010).

Segmentation is the practice of dividing a heterogeneous market into groups that are comparatively homogeneous and identifiable. It allows businesses to understand their customers deeper and develop strategies relevant to marketing and improve profitability (Foedermayr & Diamantopoulos, 2008). Loyalty program members are segmented based on their personal values and performance outcomes are expected to vary between and within segments (Palmer & Mahoney, 2005). Loyalty programs allow companies to reward those selected segments of customers by elevating social status recognition and/or enhancing products or services above and beyond what is not normally offered to all of the other customers. Thus, many marketers aggressively leverage segmentation through loyalty programs to expand their value proposition (O'Brien & Jones, 1995).

Customer segmentation techniques have been commonly implemented in loyalty programs as they became decisive marketing strategies to cope with the diversity and lead firms to success (Foedermayr & Diamantopoulos, 2008). Effective segmentation increases the effectiveness of loyalty programs by targeting successfully, meeting

customers' wants and needs, and improving customer retention. From the customer's perspective, tiered programs are effective because they provide a sense of identity and fit, which can enhance a customer's commitment level to the brand and the program (Bergami & Bagozzi, 2000). Customers' behavior may also transform based on their transition between tiers as they anticipate and experience changes in their benefits. It has been known that loyalty program members accelerated their purchase behaviors both in frequency and magnitudes as they approached closer to the next tier. In fact, even just the thought of moving towards earning a reward stimulated more purchase activity (Kivetz, Urminsky, & Zheng, 2006).

On the other hand, from the firm's perspective, tiered programs can be used to segment customers ideally and provide differentiated rewards based on the customers' behaviors (Rigby & Ledingham, 2004). Moreover, best practice segmentation helps companies to make improvements with different levels of customers as following; learn what they can do to keep their highly profitable customers and maintain their expenditure and how to attract more customers like them, learn how they can get more profitable customers to behave like the highly profitable ones, learn how they can serve the unprofitable customers economically and change them into profitable ones phase them out if necessary (Badgett & Stone, 2005).

In general, customer segmentation by adopting demographic, geographic, psychological, and behavioral factors is operated mostly. The segmentation approach can be simple by applying only one factor or complex by applying more than two factors depending on the goal. Still, it is recommended to apply segmentation dynamically at multidimensional levels to get full value. Businesses must recognize the importance of

tracking customers' movement among segments because they are always changing (Badgett & Stone, 2005; So & Morrison, 2004). The criteria for segmentation differ depending on the situation and the business needs. There is not a certain best variable, nor do the same variables are used in segmentation across businesses. Yet, Beritelli and Boksberger (2005) indicated that behavior variables showed the most notable differences among traveler segments. All in all, effective segmentation requires caution and extremely relies on the researcher's professional judgment (Dibb & Stern, 1995; Sung, Morrison, & O'Leary, 2000).

**Objective of Loyalty Programs**

Theoretically, loyalty programs should have effects on both differentiation loyalty and purchase loyalty on customers' purchase behavior (Meyer-Waarden, 2008). Differentiation loyalty reduces the level of customers' sensitivity towards competing brands and increases the level of preference towards the brand in relationship. Thereby customers are willing to pay higher prices and purchase more in quantity within the same brand (Reichheld, 1996). In fact it has been demonstrated that rewards programs that are managed well with excellent service and prompt rewards redemption process enable customers to become less price-sensitive (Bolton et al., 2000). However, an increase in differentiation loyalty can only occur along with an increase in purchase loyalty (Meyer-Waarden, 2008; Sharp & Sharp, 1997).

Ultimately, the effectiveness of loyalty programs is evaluated in terms of purchase loyalty, which is represented by the type of the members' behavioral changes. Loyalty program members increase their purchase to meet the requirements for a reward (Meyer-Waarden, 2008). Accordingly, points pressure and rewarded behavior creates a

preference impact and an acceleration in purchase frequency. As rewards enhance future utilities and the necessity to accumulate the required points, members increase their purchase until they earn the gratification. Switching costs and future orientation (potential future reward by accumulating points or purchases) also stimulate members to increase their purchase behavior (Taylor & Neslin, 2005). Although it is not guaranteed that members will stay in the relationship permanently, the rewarded behavior effect is expected to stay affective for some time (Meyer-Waarden, 2008). Members are also more likely to stay in the relationship longer as point accumulation creates an anticipation of positive future events (Liu, 2007).

It is expected that loyalty program members specifically increase repeat purchase rates (total dollar amount), increase usage frequency, and decrease switching to non-program brands. Given the nature and objectives of loyalty programs, they are more likely to result in a large increase in repeat purchase for a small, even none, increase in market share. Namely, loyalty programs, in contrast to other marketing schemes, generally have a bigger impact on the average purchase frequency than on market penetration because they are most attractive to existing buyers of the brand and heavy buyers of the category (Ehrenberg, 1988; Ehrenberg, Goodhardt, & Barwise, 1990). Ideally, an effective loyalty program would have a substantial impact on shareholder value without affecting market share levels by increasing the assurance of future earnings as a firm's value is influenced by its future net income streams and the risks associated with those income streams from a financial perspective (Copeland, Koller, & Murrin, 1990).

Therefore it is not reasonable to evaluate a loyalty program just by its market share

gain, nor just by its sales gains. It is worth considering that a loyalty program may be still effective as it provides other long-term benefits to the firm. By operating loyalty programs, firms are more likely to understand their customers' behavior, thus, provide higher quality service by meeting their wants and needs. Ultimately, it is expected that increased repeat purchase will strengthen the relationship between a firm and a customer, and further reduce marketing costs to convince them to return. It may decrease the chance of future competitive threats as it may raise barriers to entry to the market (Sharp & Sharp, 1997).

Loyalty programs provide value to consumers psychologically and economically as well. In general, loyalty program members are issued points whenever they make a purchase. Although points do not have a practical value until they are redeemed, point accumulation creates an anticipation of positive future events. Moreover, consumers feel a sense of appreciation and recognition by receiving rewards. This psychological meaning to consumers increases the transaction utility of a purchase and the likelihood of continuing the relationship (Lemon, White, & Winer, 2002). It also increases the overall value perception of staying in the relationship by feeling important (Bitner, 1995). Other psychological benefits include the opportunity to indulge in guilt-free luxuries and participation (Liu, 2007). Economically, the free rewards function as a positive reinforcement of consumers' purchase behavior and condition them to continue doing business with the firm (Sheth & Parvatiyar, 1995).

## Review of Research on Loyalty Program Performance

There were numerous empirical studies on loyalty programs in hospitality research,

but just a few actually examined its performance. In fact, those studies were all originated from the airline industry (Liu & Yang, 2009). Liu and Yang (2009) took a distinctive approach and scrutinized the overall performance of loyalty programs in the airline industry from a competitive setting. Findings implied that larger firms tend to benefit more from their loyalty programs. Still, when the product category demand is rigid, the loyalty program effect decreased.

Other studies that attempted to investigate the effectiveness of loyalty programs in hospitality research rather utilized attitudinal loyalty measures. Barsky and Nash (2003) briefly addressed the trend and impact of loyalty programs in the hospitality industry, but the study was mainly on customers' satisfaction. Wirtz, Mattila, and Lwin (2007), examined the effects of rewards program and attitudinal loyalty on share of wallet. Hendler and Latour (2008) conducted a research on slot club members and their emotional attachment. DeKay, Toh, and Raven (2009) compared the number of members and rewards programs and concluded that airline frequent flier programs were superior to hotel loyalty programs. Hu, Huang, and Chen's study (2010) inspected customer satisfaction and value perception on loyalty programs in terms of the reward structure. Tanford et al., (2010) evaluated the role of hotel loyalty programs and commitment on switching costs. Therefore, none of the existing hospitality research that attempted to estimate loyalty program effectiveness included information on its performance or profitability.

Table 1 shows a brief summary of previous empirical studies that were conducted within the business industry to evaluate the effectiveness of loyalty programs in terms of performance and customers' behavior change. On the whole, existing studies can be

classified into three categories: comparison between competitors, comparison between consumers, and comparison across time.

**Comparison Between Competitors**

Existing studies that examined the impact of loyalty programs between multiple firms focused on market share and share of wallet in general. Kopalle and Neslin (2003) focused on frequent-flier programs in the airline industry and discovered positive effect on its impact. Study results indicated that airline's frequent-flier programs enhanced the value of their products and increased consumer demand for airline companies that offered such programs. Leenhher et al. (2007) measured the impact of a loyalty program on customers' share of wallet across seven grocery stores and found a small positive, yet significant effect. Liu and Yang (2009) took a distinctive approach and scrutinized the overall performance of loyalty programs in the airline industry from a competitive setting. Findings implied that larger firms tend to benefit more from their loyalty programs. Still, when the product category demand is rigid, the loyalty program effect decreased.

On the other hand, Sharp and Sharp (1997) found a negative impact from grocery store loyalty programs. They investigated the impact of a grocery store loyalty programs and observed whether members increased their purchase frequency. Study results indicated that only two of the six loyalty programs showed an improvement in customers' repeat purchase behavior. Other studies showed mixed results. Magi (2003) discovered that loyalty programs increased consumer's share of wallet and store visit. However, this was supported only at the chain level but not at the store level. Meyer-Waarden and Benavent (2006) also found mixed effects from several French grocery stores. Only four out of seven programs were effective and moreover, they had a weak short-term impact

and no long-term impact on purchase behavior including amount and frequency.

**Comparison Between Consumers**

Existing studies classified under comparison between consumers focused on behavioral loyalty on members versus non-members. Verhoef (2003) found a positive effect from loyalty programs in the insurance industry. Consumers who participated in an insurance company's loyalty program were more likely to stay with the firm and encouraged to expand their business with the firm. Van Heerde and Bijmolt (2005) looked into direct mail offers in clothing stores and study results indicated that non-members were more responsive to price discounts compared to members. Further, members showed lower than normal expenditure amount after the direct mailing promotion period, especially after deep discounts, whereas, non-members did not have any expenditure after the direct mailing promotion period. Meyer-Waarden (2008) conducted a research on French super market loyalty programs and noticed their significant impact. Members' behavior indicators (purchase intensity, share of purchase, purchase frequency, and inter-purchase time) were all significantly higher than those of non-members.

On the other hand, Bolton et al. (2000) inspected the effectiveness of loyalty programs in the credit card industry from a more complex perspective and obtained mixed results. They studied the moderating effect of a credit card company's loyalty program on the relationship between consumer's service experiences and the consumer's consequent behavior. Although the researchers did not find a significant main effect on customer retention, study results showed that program members used their credit cards more and weighed less negative experiences in their repeat purchase decisions than non-

members. Gómez, Arranz, and Cillán (2006) analyzed the behavioral and affective loyalty of a super market loyalty program and found that members are more loyal in terms of purchase frequency and amount than non-members. Nonetheless, most customers do not change their purchase behavior after joining the program.

However, studies that compared the behavior of loyalty program members with that of non-members are subject to self-selection bias. It is more likely that differences between program members and non-members exist before the program rather than being a result of the program. Therefore, there are challenges in concluding a causal relationship and inspecting customers' dynamic behavior change is recommended instead (Verhoef, 2003).

**Comparison Across Time**

Existing research by studying the consumers' behavior across time accounted for self-selection bias, but the majority focused on short-term effects using promotions, points, and rewards. Typical study settings were where program members had to spend over a set amount each week for a certain period to receive a reward. In general, temporary offers had a positive effect and increased members' purchase to qualify for a reward (Lal & Bell, 2003; Taylor & Neslin, 2005). Kivets et al. (2006) also found that the point pressure effect increased as consumers accelerated their purchase getting closer to receive their rewards. Nevertheless, the positive behavior change was driven away significantly after members redeemed their rewards.

Short-term promotions are similar to sales promotions that aim for temporary commitment or sales increase. Empirical research on loyalty program effectiveness from a continuous long-term perspective across time was rare. Lewis (2004) evaluated the

short-term promotion effect on an online grocery loyalty program and other marketing instruments (e.g., email coupons, fulfillment rates, shipping fees) and discovered a positive result of increase in annual purchasing from a substantial proportion of the customers. This study was one of the rarely existing one that systematically examined the dynamic effects of a continuous loyalty program, but it focused on post-reward effects, which represent an incomplete view of loyalty program effects. Post-reward effects create a recursive relationship because the level of reward a consumer receives in one period is itself contingent on the consumer's behavior change (Liu, 2007).

Allaway, Gooner, Berkowitz, and Davis (2006) took an indirect examination of longitudinal effects by segmenting the grocery store loyalty program. The program had a positive effect only on a small portion of customers' purchase behavior. Meyer-Waarden (2007) investigated the lifetime duration and share of purchase of super market loyalty programs. It specifically investigated consumers' share of wallet and study results showed that loyalty programs had positive effects. Liu's (2007) study was the only existing one that attempted to examine the dynamic effects by using continuous longitudinal data at the same time. The study observed customers' exclusive loyalty behavior by different usage segments. It was discovered that the loyalty program from a convenience store franchise did not change the purchase behavior of heavy buyers. Though it did positively impact the low and moderate buyers.

Table 1

*Empirical evidence of loyalty program effectiveness on behavioral levels*

| Authors | Study title | Sector | Topic | Conclusion |
|---|---|---|---|---|
| Sharp & Sharp (1997) | Loyalty programs and their impact on repeat purchase loyalty patterns. | Grocery store | Purchase frequency | Negative |

| Authors | Study title | Sector | Topic | Conclusion |
|---|---|---|---|---|
| Bolton, Kannan, & Bramlett (2000) | Loyalty program membership and service experiences for customer retention and value. | Credit card | Customer retention & Purchase frequency | Mixed |
| Kopalle & Nelsin (2003) | The economic viability of frequent reward programs in a strategic competitive environment. | Airline | Program effectiveness | Positive |
| Lal & Bell (2003) | The impact of frequent shopper program in grocery retailing. | Grocery store | Short-term promotions | Positive |
| Magi (2003) | Share of wallet in retailing: The effects of customer satisfaction, loyalty cards, and shopper characteristics. | Grocery store | Share of wallet | Mixed |
| Verhoef (2003) | Understanding the effect of customer relationship management efforts on customer retention and customer share development. | Insurance | Share of wallet | Positive |
| Lewis (2004) | The influence of loyalty programs and short-term promotions on customer retention. | Online grocery | Short-term promotion | Positive |
| Taylor & Neslin (2005) | The current and future sales impact of a retail frequency reward program. | Grocery store | Purchase acceleration | Positive |
| Van Heerde & Bijmolt (2005) | Decomposing the promotional revenue bump for loyalty program members versus nonmembers. | Clothing | Short-term promotion | Mixed |
| Allaway, Gooner, Berkowitz, & Davis (2006) | Deriving and exploring behavior segments within a retail loyalty card program | Grocery store | Purchase frequency | Mixed |
| Gomez, Arranz, & Cillan (2006) | The role of loyalty programs in behavioral and affective loyalty. | Grocery store | Purchase behavior & Affective loyalty | Mixed |
| Kivetz, Urminsky, & Zheng (2006) | The goal gradient hypothesis resurrected: Purchase acceleration, illusionary goal progress, and consumer retention. | Coffee & Online music | Purchase acceleration | Mixed |
| Mayer-Waarden & Benavent (2006) | The impact of loyalty programs on repeat purchase behavior | Grocery store | Purchase frequency | Mixed |

| Authors | Study title | Sector | Topic | Conclusion |
|---|---|---|---|---|
| Meyer-Waarden (2007) | The effects of loyalty programs on customer lifetime duration and share-of-wallet | Grocery store | Share of wallet | Positive |
| Meyer-Waarden (2008) | The influence of loyalty programme membership on customer purchase behavior | Grocery store | Share of wallet purchase frequency | Positive |
| Leenheer, Bijmolt,Van Heerde, & Smidts (2007) | Do loyalty programs enhance behavioral loyalty? | Grocery store | Share of wallet | Positive (small) |
| Liu (2007) | The long-term impact of loyalty programs on consumer purchase behavior loyalty | Convenience store | Usage level & exclusive loyalty | Mixed |
| Liu & Yang (2009) | Competing loyalty programs: Impact of market saturation, market share, and category expandability | Airline | Program effectiveness (competitive positioning) | Mixed |

# CHAPTER III

# RESEARCH DESIGN AND METHODOLOGY

## Introduction

The objective of the research design and methodology chapter was to present the rationalization on how the research question was answered. It includes a justification for how the research hypotheses were derived, and provides details of source of the data, as well as what type of data were collected. Subsequently, it discussed how the model will be developed and what type of data analysis process was performed to test the research hypotheses.

## Research Hypotheses

Despite the proliferation of loyalty programs, the findings of the literature review suggest that the evidence on its effectiveness and performance remains mixed and inconsistent. Numerous researchers have tried to provide better understanding of this subject by extending earlier studies to include more general effects. In summary, research up to date has investigated customers' behavior through the movement of time (longitudinal data) due to its long-term orientation over self-reported data (Liu, 2007), dynamic customer behavior change over cross-sectional data at a certain point of time (Verhoef, 2003), and integrating the moderating effect of customers' individual characteristics on usage levels since not all customers respond to loyalty programs in the same manner (Reinartz & Kumar, 2002). Additionally, it was suggested to implement financial data to understand the success of a loyalty program (Meyer-Waarden, 2007, 2008).

Not many studies have utilized longitudinal data in evaluating the effectiveness of loyalty programs in terms of behavioral loyalty and performance. Those existing empirical studies that attempted to conduct research from a longitudinal perspective focused on temporary outcomes or short-term promotions that consisted limited factors (Lal & Bell, 2003; Lewis, 2004; Taylor & Neslin, 2005; Van Heerde & Bijmolt, 2005), used self-reported data (Leenheer et al., 2007; Meyer-Waarden, 2007, 2008; Meyer-Waarden & Benavent, 2006), or lacked financial information (Allaway, Gooner, Berkowitz, & Davis, 2006; Meyer-Waarden, 2007, 2008; Meyer-Waarden & Benavent, 2006). Also, only a few studies have attempted to examine the loyalty program's moderating effects on tier level with limited factors. Instead, they segmented the tier variable by the total amount of expenditure after a short-term promotion was over (Lal & Bell, 2003), or only focused on the behavior of a specific tier (Liu, 2007).

The main goal of this study was to provide answers to the following research questions: 1) Do loyalty programs actually affect members' behavioral level?, 2) Is the loyalty program profitable after excluding expenses?, and 3) How do members in distinctive tier levels respond differently to the program? Since loyalty programs are developed to increase customers' loyalty level and value contribution along with a firm's increased profitability (Lam, Shanker, Erramilli, & Murthy, 2004), it is important to know whether the goal is accomplished. As discussed previously, studies that attempted to examine customers' loyalty behavior from a dynamic perspective within an extended time span of a long-term loyalty program have been especially rare and inconclusive. By capturing program effects through the movement of time, this study broadens the scope

of existing studies to contribute to finding more general effects of a loyalty program and thus, the hypotheses below were advanced.

Loyalty programs are designed to encourage members' usage of a firm's products or services. Consumers tend to maintain the relationship when they realize that their purchase behavior results in a positive outcome (Lemon, White, & Winer, 2002). Loyalty program members' behavioral level is represented by purchase frequency and purchase amount in this study as the behavioral perspective of loyalty is often measured by antecedents such as actual consumption and purchase frequency (Baloglu, 2002; O'Malley, 1998).

Purchase frequency has been considered an important predictor of the consumer's status with the firm as it indicates future behavior and has been frequently used in previous studies (Allaway et al., 2006; Bolton, Kannan, & Bramlett, 2000; Meyer-Waarden, 2008; Meyer-Waarden & Benavent, 2006; Liu, 2007; Sharp & Sharp, 1997). Purchase amount is important because it indicates customers' value contribution and determines the firm's profit margin. However, purchase amount has not commonly been used in previous studies due to limited data source (Meyer-Waarden, 2008). Consequently, it is expected that loyalty programs will positively affect consumers' behavioral levels, which leads to the first hypothesis:

H1: Loyalty programs affect members' behavioral level.

H1a: Loyalty programs will affect members' purchase frequency.

H1b: Loyalty programs will affect members' purchase amount.

Firms operate their marketing programs to maximize the utility by increasing the equity of their customer's lifetime value (Hansotia, 2004). Loyalty programs are one of

the most popular marketing programs that are specifically developed and managed to generate profitability from a firm's perspective (Meyer-Waarden, 2007). Increasing customer equity has become a key success factor. It has been suggested that companies should maintain relationships with those customers who only produce profitable lifetime value. Customer lifetime value has been used as an indicator for customer equity by estimating a customer's future profit flow. Correctly understanding and applying this indicator is an important factor in increasing a firm's profits. As a result, the second hypothesis was advanced:

H2: The loyalty program will generate positive customer lifetime value.

In general, loyalty programs are designed in a number of tiers to treat customers logically because all customers are not equally valuable. At one end of the continuum, low (or no) loyalty customers may not be as attractive to the loyalty program because they are less likely to obtain any benefits or rewards. On the other end, high (true) loyalty customers may not be motivated to change their behavior because they already enjoy the incentives and rewards. Instead moderate level loyalty members are the most attractive target because these consumers perceive more relevance and benefits to change their behavior and shift their purchase towards one particular firm (Liu, 2007). Tiered programs ultimately strive to reduce costs and increase profitability (McCall & Voorhees, 2010), and they can influence different consumers' loyalty levels (Lal & Bell, 2003).

Customers show an increase in their purchase behaviors as they approach the next tier, and those who make up a larger share are typically rewarded more and treated better (Kivetz, Urminsky, & Zheng, 2006). Further, their proportion of purchase is more likely to increase as the relationship remains longer (Baloglu, 2002). Loyalty programs create

an expectancy of positive outcomes related to purchase behavior because the more members buy, the more rewards they are likely to receive. Therefore, it is suggested that the different tier levels affect loyalty program members' loyalty behavior. Similar to first hypothesis, the third hypothesis observed members' behavioral loyalty level in two aspects. Consequently, the last hypothesis was derived as the following:

H3: The loyalty program tier level will influence members' behavioral usage level.

H3a: Loyalty program members will increase their purchase frequency after joining the program.

H3b: Loyalty program members increase their purchase amount after joining the program.

## The Model

Auto Regressive Integrated Moving Average (ARIMA) models describe the current behavior of variables in terms of linear relationships with their past values. An ARIMA (p, d, q) model is composed of three types of mathematical processes where p indicates the order of AR term (auto-regressive), d indicates integrated (differencing) (I), and q indicates the order of MA term (moving average). The I component represents the amount of differencing to be performed to make the series stationary. The AR component means that the current observation is correlated with its immediate past value at time t-1. The MA component means that a shock on the value of series at time t is correlated with the shock at t-1. The presence of an AR component or a MA component will be determined through analysis of autocorrelation function (ACF) and the partial autocorrelation function (PACF) (Weisang & Awazu, 2008).

An ARIMA model can be considered a special type of regression model, in which the dependent variable has been stationarized and the predictor variables are all lags of the dependent variable and/or lags of the errors. Alternatively, an ARIMA model can be considered as a regression model that includes a correction for autocorrelated errors. A simple example of an ARIMA(1, 0, 1) model is:

$$Yt - \varphi Y(t-1) = \mu + - \theta e(t-1)$$

where all terms involving the dependent variable and AR terms are collected on the left-hand side of the equation, while all terms involving the error and the MA terms are collected on the right-hand side of the equation (Shumway & Stoffer, 2006).

An ARIMA model can provide an evolution equation with a simple interpretation, yet, it does not explain the causal structure. Therefore, linear regression is combined to estimate the linear relationships between a dependent variable and independent variables. The idea is to build a model that combines a regression and an ARMA model on the errors (Bowerman, O'Connell, & Koehler, 2004). As a result, the following model has been advanced for each dependent variable to test the study hypotheses:

$$Y_t = \beta_0 + \beta_1 X_{1t} + \beta_2 X_{2t} + \ldots + \beta_p X_{pt} + \varepsilon_t$$

where

$Y_t$ is the dependent variable and $X_{1t}, X_{2t}, \ldots, X_{pt}$ are the p independent variables, and $\varepsilon_t$ is the autocorrelated error term with the following ARMA(p, q) model:

$$\varepsilon_t = \delta + \varphi_1 \varepsilon_{t-1} + \varphi_2 \varepsilon_{t-2} + \varphi_p \varepsilon_{t-p} + \alpha_t - \theta_1 \alpha_{t-1} - \theta_2 \alpha_{t-2} - \ldots - \theta_q \alpha_{t-q}$$

## Method and Data Analysis

Time series is an ordered sequence of values of a quantitative random variable at equally spaced time points. Time series techniques augmented with regression framework are an emerging method used in tourism demand research. It not only combines the advantages of both methods but is a superior tool in forecasting performance (Li, Song & Witt, 2005). This study used R ("The R Project," 2011), an integrated suite of software facilities, for statistical data analysis.

Data was imported into R and time series linear regression analysis was performed as a preliminary step to test the study hypotheses. This was an indispensable step to purposely identify whether the following movement to perform time series ARIMA modeling was necessary. Linear regression analysis shows the relationship between a dependent variable and the independent variable. In this study, time series linear regression analysis was performed to test the hypotheses, as there was more than one independent variable. When using time series linear regression analysis, one is required to check normality, independence of observations, linearity, constant variance, outliers, and multicollinearity (Norušis, 2008).

Instead, assumptions were checked for performing time series ARIMA modeling because time series linear regression analysis was performed only as a preliminary step. After time series linear regression analysis was performed, the significance of the model was checked and proceeded to performing time series ARIMA modeling on the residuals. In addition, this study constructed a pivot table to observe the behavioral change by each tier of the loyalty program to answer the third hypothesis. The pivot table was monitored specifically by each year, by each month, and by each tier level.

Dummy variables were created for time series regression linear models to account for seasonality or any potential categorical effect that may influence the outcome. For this study, dummy variables for month, recession, and new tower were created. The number of dummy variables needed is always one less than the number of levels of a categorical independent variable. The omitted category is the base category, which is represented by the constant term of the equation (Norušis, 2008). All the results from the multiple regression linear analysis indicated significance of the models and thus time series ARIMA modeling was performed.

The autoregressive integrated moving average (ARIMA) class of models were developed by Box and Jenkins in 1970 and have become dominant in time series analysis. ARIMA models are known to be sufficiently flexible so they can model a wide range of time series characteristics. ARIMA modeling especially has benefits in time series analysis for gaming data because it accounts for systematic effects and shock effects in the endogenous variable itself. Additionally, observations that measure the same variable at different points of time are often correlated, which may cause multicollinearity problems. ARIMA models have been successfully performed to address the serial correlation of the errors. They are also known to have advanced abilities in predicting and they are known to be relatively frugal (Eisendrath, Bernhard, Lucas, & Murphey, 2008; Lucas & Tanford, 2010).

In general, time series ARIMA modeling is robust. Assumptions for time series ARIMA modeling include stationarity and linearity. If non-linearity is present, differencing the data or transformation such as logarithmic may eliminate it. As in other forms of regression, outliers must be removed as they may have an undue effect on

results. Residuals should be randomly distributed, have non-significant autocorrelations and partial correlations, and have a mean of zero and exhibit homogeneity of variance over time (Shumway & Stoffer, 2006). All data were screened for outliers and scatter plots were reviewed of nonlinear distributions and relationships.

The first step in a time series analysis in R is to transform data into a time series object and consider the types of data patterns, so that the models most appropriate to those patterns can be utilized. Thus, data was first transformed into a time series object and rendered stationary. Exponential smoothing in its basic form, where exponential indicates that the weights decay exponentially, is used for time series with no systematic trend or seasonal components. Time series analysis assumes stationarity, stipulating that statistical descriptors of the time series are invariant for different ranges of the series. If the values of the time series fluctuate around a constant mean with constant variation, time series is known to be stationary. If this is not the case, then it is non-stationary and needs to be transformed to achieve stationarity (Shumway & Stoffer, 2006).

Time series ARIMA modeling was performed on the significant variables based on the time series linear regression analysis. The significant lag peaks from the ACF and PACF residual plots were observed to identify the ARIMA model for each dependent variable. Based on the ACF and PACF plots, a slow decay of the ACF and the sharp cut-off of the PACF indicated an auto regressive model. Alternatively, a slow decay on the PACF and the sharp cut-off of the ACF indicated a moving average model (Fortes, Ninot, & Delignières, 2005).

Each model was determined after observing the ACF and PACF plots produced from performing the timer series ARIMA modeling. The order of the model ARIMA (p, d, q)

was specified by selecting the appropriate significant lag values. For an AR (auto-regressive) process, the number of significant correlations in the PACF indicated the number of AR terms to include in the model. For a MA (moving-average) process, the number of significant correlations in the ACF indicated the number of MA terms to include in the model. The I (differencing) component was represented with 1 if there was a trend, and with 0 if there was no trend (Fortes, Ninot, & Delignières, 2005).

In ARIMA parlance, time series is a linear function of past actual values and random shocks. For instance, a first order AR process is denoted by ARIMA (1, 0, 0) and is given by $y_t = \mu + \varphi_1 y_{t-1} + \varepsilon_t$. A first order MA process is denoted by ARIMA (0, 0, 1) and is given by $y_t = \mu - \theta_1 \varepsilon_{t-1} + \varepsilon_t$. For both models, $y_t$ is the given series, $\varepsilon_t$ is the sequence of independent normal error variables, $\varphi'$ is the seasonal and non-seasonal auto-regressive parameter, and $\theta$ is the seasonal and non-seasonal moving average parameter (Shumway & Stoffer, 2006).

Parameters were estimated after the order of the ARIMA model is specified from the autocorrelation function (ACF) and the partial autocorrelation function (PACF). The model with the lowest AIC (Akaike Information Criterion) value indicates the best fit. Developed by Hirotsugu Akaike, the AIC is a measure of the goodness of fit of an estimated statistical model that attempts to explain the data with a minimum of free parameters (Shumway & Stoffer, 2006). Lastly, diagnostic checks were performed to evaluate the goodness of fit. The observation of each coefficient in the model was statistically significant. The standardized residuals plots did not show any specific trend, and the ACF of residuals did not show any autocorrelation. Ljung-Box p-values were larger than 0.05 to show the independently distributed residuals, and the Q-Q plots of

residuals showed a linear trend for normality. It was expected that these conditions meet the criteria to determine whether the model was a good fit or not (Shumway & Stoffer, 2006).

## Data Collection

Secondary data from an upscale Las Vegas Strip hotel casino resort property was used in this study. The name of the specific property is not disclosed in order to insure anonymity. The loyalty program for this property was first introduced in May, 1999 and has been operational to date. The loyalty program consists of three card levels, and it was developed to mainly target the property's gaming customers. Thus, the data is based on customers' gaming behavior. Prior to data collection, a protocol explaining the study was submitted to the Office for the Protection of Research Subjects (OPRS). Approval was granted by the OPRS to conduct research involving human subjects.

Members of the loyalty program earn points based on their gaming level when they use their card. However, customers earn points by playing slot machines only as it is difficult to accurately record behavior on table games. Therefore, card levels do not necessarily imply play level. For example, a customer who only plays table games may possess the lowest card level because he/she does not acquire any points. However the player can still be a premium player. For this reason, the card levels are not always the best indicator in determining a customer's level of play or value. Instead, gaming behavior is evaluated based on the customer's overall spending amount, gaming time, minimum bet or denomination of slot machine, and type of game.

Loyalty program members receive monthly direct mail promotion offers if they meet the minimum play requirement. The promotion offer includes complimentary gaming credits and complimentary room offers depending on the customers' play. Conversely, special event invitations are sent out each month mostly to players who are regarded as premium players. While the amount of invitations for special events is lesser than monthly promotions, the total dollar amount of complimentary offers included is higher. All members who receive a special event invitation are given complimentary room offers and complimentary gaming credits.

The population for this study included members of the property's loyalty program. It has been recommended that a minimum of four years of data is required to perform any statistical analysis to study consumers' lifetime behavior (Reinartz & Kumar, 2002). Loyal customers were described as those who had at least two trips each year from previous studies (Lewis, 2004; Liu, 2007). This study only included members from the loyalty program who were offered direct mail promotion offers so the scope of the study sample may remain consistent to a certain degree. Overall, the study sample all received direct mail promotions but they were not all offered special event invitations. The loyalty program for this property made strategic changes that have been effective since January 2003. Therefore, monthly time series data was selected from January 2003 to July 2011 to keep uniformity. The database was scanned to meet the required criteria for the study purpose. The study sample for this study included a total number of 721 time series data points, which included 17,902 loyal customers.

## Data Measurement

### Dependent Variables

Table 2 describes the dependent variables in this study. This study used behavior loyalty measures as the dependent variable in order to test the hypotheses. Member's total number of trips was used to identify purchase frequency. The number of visits and the volume of customers' expenditure have been used regularly in previous studies to measure customer's behavior (Moufakkir, Singh, Moufakkir-van der Woud, & Holecek, 2004).

Behavioral measures of monetary value (expenditure) were assessed by slot expenditure, table expenditure, and other expenditure. Gaming business volumes vary considerably due to normal fluctuations in the amount or number of wagers won by the casino. Slot expenditure, also known as coin-in, is a commonly used performance measure and it is represented in the total dollar amount of wagers accumulated by each slot machine. It is known that slot coin-in is the best indicator to measure gaming volume because other variables such as revenue, total win amount (either slot win or table win), average daily win/loss, and average theoretical win/loss contain flaws and factor in short-term volatility (Eisendrath et al., 2008). Coin-in has been used frequently as it is recognized as the purest available indicator for purchase amount in gaming (Eisendrath et al., 2008; Lucas, Dunn, & Singh, 2005; Lucas & Bowen, 2002; Lucas & Tanford, 2010), and it was expressed as slot expenditure in this study.

Alternatively, table buy-in represents the dollar amount of chips purchased for table games. Although some argue that table games drop is inaccurate to measure (Eisendrath et al., 2008), it has been used previously to determine gaming volume from table games

(Lucas, 2004; Lucas & Bowen, 2002). Buy-in was included in this study due to the fact that the property generates more revenue from table games than slot games and it was expressed as table expenditure. Member's total slot expenditure and table expenditure was retrieved in the monthly data and will be used to identify gaming expenditure.

In addition, other expenditure was included to identify member's other monetary value or expense excluding gaming expenditure. Other expenditure includes other expenses such as food and beverage, entertainment, and hotel rooms. Casino marketers have noticed that casino visitors tend to spend a significant amount on tourism-related businesses other than gambling (Moufakkir et al., 2004). Moreover, loyal customers are expected to increase their share of wallet as the relationship with the brand remains longer. It is anticipated that loyal customers will increase their expenditure within the brand on various products (Meyer-Waarden, 2007; Leenheer, Van Heerde, & Bijmolt, 2007).

Customer lifetime value represents the total amount of cumulative cash flows of a customer over his/her entire relationship excluding the firm's cost of capital. Due to the restricted access to such financial data, there have not been any previous empirical studies that utilized CLV as an indicator in measuring behavioral loyalty. However, it has been known that CLV is an important indicator in evaluating a company's profit (Kale, 2003), thus it was included to estimate the profitability (positive cash flow) of the loyalty program in this study. CLV was not included in the final data set as an original variable. Therefore, CLV was created by incorporating the total amount of revenue generated from the loyalty program members and the total cost invested on the loyalty

program from the firm. Customer lifetime value was calculated by subtracting total cost from the total revenue amount.

Table 2

*Description of dependent variables*

| Variable Name | Description |
|---|---|
| Visit Frequency (VF) | Total number of trips. |
| Slot Expenditure (SE) | The daily dollar amount wagered in all slot machines. |
| Table Expenditure (TE) | The daily dollar amount wagered in all table games. |
| Other Expenditure (OE) | Total dollar amount of customer expenditure excluding gaming expenses. |
| Customer Lifetime Value (CLV) | Total amount of customer revenue generated excluding company expenses. |

**Predictor Variables**

Table 3 describes the predictor variables that were used in this study. The existing loyalty program included a number of tiers. As the basic assumption behind tiered programs is that members receive rewards based on their past and present behavior, not all members receive the same type of rewards (McCall & Voorhees, 2010). Therefore, tier level has been included as a predictor variable as it was assumed that customers would show different behavioral levels depending on their tier level. A few studies have used customer segments to examine its impact on behavior change and found a significant effect (Kale, 2003; Lal & Bell, 2003; Liu, 2007). This study used the initial tiers that were segmented from the property to examine its impact from the firm's

perspective. It should be noted that the tier level that was used as a predictor variable in this study is not the same as the loyalty program card level. As one of the purposes of this study was to observe customers' play from a continuous standpoint, the tier was initiated based on their theoretical gaming behavior as of January 2003. Consequently, this study included a total number of seven tiers.

Special events and promotions are known to have a significant impact on attracting customers to Las Vegas and affect gaming volume (Lucas, 2004; Lucas & Bowen, 2002; Lucas et al., 2005; Lucas & Tanford, 2010). Therefore, special event invitations that were sent throughout the year and monthly promotions that were sent as direct mail programs are included as predictor variables. The direct mail promotions were in the form of a tiered offer in which more valuable customers received a greater incentive.

It has been discovered that players increased their trip expenses or gaming expenses as their complimentary offer amount increased (Lucas et al., 2005). Comps total represents the value of complimentary offers including room, food, beverage, or shopping awards that were not included in promotion or special event offers. Not all players received complimentary offers as the loyalty program had a different number of tiers and they were rewarded based on their current and historical play, thus, included as an independent variable.

Seasonality is known as one of the most salient and significant characteristics of tourist flows and expenditure, and will be added since Las Vegas is a tourist destination greatly influenced by seasonality (Eisendrath et al., 2008; Lucas & Tanford, 2010). A trend variable was created to reflect the changes at a point in time. The trend component accounts for the long-term positive or negative movement in the data set over time and it

reflects factors such as changes in total population, market growth, and long-term changes in per capita income (Ahlgren, Dalbor, & Singh, 2009).

Table 3

*Description of predictor variables*

| Variable Name | Description |
|---|---|
| Comps total (CT) | Total dollar amount for complimentary offers. |
| Month (dMnth) | Month of the year represented as a dummy variable. |
| New tower (NT) | New tower represented as a dummy variable. |
| Recession (REC) | Economic recession represented as a dummy variable. |
| Special event (SE) | Special event invitations for loyalty program members. |
| Tier (dtier) | Tier level of the loyalty program. Tier 1 served as base period. |
| Trend (t) | Trend variable to measure the effect of a trend across time. |

The economic recession in the United States that occurred in 2008 has been known as one of the most significant situational factors that negatively impacted visitor volume and gaming revenue in Las Vegas (Audi & McCracken, 2008; Eisendrath et al., 2008). Thus, recession has been included as a dummy variable. Additional dummy variables for months created from January to November (djan, dfeb, dmar, dapr, dmay, djun, djul, daug, dsep, doct, dnov) and December served as the base category for all models. Finally, a dummy variable was created for the expansion of the property. The total number of guest rooms increased significantly after the property was in business for several years because a new tower was opened. It was expected that the opening of the new tower

would have had an influence as a situational factor. Dummy variables for the months, economic recession, new tower, and the trend term represented monthly and sample-term seasonality effects, respectively.

# CHAPTER IV

# DATA ANALYSIS AND RESULTS

## Introduction

The objective of this chapter is to present study results. Data were first analyzed to identify whether there was a linear relationship between the dependent variables and the predictor variables. After linear modeling was performed, time series ARIMA modeling was performed only on the significant variables. This chapter describes the demographic information of the study sample and illustrated the results from linear modeling and time series ARIMA modeling.

## Sample Profile

Table 4 describes the profile of the sample data. Overall, the final data set included a total of 721 time series data points, which comprised of a total number of 17,902 guests. A little more than 67 % of the patrons were engaged in the loyalty program for more than ten years. About 17 % of the patrons were engaged in the loyalty program between eight and nine years and a little more than 15 % of the patrons were engaged in the loyalty program for less than eight years. Age of the patrons was categorized into six segments. The majority was in the age range between 50 and 69 years old, which represented roughly 60 %. Nearly 17 % were in the age range between 40 and 49 years old and 15.3 % were over 70 years old. Approximately six % were in the age between 30 and 39 years old and three % were between 21 and 29 years old. Most of the patrons were male representing approximately 63 percent. The proportion of female patrons contained 37 %.

Table 4

Sample Profile

| Variables | N | % |
|---|---|---|
| Length of stay with loyalty program | | |
| 4 - 5 years | 1,056 | 5.9 |
| 6 - 7 years | 1,719 | 9.6 |
| 8 - 9 years | 3,115 | 17.4 |
| more than 10 years | 12,012 | 67.1 |
| Age | | |
| 21-29 years | 573 | 3.2 |
| 30-39 years | 1,110 | 6.2 |
| 40-49 years | 3,008 | 16.8 |
| 50-59 years | 5,155 | 28.8 |
| 60-69 years | 5,317 | 29.7 |
| 70 years and over | 2,739 | 15.3 |
| Gender | | |
| Male | 11,242 | 62.8 |
| Female | 6,660 | 37.2 |
| Geographical residential area | | |
| Arizona, California, Nevada | 9,542 | 53.3 |
| West of United States | 6,051 | 33.8 |
| Outer United States | 2,309 | 12.9 |
| Total number of trips | | |
| less than 15 trips | 9,792 | 54.7 |
| more than 15 trips | 8,110 | 45.3 |
| Total | 17,902 | 100.0 |

Geographical residential area represents the area of the United States where the patrons live. The region variable was classified into three big areas of Border States (Arizona, California, and Nevada), West United States (Washington, Oregon, Utah, Colorado, Idaho, New Mexico, Wyoming, and Montana), and Outer United States (all

states not previously named). More than half of the patrons lived in the states of Arizona, California, and Nevada (53.3%). Patrons who lived in the West United States and Outer United States areas consisted of 33.8 percent and 12.9 percent, respectively. The total number of trips identified the total number of visits that the patrons made historically. Over 45 percent visited the property more than 15 times and roughly 55 percent visited the property less than 15 times in total.

According to the visitor demographics analysis from the Las Vegas Convention Visitors Authority, the proportion of visitors who were older than 40 years was approximately 70 percent and the average age was 49.2. More than 50 percent of the visitors were from the western states of the United States, with approximately 37 percent from California and Arizona. This is due to the fact that international visitors were accounted for. Hence, the sample profile was not heavily distinguishing from the Las Vegas visitors' demographics (Las Vegas Convention and Visitors Authority, 2011).

## Data Analysis

### Testing of Hypotheses

#### *Time series linear regression model.*

The first hypothesis was built to examine the effect of the loyalty program on the members' behavioral level. Time series linear regression analysis was performed between the four dependent variables that indicated behavioral level (visit frequency, slot expenditure, table expenditure, and other expenditure) and the predictor variables. The variable visit frequency indicated purchase frequency while the other variables (slot expenditure, table expenditure, and other expenditure) indicated purchase amount. The

results of the time series linear regression analysis are illustrated below by each dependent variable.

Table 5 shows the summary of the time series linear regression coefficients of the significant predictor variables on visit frequency as the dependent variable. The model indicated that there is a significant relationship ($p<0.05$) and 90 percent of the variability was explained (see Table 6).

Table 5

*Significance of Time series Linear Regression Coefficients for Visit Frequency*

| Model | Beta | Std. Error | t value | Sig. |
|---|---|---|---|---|
| intercept | 4.93 | 0.04 | 133.91 | 0.00* |
| t | 0.00 | 0.00 | 10.77 | 0.00* |
| DJan | -0.12 | 0.04 | -3.24 | 0.00* |
| DApr | -0.15 | 0.04 | -4.04 | 0.00* |
| DJun | -0.13 | 0.04 | -3.35 | 0.00* |
| DOct | -0.12 | 0.04 | -3.13 | 0.00* |
| Dtier2 | -1.06 | 0.04 | -27.36 | 0.00* |
| Dtier3 | -0.34 | 0.04 | -8.67 | 0.00* |
| Dtier4 | 0.71 | 0.04 | 18.24 | 0.00* |
| Dtier5 | 1.08 | 0.04 | 27.81 | 0.00* |
| Dtier6 | 1.39 | 0.04 | 35.80 | 0.00* |
| Dtier7 | 1.86 | 0.04 | 47.83 | 0.00* |
| REC | 0.31 | 0.03 | 9.09 | 0.00* |
| NT | -0.36 | 0.05 | -7.58 | 0.00* |

*Note.* *$p< .05$.
DJan, DApr, DJun, DOct indicates dummy variables for month.
Dtier2, Dtier3, Dtier4, Dtier5, Dtier6, Dtier7 indicates dummy variables for tier.

Table 6

*Summary of Time series Linear Regression on Visit Frequency*

| Variable | $R^2$ | Adjusted $R^2$ | F | Sig. |
|---|---|---|---|---|
| Visit Frequency (VF) | 0.9 | 0.9 | 479.7 | .00* |

*Note.* *$p < .05$.

Table 7, Table 9, and Table 11 shows the summary of the multiple linear regression coefficients of the significant predictor variables on the dependent variables related to purchase amount. All of the models indicated that there is a significant relationship ($p<0.05$) between the dependent variables and the predictor variables. Approximately 75 percent of the variability from slot expenditure (see Table 8), 90 percent of the variability from table expenditure (see Table 10), and 66 percent of the variability from other expenditure (see Table 12) was explained from each model.

Overall, it was discovered that there was a positive relationship between behavioral loyalty and the predictor variables. The results of the R square values of each time series linear regression performance ranged between at the lowest of 0.66 to at the highest of 0.90. The R square of the correlation coefficient designates the proportion of the variability of the dependent variable that is explained by the regression model. It is a sample statistic that describes how well the model fits the data and thereby represents the usefulness of the entire model. Therefore, a higher value of R square, closer to 1.0, is usually desirable in terms of explaining variability. There is not a specific cutoff for an appropriate R square value because it depends on the research substance and what you are trying to demonstrate. While 0.9 is the minimum value to settle for some studies, 0.2 will be high enough for other studies (Hair, Black, Babin, Anderson, & Tatham, 2006).

Table 7

*Significance of Time series Linear Regression Coefficients for Slot Expenditure*

| Model | Beta | Std. Error | t value | Sig. |
|---|---|---|---|---|
| intercept | 16.53 | 0.06 | 276.44 | 0.00* |
| t | 0.00 | 0.00 | 4.55 | 0.00* |
| DJan | -0.19 | 0.06 | -3.00 | 0.00* |
| DApr | -0.20 | 0.06 | -3.23 | 0.00* |
| Dtier2 | -1.76 | 0.06 | -27.20 | 0.00* |
| Dtier3 | -1.31 | 0.06 | -20.28 | 0.00* |
| Dtier4 | -0.76 | 0.06 | -11.76 | 0.00* |
| Dtier5 | -1.09 | 0.06 | -16.94 | 0.00* |
| Dtier6 | -1.70 | 0.06 | -26.39 | 0.00* |
| Dtier7 | -2.61 | 0.06 | -40.43 | 0.00* |
| REC | 0.41 | 0.06 | 7.43 | 0.00* |
| NT | -0.30 | 0.08 | -3.89 | 0.00* |

*Note.* *$p < .05$.
DJan, DApr indicates dummy variables for month.
Dtier2, Dtier3, Dtier4, Dtier5, Dtier6, Dtier7 indicates dummy variables for tier.

Table 8

*Summary of Time series Linear Regression on Slot Expenditure*

| Variable | $R^2$ | Adjusted $R^2$ | F | Sig. |
|---|---|---|---|---|
| Slot Expenditure (SE) | 0.75 | 0.74 | 188.8 | .00* |

*Note.* *$p < .05$.

Table 9

*Significance of Time series Linear Regression Coefficients for Table Expenditure*

| Model | Beta | Std. Error | t value | Sig. |
|---|---|---|---|---|
| (Intercept) | 16.62 | 0.06 | 296.92 | 0.00* |
| t | 0.00 | 0.00 | 7.58 | 0.00* |
| DJan | -0.27 | 0.06 | -4.77 | 0.00* |
| DMar | -0.26 | 0.06 | -4.47 | 0.00* |
| DApr | -0.35 | 0.06 | -6.02 | 0.04* |
| DMay | -0.12 | 0.06 | -2.02 | 0.00* |
| DJun | -0.30 | 0.06 | -5.25 | 0.00* |
| DJul | -0.22 | 0.06 | -3.74 | 0.00* |
| DSep | -0.25 | 0.06 | -4.18 | 0.00* |
| DOct | -0.24 | 0.06 | -4.02 | 0.00* |
| DNov | -0.21 | 0.06 | -3.46 | 0.00* |
| Dtier2 | -3.09 | 0.05 | -56.29 | 0.00* |
| Dtier3 | -2.78 | 0.05 | -50.73 | 0.00* |
| Dtier4 | -2.41 | 0.05 | -44.01 | 0.00* |
| Dtier5 | -2.80 | 0.05 | -51.11 | 0.00* |
| Dtier6 | -3.20 | 0.05 | -58.31 | 0.00* |
| Dtier7 | -3.93 | 0.05 | -71.59 | 0.00* |
| REC | 0.43 | 0.05 | 9.04 | 0.00* |
| NT | -0.33 | 0.07 | -4.90 | 0.00* |

*Note.* *$p < .05$.
DJan, DMar, DApr, DMay, DJun, DJul, DSep, DOct, DNov indicates dummy variables for month.
Dtier2, Dtier3, Dtier4, Dtier5, Dtier6, Dtier7 indicates dummy variables for tier.

Table 10

*Summary of Time series Linear Regression on Table Expenditure*

| Variable | $R^2$ | Adjusted $R^2$ | F | Sig. |
|---|---|---|---|---|
| Table Expenditure (TE) | 0.9 | 0.9 | 341.6 | .00* |

*Note.* *$p < .05$.

Table 11

*Significance of Time series Linear Regression Coefficients for Other Expenditure*

| Model | Beta | Std. Error | t value | Sig. |
|---|---|---|---|---|
| (Intercept) | 6272.97 | 3497.51 | 1.79 | 0.04* |
| t | 125.64 | 9.46 | 13.29 | 0.00* |
| DJan | -17825.90 | 3625.93 | -4.92 | 0.00* |
| DMar | -12299.87 | 3617.38 | -3.40 | 0.00* |
| DApr | -16048.54 | 3614.92 | -4.44 | 0.00* |
| DJun | -13400.82 | 3609.82 | -3.71 | 0.00* |
| DSep | -14166.37 | 3806.78 | -3.72 | 0.00* |
| DOct | -17651.74 | 3811.08 | -4.63 | 0.00* |
| DNov | -11964.97 | 3816.52 | -3.14 | 0.00* |
| Dtier2 | -22359.19 | 3626.87 | -6.17 | 0.00* |
| Dtier3 | -11428.80 | 3626.91 | -3.15 | 0.00* |
| Dtier4 | 22786.87 | 3626.97 | 6.28 | 0.00* |
| Dtier5 | 41408.53 | 3627.06 | 11.42 | 0.00* |
| Dtier6 | 49429.10 | 3627.17 | 13.63 | 0.00* |
| Dtier7 | 29807.71 | 3627.30 | 8.22 | 0.00* |

| Model | Beta | Std. Error | t value | Sig. |
|---|---|---|---|---|
| REC | 21195.69 | 3164.45 | 6.70 | 0.00* |
| NT | -27237.28 | 4475.05 | -6.09 | 0.00* |

*Note.* *$p < .05$.
DJan, DMar, DApr, DJun, DSep, DOct, DNov indicates dummy variables for month.
Dtier2, Dtier3, Dtier4, Dtier5, Dtier6, Dtier7 indicates dummy variables for tier.

Table 12

*Summary of Time series Linear Regression on Other Expenditure*

| Variable | $R^2$ | Adjusted $R^2$ | F | Sig. |
|---|---|---|---|---|
| Other Expenditure (OE) | 0.66 | 0.65 | 83.86 | .00* |

*Note.* *$p < .05$.

The second hypothesis was built to examine the overall financial effect of the loyalty program on the business property. Table 6 represents the result of the time series linear regression model with customer lifetime value as the dependent variable. From this model, approximately 70% of loyalty program effect, which was explained in terms of customer lifetime value, was explained by the predictor variables. The results show that the model was significant ($p<0.05$, $F = 105.1$).

The third hypothesis was built to examine the effect of the loyalty program tier level on the members' behavioral level. Tier level was included as a predictor variable in each of the time series regression analysis that was performed to test the first and second hypothesis. As can be seen in see Table 5 (visit frequency), Table 7 (slot expenditure), Table 9 (table expenditure), Table 11 (other expenditure), and Table 13 (customer lifetime value), the results show that tier level turned out to be a significant variable in each model ($p<0.05$).

Table 13

*Significance of Time series Linear Regression Coefficients for Customer Lifetime Value*

| Model | Beta | Std. Error | t value | p |
|---|---|---|---|---|
| (Intercept) | 17.26 | 0.05 | 329.49 | 0.00* |
| t | 0.00 | 0.00 | 6.15 | 0.00* |
| DJan | -0.26 | 0.05 | -4.92 | 0.04* |
| DMar | -0.11 | 0.05 | -2.01 | 0.00* |
| DApr | -0.28 | 0.05 | -5.31 | 0.00* |
| Dtier2 | -2.27 | 0.06 | -41.07 | 0.00* |
| Dtier3 | -1.86 | 0.06 | -33.61 | 0.00* |
| Dtier4 | 1.35 | 0.06 | -24.36 | 0.00* |
| Dtier5 | -1.69 | 0.06 | -30.53 | 0.00* |
| Dtier6 | -2.26 | 0.06 | -40.78 | 0.00* |
| Dtier7 | -3.10 | 0.06 | -56.00 | 0.00* |
| REC | -0.51 | 0.07 | -7.34 | 0.00* |
| CT | 0.01 | 0.00 | -2.57 | 0.01* |
| NT | 0.33 | 0.07 | 4.54 | 0.00* |

*Note.* *$p < .05$.
DJan, DMar, DApr indicates dummy variables for month.
Dtier2, Dtier3, Dtier4, Dtier5, Dtier6, Dtier7 indicates dummy variables for tier.
CT indicates comps total.

Table 14

*Summary of linear regression model on Customer Lifetime Value*

| Variable | $R^2$ | Adjusted $R^2$ | F | Sig. |
|---|---|---|---|---|
| Customer lifetime value (CLV) | 0.70 | 0.69 | 105.1 | .00* |

*Note.* *$p < .05$.

Further, the third hypothesis aimed to examine whether the loyalty program members' behavioral level increases after joining the program. This study produced a pivot table to examine how the members' loyalty behavior changed. Table 15 represents the total number of visit frequency and total amount of slot expenditure, table expenditure, other expenditure, and customer lifetime value by tier. Since the data sample was retrieved as a monthly time series format from the company's standpoint, it observed the final number and amount based on the data that was retrieved. Visit frequency was stated in total numbers and all the other variables (slot expenditure, table expenditure, other expenditure, and customer lifetime) were stated in total amount of dollars spent. As a result, not all tiers generated positive customer lifetime value. While tier 1, 2, 4, and 5 were profitable, tier 3, 6, and 7 turned out to be unprofitable from a long-term perspective.

Table 15

*Summary of total behavioral usage level by tier*

| Tier | VF (#) | SE ($) | TE ($) | OE ($) | CLV ($) |
|---|---|---|---|---|---|
| Tier 1 | 18,942 | 2,301,165,655 | 2,223,344,683 | 3,596,805 | 5,748,687,75 |
| Tier 2 | 309 | 14,326,026 | 4,164,206 | 87,011 | 1,185,371 |
| Tier 3 | 13,542 | 537,640,965 | 132,588,608 | 2,445,520 | -37,644,004 |
| Tier 4 | 38,473 | 929,992,546 | 185,216,787 | 5,982,675 | 52,332,176 |
| Tier 5 | 55,885 | 672,336,571 | 127,435,324 | 7,913,647 | 24,716,901 |
| Tier 6 | 77,715 | 386,063,117 | 88,783,574 | 8,752,707 | -8,312,796 |
| Tier 7 | 125,708 | 169,618,405 | 46,090,695 | 6,744,645 | -112,479,383 |

In addition, this study examined whether the total number of visits, total amount of expenditure, and the total customer lifetime value increased or decreased each year by

tier. The difference of each number or amount was calculated for every tier by each year and has been presented in percentage (See Table 16, Table 17, Table 18, Table 19, Table 20, Table 21, and Table 22). The percentage units exemplify a clear idea on how much the number or amount decreased or increased. Positive values would indicate an increase and negative values would indicate a decrease from the former year. Yet, it should be noted that negative figures after 2008 were due to the economic recession. Also, the percentage difference for 2011 was not included because data were not available.

For instance, visit frequency for tier 1 increased 42.1 % in 2004 compared to 2003 (see Table 16). Slot expenditure for tier 1 increased 46.9 %, table expenditure increased 97.9 %, and other expenditures increased 84.6 % in 2004 compared to 2003. Overall, customer lifetime value for tier 1 increased 129.4 % in 2004 compared to 2003. The majority of the values for tier 1 were positive, indicating tier 1 customers increased their visit frequency or purchase amount year after year.

Table 16

*Summary of the difference of behavioral usage level for tier 1 (%)*

| Year | VF | SE | TE | OE | CLV |
|---|---|---|---|---|---|
| 2004 | 42.1 | 46.9 | 97.9 | 84.6 | 129.4 |
| 2005 | 28.5 | 7.3 | 75.7 | 117.6 | 66.5 |
| 2006 | 9.5 | 13.9 | 15.3 | 3.0 | 3.9 |
| 2007 | 5.7 | 6.4 | 2.9 | 15.3 | 12.8 |
| 2008 | -3.7 | 7.4 | -26.2 | -8.7 | -3.8 |
| 2009 | -28.5 | -70.4 | -37.8 | -2.9 | -43.9 |
| 2010 | -19.8 | -3.2 | -26.0 | -28.8 | -27.6 |

Behavior changes for tier 2 (see Table 17) showed a similar trend from tier 1. Most of the behavioral levels for tier 2 increased as the majority showed a positive value, but the proportion was generally smaller than tier 1. With an exception for showing a 20 % increase in slot expenditure in 2008, most of the values indicated a decrease in visit frequency and purchase amount after 2008 due to the economic crisis.

On the other hand, tier 3 showed a slightly different behavior change from tier 1 and 2. In fact, tier 3 (see Table 18) showed a two % increase in visit frequency, 19.1 % increase in table expenditure, and approximately three % increase in other expenditure in 2008 compared to 2007 when the economic crisis occurred. Despite that, the customer lifetime value ultimately decreased in 2008. Tier 3 also showed negative values in 2005 and 2007 in table expenditure and other expenditure. Not many tiers showed a decrease in their behavioral level in 2005 and 2007.

Table 17

*Summary of the difference of behavioral usage level for tier 2 (%)*

| Year | VF | SE | TE | OE | CLV |
|---|---|---|---|---|---|
| 2004 | 37.8 | 52.0 | 49.1 | 64.6 | 63.0 |
| 2005 | 29.8 | 15.6 | 24.9 | 57.8 | 5.2 |
| 2006 | 19.0 | 17.3 | 19.6 | 11.2 | 39.8 |
| 2007 | -0.4 | 0.3 | 5.1 | 33.4 | 3.4 |
| 2008 | -4.1 | 20.0 | -28.5 | -9.2 | -5.4 |
| 2009 | -22.3 | -46.7 | -6.6 | -58.6 | -51.1 |
| 2010 | -28.6 | -18.9 | -38.0 | -17.9 | -11.2 |

Table 18

*Summary of the difference of behavioral usage level for tier 3 (%)*

| Year | VF | SE | TE | OE | CLV |
|---|---|---|---|---|---|
| 2004 | 40.0 | 55.1 | 84.8 | 46.0 | 33.2 |
| 2005 | 22.7 | 11.4 | -3.3 | 37.2 | 4.6 |
| 2006 | 14.4 | 20.9 | 23.7 | 48.9 | 39.9 |
| 2007 | 1.0 | 6.8 | -6.8 | -5.3 | 9.3 |
| 2008 | 2.0 | -2.5 | 19.1 | 2.7 | -12.6 |
| 2009 | -26.2 | -22.0 | -31.5 | -29.6 | -51.5 |
| 2010 | -18.8 | -18.7 | -18.4 | -17.6 | -55.1 |

Tier 4 (see Table 19) and tier 5 (see Table 20) showed an increase in all behavioral levels in 2008 when most of the other tiers were affected by the economic crisis. Moreover, tier 4 and tier 5 were the only tiers that showed an increase of customer lifetime value in 2008 and 2009. Similarly, tier 6 (see Table 21) and tier 7 (see Table 22) showed an increase in all of the behavioral levels except for customer lifetime value in 2008. The biggest discrepancy in tier 6 and tier 7 was that both tiers showed a negative value in customer lifetime value every year. That is to say, tier 6 and tier 7 showed a decrease in customer lifetime value every year when compared to the previous years.

Table 19

*Summary of the difference of behavioral usage level for tier 4 (%)*

| Year | VF | SE | TE | OE | CLV |
|---|---|---|---|---|---|
| 2004 | 36.5 | 34.8 | 32.6 | 74.5 | 85.1 |
| 2005 | 22.7 | 26.0 | 21.5 | 60.9 | 2.6 |
| 2006 | 16.3 | 8.9 | 17.0 | 27.6 | 29.6 |
| 2007 | 3.7 | 7.6 | -8.5 | 12.8 | 5.2 |
| 2008 | 8.5 | 17.3 | 20.3 | 0.1 | 5.8 |
| 2009 | -17.0 | -27.1 | -97.0 | -17.7 | 0.4 |
| 2010 | -21.6 | -21.5 | -28.0 | -22.7 | -18.9 |

Table 20

*Summary of the difference of behavioral usage level for tier 5 (%)*

| Year | VF | SE | TE | OE | CLV |
|---|---|---|---|---|---|
| 2004 | 36.2 | 39.8 | 51.1 | 79.6 | -35.1 |
| 2005 | 21.5 | 18.8 | 35.5 | 73.9 | 43.7 |
| 2006 | 9.8 | 8.4 | -2.4 | 13.9 | 10.6 |
| 2007 | 4.8 | 11.4 | 6.0 | 10.4 | -37.4 |
| 2008 | 22.5 | 39.4 | 36.7 | 12.2 | 15.3 |
| 2009 | -11.5 | -18.0 | -13.0 | -6.3 | 22.0 |
| 2010 | -14.7 | -16.5 | -21.6 | -12.6 | -9.4 |

Table 21

*Summary of the difference of behavioral usage level for tier 6 (%)*

| Year | VF | SE | TE | OE | CLV |
|---|---|---|---|---|---|
| 2004 | 30.4 | 29.4 | 53.5 | 34.7 | -16.8 |
| 2005 | 19.8 | 18.5 | 18.1 | 21.4 | -11.1 |
| 2006 | 13.3 | 6.2 | 20.0 | 13.8 | -71.5 |
| 2007 | 14.5 | 28.3 | 9.6 | 13.9 | -28.6 |
| 2008 | 40.1 | 71.9 | 62.9 | 37.4 | -51.8 |
| 2009 | -5.7 | 4.8 | -9.1 | -0.8 | -54.2 |
| 2010 | -12.7 | -21.4 | -24.4 | 7.1 | -45.9 |

Table 22

*Summary of the difference of behavioral usage level for tier 7 (%)*

| Year | VF | SE | TE | OE | CLV |
|---|---|---|---|---|---|
| 2004 | 22.6 | 13.5 | -41.8 | -12.6 | -32.9 |
| 2005 | 22.6 | 30.4 | 11.1 | -4.4 | -57.6 |
| 2006 | 21.7 | 16.0 | 28.5 | 8.8 | -105.3 |
| 2007 | 20.2 | 42.1 | 22.9 | 37.5 | -30.7 |
| 2008 | 38.1 | 104.4 | 36.5 | 33.0 | -10.2 |
| 2009 | -3.6 | 1.5 | -7.4 | 13.9 | -51.1 |
| 2010 | -8.3 | -59.0 | -20.4 | -11.6 | -68.8 |

## Time Series ARIMA Model

### *Analysis of acf and pacf and parameter estimation.*

The autocorrelation function (hereafter "ACF") and the partial autocorrelation function (hereafter "PACF") plots of the time series regression model residuals were observed for visit frequency, slot expenditure, table expenditure, and other expenditure to perform time series ARIMA modeling. Figure 2 represents the plots of the ACF and PACF on regression model residuals for the dependent variable visit frequency. According to the plots, an auto regressive model was specified as it showed a slow decay in the ACF and a sharp cut-off on one in the PACF. Consequently, ARIMA (1, 1, 0) was selected as the plots indicated auto regressive, a trend appeared at every seventh spike, and it showed the lowest AIC value of -219.68. Figure 3 illustrates the ACF and PACF plots after performing ARIMA model (1, 1, 0). Although autocorrelation did not disappear entirely, multicollinearity was reduced. This indicated that the AR processes can more relevantly model the series.

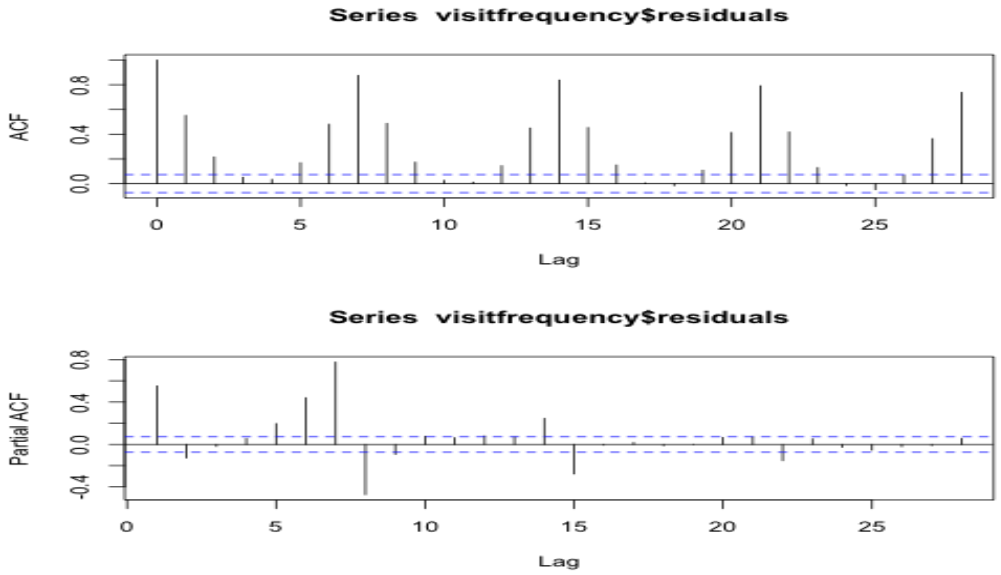


*Figure 2*. ACF and PACF plots on regression residuals for visit frequency.

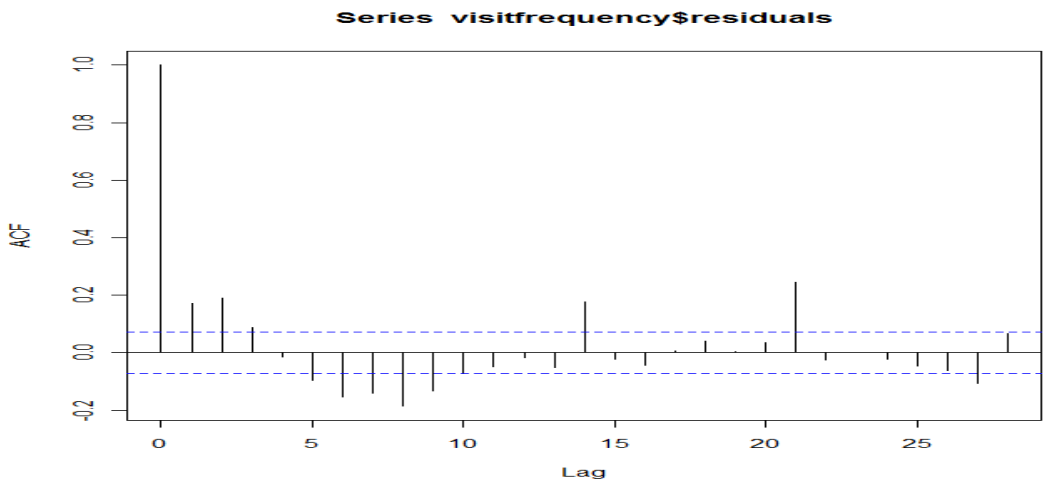


*Figure 3*. ACF plots on ARIMA (1, 1, 0) for visit frequency.

Table 23 shows the coefficient values for visit frequency as the dependent variable from the time series ARIMA model. The coefficient value indicates the size of the effect of the predictor variables on visit frequency. For ARIMA (1, 1, 0), only ar1 term turned out to be significant.

Table 23

*Coefficients for visit frequency from time series ARIMA (1, 1, 0)*

| VF | ar1 | t | DJan | DApr | DJun | DOct | Dtier2 |
|---|---|---|---|---|---|---|---|
| Beta | -0.12 | 0.01 | -0.14 | -0.1 | -0.04 | -0.1 | -1.06 |
| Std. Error | 0.04 | 0.01 | 0.05 | 0.05 | 0.05 | 0.05 | 0.02 |

| VF | Dtier3 | Dtier4 | Dtier5 | Dtier6 | Dtier7 | REC | NT |
|---|---|---|---|---|---|---|---|
| Beta | -0.34 | 0.71 | 1.08 | 1.39 | 1.86 | 0.16 | 0.14 |
| Std. Error | 0.02 | 0.03 | 0.03 | 0.02 | 0.02 | 0.15 | 0.2 |

Note. ar1 indicates the auto regressive terms.
DJan, DApr, DJun, DOct indicates dummy variables for month.
Dtier2, Dtier3, Dtier4, Dtier5, Dtier6, Dtier7 indicates dummy variables for tier.

Figure 4 represents the plots of the ACF and PACF on regression model residuals for the dependent variable slot expenditure. According to the plots, an auto regressive model was specified as it showed a slow decay in the ACF and a sharp cut-off on one in the PACF. Consequently, ARIMA (7, 0, 0) was selected as the plots indicated auto regressive. Although a trend appeared at every seventh spike ARIMA (7, 0, 0) showed a lower AIC value than ARIMA (7, 1, 0), thus it was selected as the final model. The final model that was selected showed the lowest AIC value of 416.79. After performing ARIMA (7, 0, 0), autocorrelation was clearly reduced in the residuals plots (see Figure 5). Table 24 shows the coefficient values for slot expenditure from the time series ARIMA model.

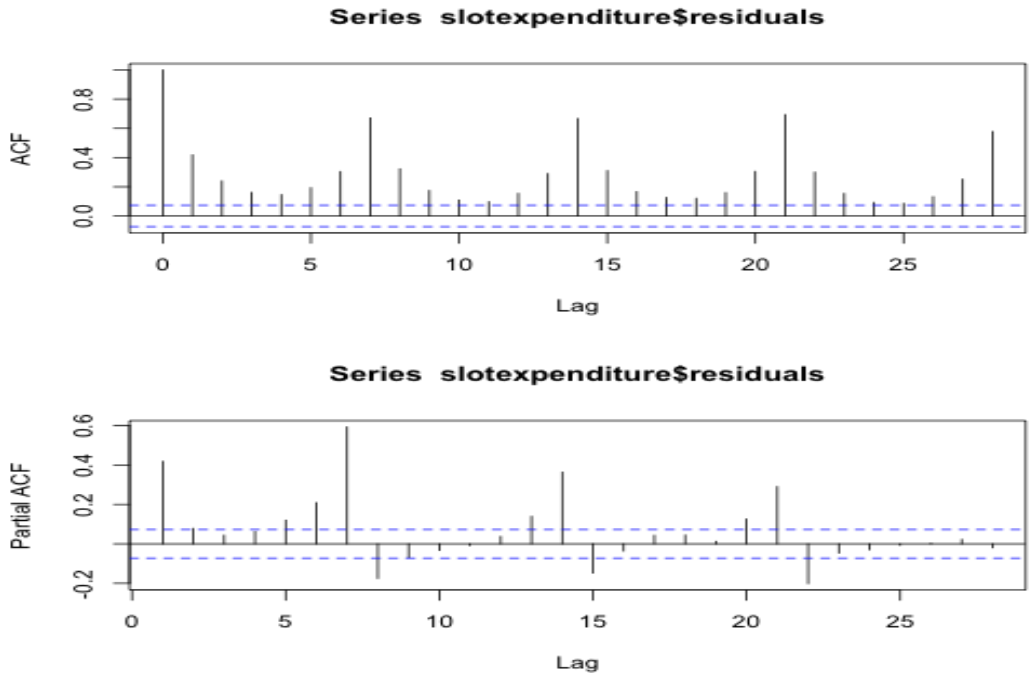


*Figure 4*. ACF and PACF plots on regression residuals for slot expenditure.

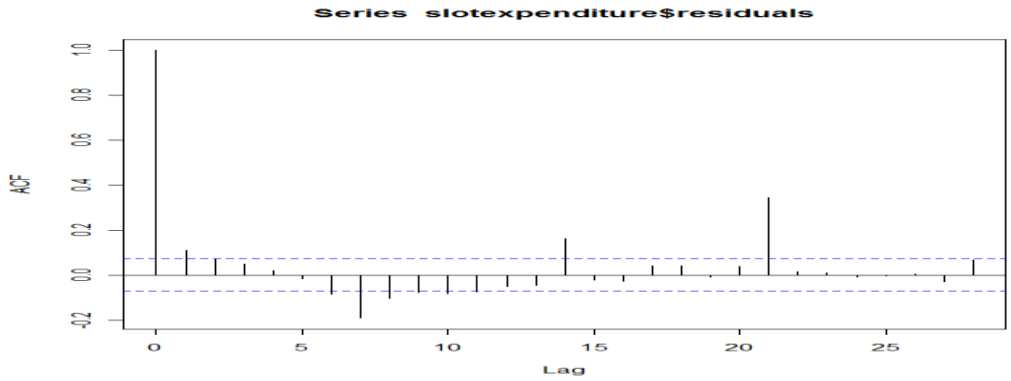


*Figure 5*. ACF plots on ARIMA (7, 0, 0) for slot expenditure.

Table 24

*Coefficients for slot expenditure from time series ARIMA (7, 0, 0)*

| SE | ar1 | ar2 | ar3 | ar4 | ar5 | ar6 | ar7 |
|---|---|---|---|---|---|---|---|
| Beta | 0.14 | -0.04 | -0.05 | -0.06 | -0.05 | -0.06 | -0.53 |
| Std. Error | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 |
| SE | intercept | t | DJan | DApr | Dtier2 | Dtier3 | Dtier4 |
| Beta | 16.99 | 0 | -0.18 | -0.2 | -1.76 | -1.32 | -0.77 |
| Std. Error | 0.09 | 0 | 0.04 | 0.04 | 0.09 | 0.1 | 0.11 |
| SE | Dtier5 | Dtier6 | Dtier7 | REC | NT | | |
| Beta | -1.11 | -1.71 | -2.61 | 0.09 | 0.19 | | |
| Std. Error | 0.11 | 0.1 | 0.09 | 0.06 | 0.09 | | |

Note. ar1, ar2, ar3, ar4, ar5, ar6, ar7 indicates the auto regressive terms.
DJan, DApr indicates dummy variables for month.
Dtier2, Dtier3, Dtier4, Dtier5, Dtier6, Dtier7 indicates dummy variables for tier.

Figure 6 represents the plots of the ACF and PACF on regression model residuals for the dependent variable table expenditure. According to the plots, an auto regressive model was specified as it showed a slow decay in the ACF and a sharp cut-off on one in the PACF. The ACF and PACF plots indicated auto regressive. Consequently, ARIMA

(4, 0, 0) was selected because it showed the lowest AIC value of 271.62. Autocorrelation was clearly reduced in the ACF residuals plots (see Figure 7). Table 25 shows the coefficient values for table expenditure from the time series ARIMA model. As ARIMA (4, 0, 0) was selected as the final model, auto regressive terms ar1, ar2, ar3, ar4 were significant.

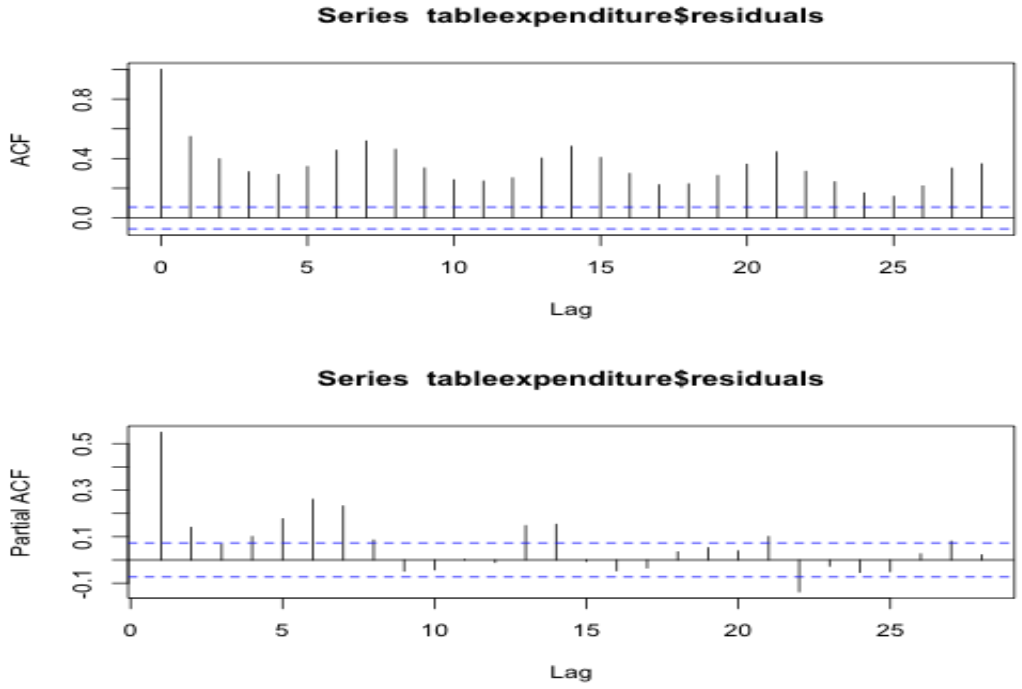


*Figure 6*. ACF and PACF plots on regression residuals for slot expenditure.

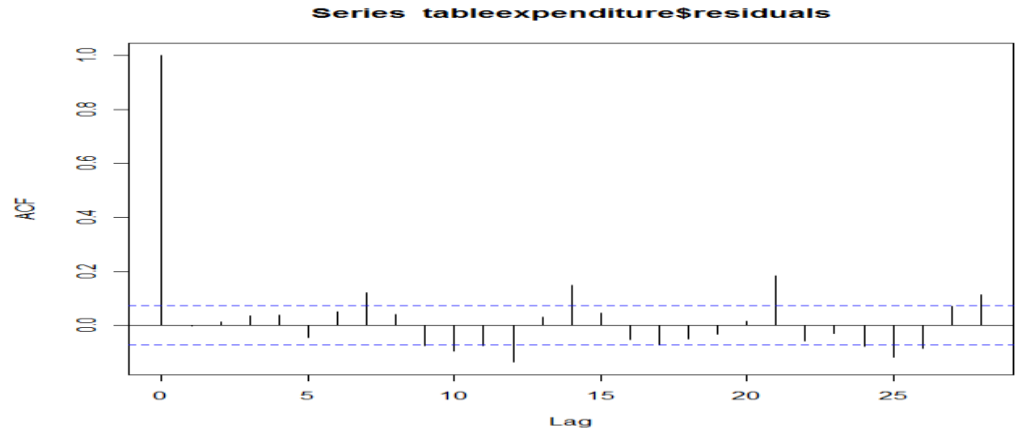


*Figure 7*. ACF plots on ARIMA (4, 0, 0) for table expenditure.

Table 25

*Coefficients for table expenditure from time series ARIMA (4, 0, 0)*

| TE | ar1 | ar2 | ar3 | ar4 | intercept | t | DJan | DMar |
|---|---|---|---|---|---|---|---|---|
| Beta | 0.22 | -0.04 | -0.12 | -0.12 | 17.1 | 0 | -0.28 | -0.26 |
| Std. Error | 0.04 | 0.04 | 0.04 | 0.04 | 0.05 | 0 | 0.05 | 0.04 |
| TE | DApr | DMay | DJun | DJul | DSep | DOct | DNov | Dtier2 |
| Beta | -0.34 | -0.1 | -0.23 | -0.14 | -0.22 | -0.2 | -0.18 | -3.09 |
| Std. Error | 0.04 | 0.04 | 0.04 | 0.04 | 0.05 | 0.05 | 0.05 | 0.04 |
| TE | Dtier3 | Dtier4 | Dtier5 | Dtier6 | Dtier7 | REC | NT | |
| Beta | 2.79 | -2.41 | -2.8 | -3.2 | -3.93 | 0.03 | 0.32 | |
| Std. Error | 0.04 | 0.05 | 0.05 | 0.04 | 0.04 | 0.04 | 0.32 | |

Note. ar1, ar2, ar3, ar4 indicates the auto regressive terms.
DJan, DMar, DApr, DMay, DJun, DJul, DSep, DOct, DNov indicates dummy variables for month.
Dtier2, Dtier3, Dtier4, Dtier5, Dtier6, Dtier7 indicates dummy variables for tier.

Figure 8 represents the plots of the ACF and PACF on regression model residuals for the dependent variable other expenditure. According to the plots, an auto regressive model was specified as it showed a slow decay in the ACF and a sharp cut-off on one in the PACF. Consequently, ARIMA (7, 0, 0) was selected as the plots indicated auto regressive and it showed the lowest AIC value of 456.36. After performing ARIMA (7, 0, 0), autocorrelation was clearly reduced in the residuals plots (see Figure 9). As ARIMA (7, 0, 0) was selected as the final model, auto regressive terms ar1, ar2, ar3, ar4, ar5, ar6, ar7 were significant. Table 26 shows the coefficient values for other expenditure from the time series ARIMA model.

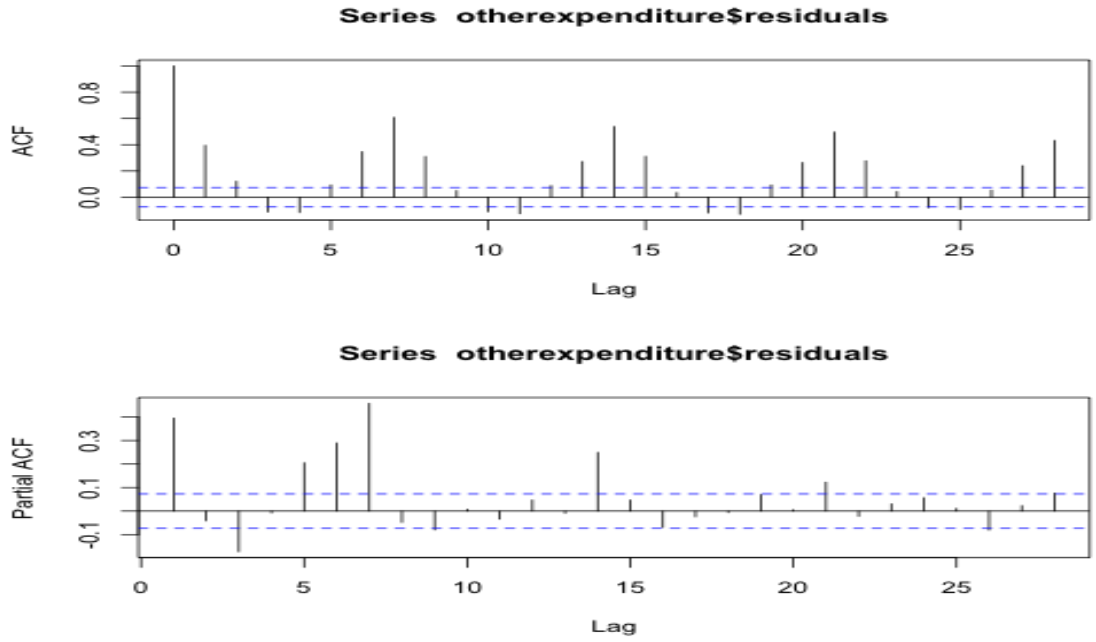


*Figure 8*. ACF and PACF plots on regression residuals for other expenditure.

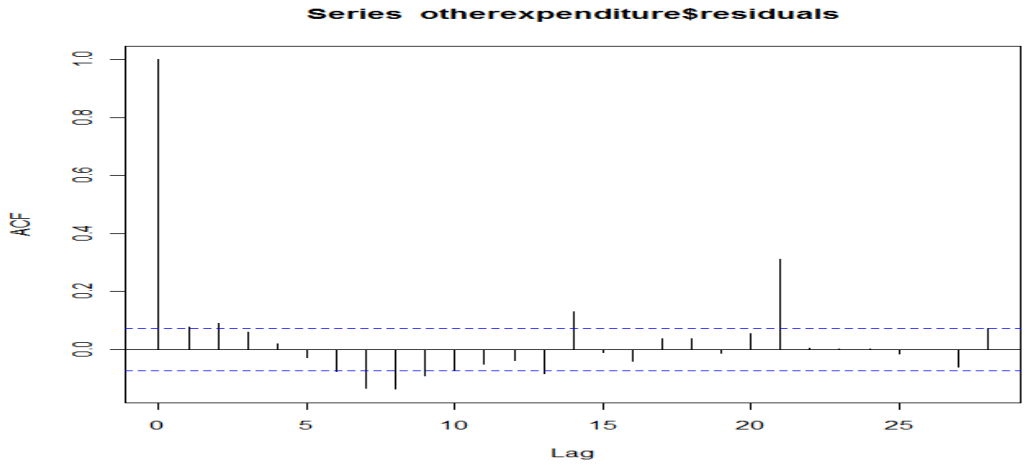


*Figure 9*. ACF plots on ARIMA (7, 0, 0) for other expenditure.

Table 26

*Coefficients for other expenditure from time series ARIMA (7, 0, 0)*

| OE | ar1 | ar2 | ar3 | ar4 | ar5 | ar6 | ar7 | intercept |
|---|---|---|---|---|---|---|---|---|
| Beta | 0.18 | 0.04 | -0.09 | -0.08 | 0.02 | 0.11 | 0.47 | 10.62 |
| Std. Error | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.12 |

| OE | t | DJan | DMar | DApr | DJun | DSep | DOct | DNov |
|---|---|---|---|---|---|---|---|---|
| Beta | 0 | -0.32 | -0.19 | -0.27 | -0.2 | -0.26 | -0.29 | -0.23 |
| Std. Error | 0 | 0.04 | 0.05 | 0.05 | 0.04 | 0.05 | 0.06 | 0.05 |

| OE | Dtier2 | Dtier3 | Dtier4 | Dtier5 | Dtier6 | Dtier7 | REC | NT |
|---|---|---|---|---|---|---|---|---|
| Beta | -0.89 | -0.33 | 0.44 | 0.68 | 0.75 | 0.51 | 0.08 | 0.1 |
| Std. Error | 0.09 | 0.13 | 0.15 | 0.15 | 0.13 | 0.09 | 0.08 | 0.12 |

Note. ar1, ar2, ar3, ar4, ar5, ar6, ar7 indicates the auto regressive terms.
DJan, DMar, DApr, DJun, DSep, DOct, DNov indicates dummy variables for month.
Dtier2, Dtier3, Dtier4, Dtier5, Dtier6, Dtier7 indicates dummy variables for tier.

Figure 10 represents the plots of the ACF and PACF on regression model residuals for the dependent variable, customer lifetime value. According to the plots, an auto regressive model was specified as it showed a slow decay in the ACF and a sharp cut-off on one in the PACF. Consequently, ARIMA (7, 0, 0) was selected as the plots indicated auto regressive and it showed the lowest AIC value of 50.58. After performing ARIMA (7, 0, 0), autocorrelation was clearly reduced in the residuals plots (see Figure 11). As ARIMA (7, 0, 0) was selected as the final model, auto regressive terms ar1, ar2, ar3, ar4, ar5, ar6, ar7 were significant. Table 27 shows the coefficient values for customer lifetime value from the time series ARIMA model.

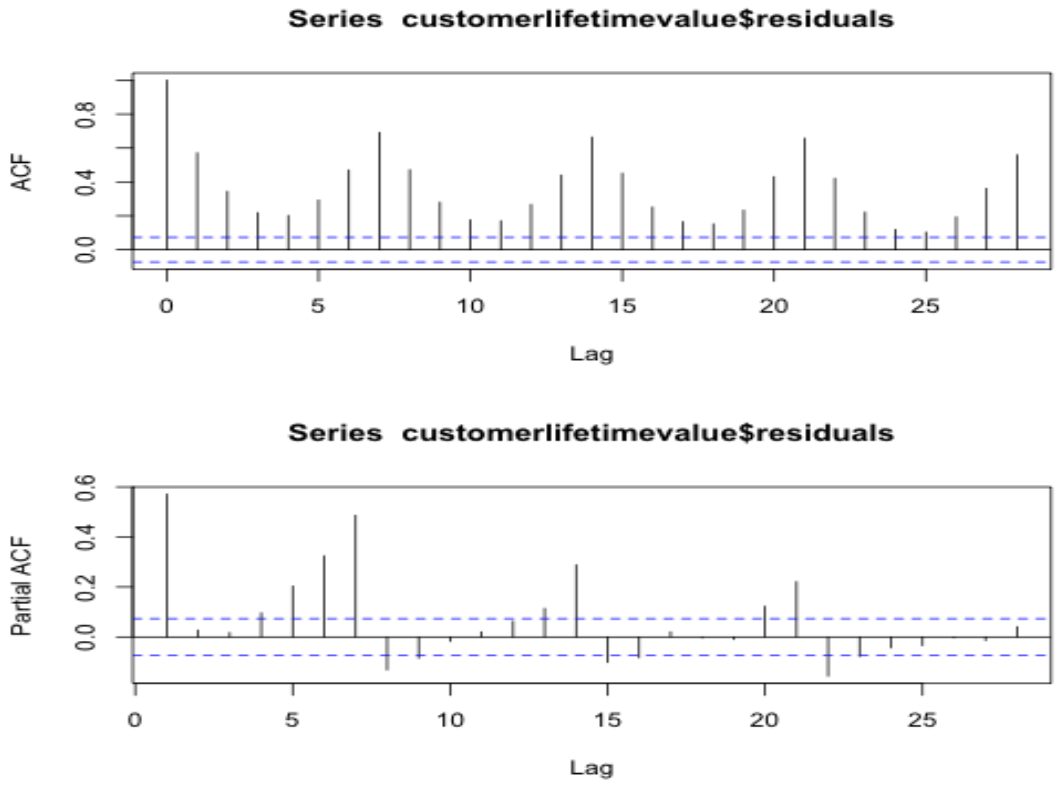


*Figure 10*. ACF and PACF plots on regression residuals for customer lifetime value.

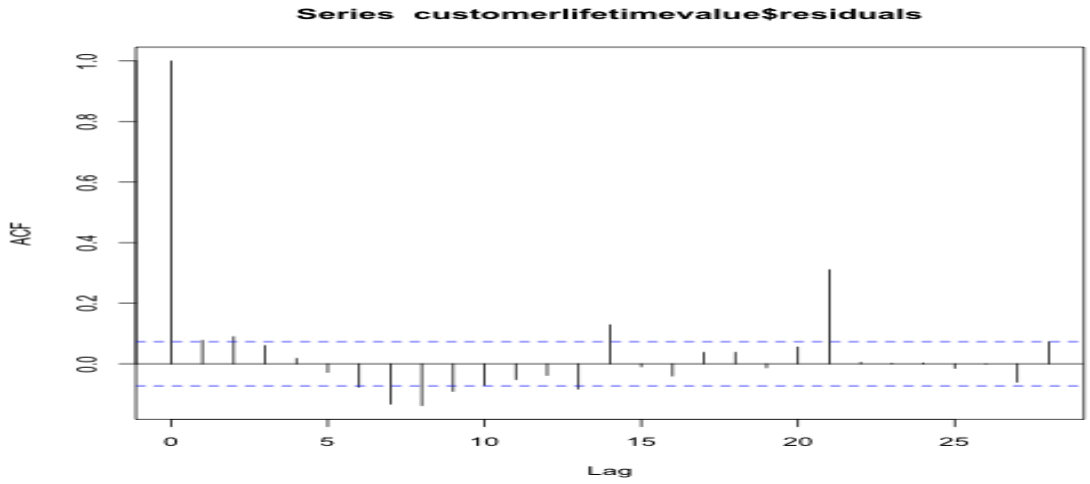


*Figure 11*. ACF on ARIMA (7, 0, 0) for customer lifetime value.

Table 27

*Coefficients for customer lifetime value from time series ARIMA (7, 0, 0)*

| CLV | ar1 | ar2 | ar3 | ar4 | ar5 | ar6 | ar7 |
|---|---|---|---|---|---|---|---|
| Beta | 0.29 | 0.02 | -0.01 | -0.01 | 0.02 | 0.10 | 0.52 |
| Std. Error | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 |
| CLV | intercept | t | DJan | DMar | DApr | Dtier2 | Dtier3 |
| Beta | 17.29 | 0.00 | -0.22 | -0.01 | -0.20 | -2.28 | -1.87 |
| Std. Error | 0.21 | 0.00 | 0.03 | 0.04 | 0.04 | 0.06 | 0.09 |
| CLV | Dtier4 | Dtier5 | Dtier6 | Dtier7 | REC | CT | NT |
| Beta | -1.36 | -1.71 | -2.27 | -3.10 | 0.08 | 0.00 | 0.00 |
| Std. Error | 0.10 | 0.10 | 0.09 | 0.06 | 0.13 | 0.12 | 0.13 |

Note. ar1, ar2, ar3, ar4, ar5, ar6, ar7 indicates the auto regressive terms.
DJan, DMar, DApr, DJun, DSep, DOct, DNov indicates dummy variables for month.
Dtier2, Dtier3, Dtier4, Dtier5, Dtier6, Dtier7 indicates dummy variables for tier.

***Diagnostic checking.***

R produces several diagnostic checking functions for time series ARIMA modeling. The diagnostic checking plots that are produced from R include standardized residuals, ACF of residuals, and p values for Ljung-Box statistic. In general, the plots of standardized residuals that are centered at zero value indicate that there is no trend. Standardized residual plots that have values centered at zero value are preferred. The residual plot of the ACF indicates autocorrelation. ACF of residuals plots that show an elimination of the significant peaks imply that autocorrelation appeared from the regression model has been reduced, therefore, preferred. P values for Ljung-Box statistic

detects the null of independently distributed residuals. The Ljung-Box p values larger than 0.05 is usually preferred (Nenadić & Zucchini, 2004).

The plots generated from R for diagnostic checking has been illustrated in figures 12, 13, 14, 15, and 16. It represented the dependent variables of visit frequency, slot expenditure, table expenditure, other expenditure, and customer lifetime value correspondingly. Although, the residual plot of the ACF for visit frequency did not eliminate all spikes it was still indicated as the best model as it showed the lowest AIC value. All other ACF residual plots indicated that autocorrelation was severely reduced. P values for Ljung-Box statistic plots for visit frequency, slot expenditure, and customer lifetime value did not show that all values were larger than 0.05. Still, the model AIC values indicated that ARIMA (1, 1, 0) for visit frequency and ARIMA (7, 0, 0) for slot expenditure was the best fit. With the few exceptions, all other diagnostic checks indicated that the model was a good fit to the data.

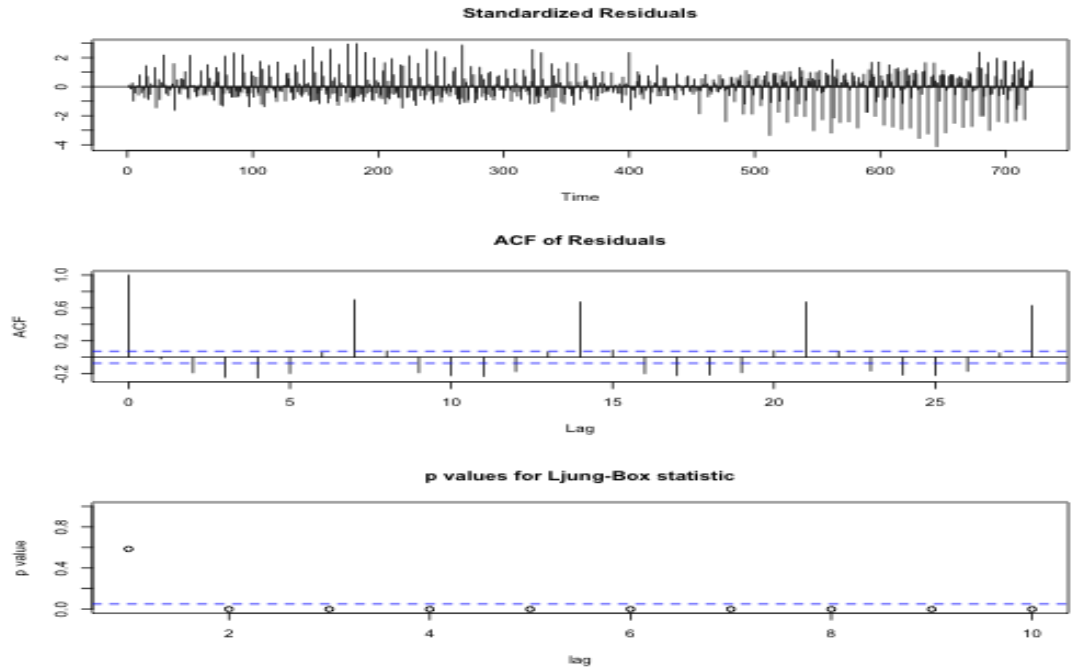


*Figure 12*. Diagnostic checking for visit frequency.

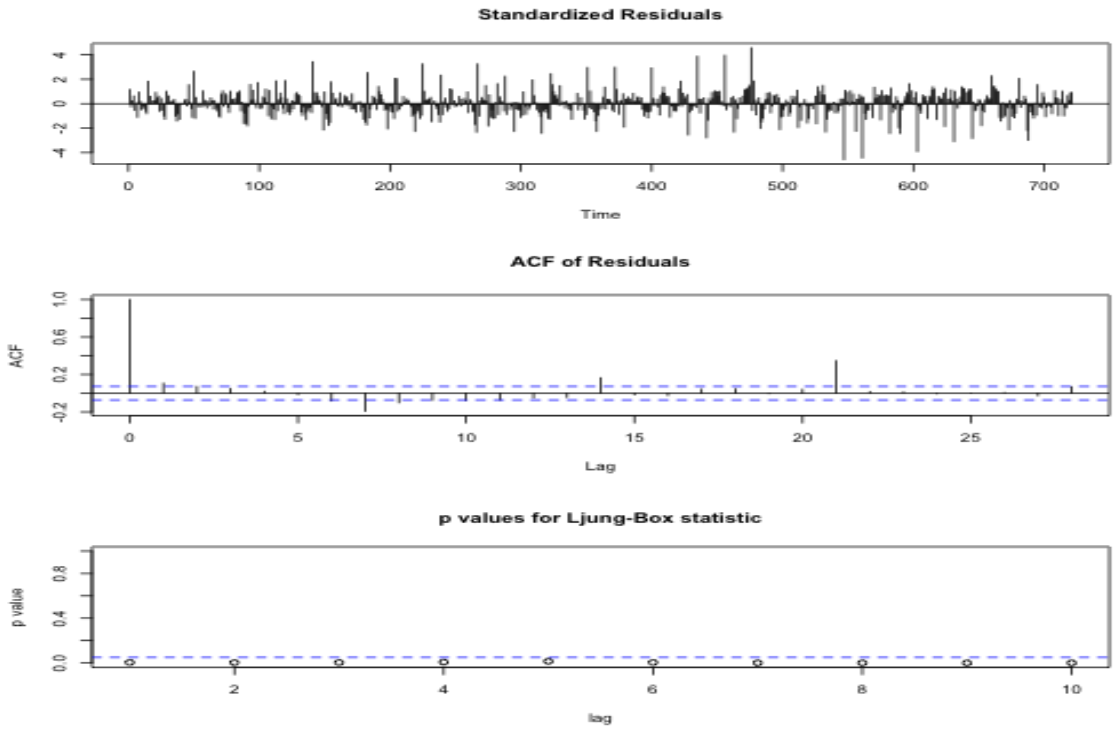


*Figure 13*. Diagnostic checking for slot expenditure.

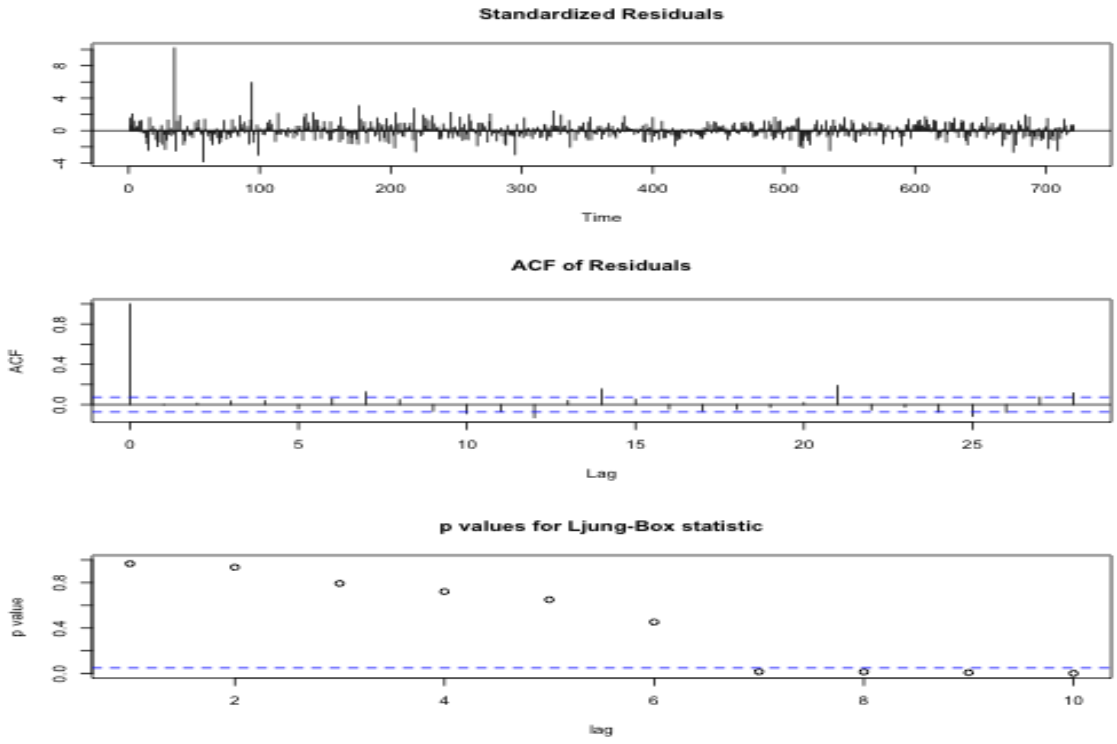


*Figure 14*. Diagnostic checking for table expenditure.

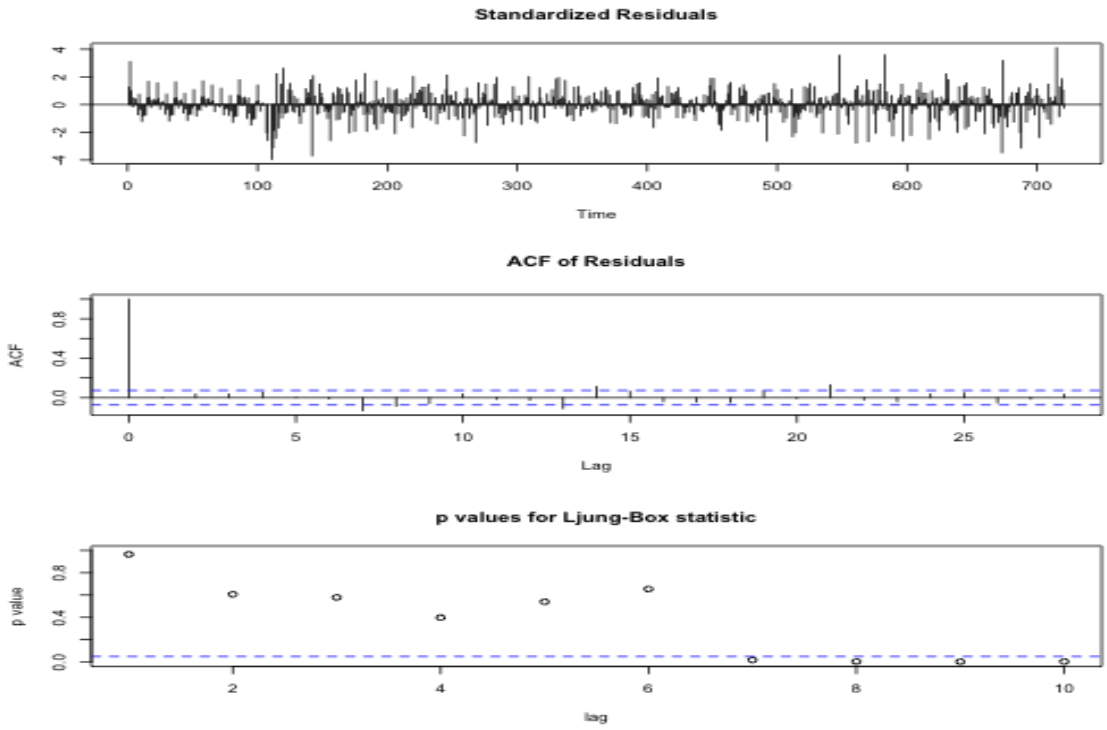


*Figure 15*. Diagnostic checking for other expenditure.

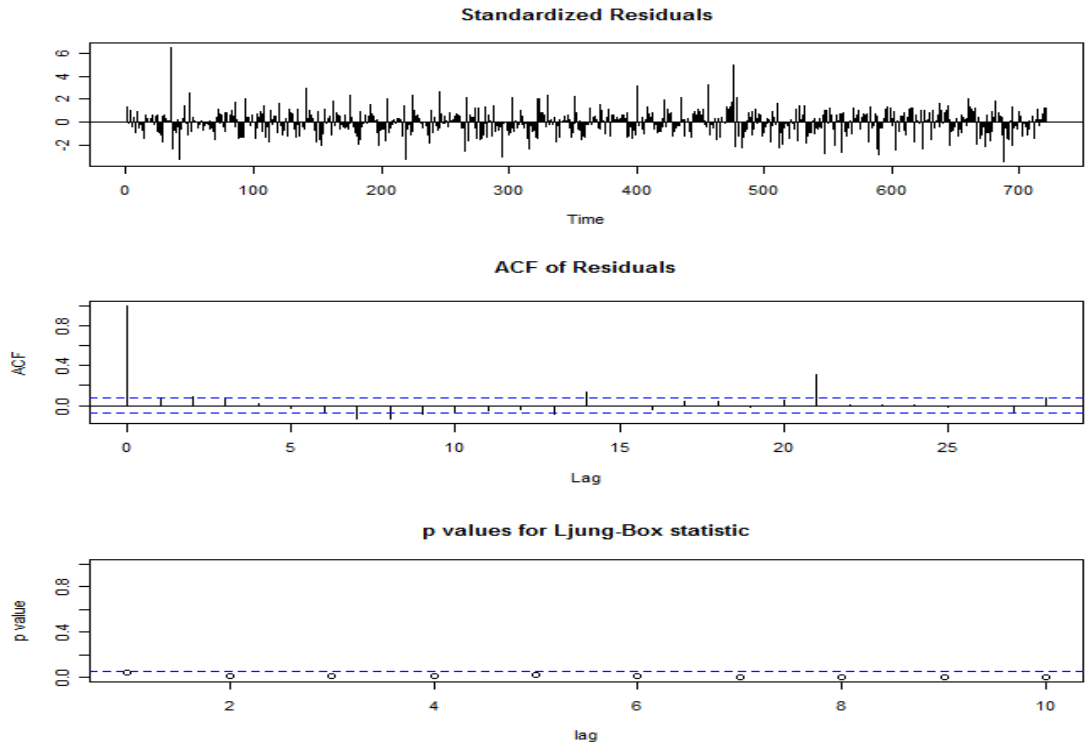


*Figure 16*. Diagnostic checking for customer lifetime value.

# CHAPTER V

# DISCUSSION AND IMPLICATIONS

## Introduction

The final chapter first summarized major findings of this study and discussed how the study results relate to the study objective. Next, explanations of the study findings and implications on how management can increase the usage of loyalty programs were discussed. Finally, study limitations were addressed along with suggested recommendations for future research.

## Discussion of Results

Loyalty programs abound but not all are successful. In fact, there have been constant arguments that loyalty programs are actually generating businesses a negative cash flow. Therefore, the primary purpose of this study was to examine a loyalty program form a longitudinal perspective and investigate whether it is financially profitable from the firm's standpoint. Secondary data from a high-end hotel casino resort property was acquired and time series regression model and ARIMA Model were performed for data analysis. Results of this study supported the research hypotheses and indicated that loyalty programs do have a positive impact on customers' behavioral loyalty.

The first objective of this study was concerned with determining whether loyalty programs actually impact members' behavioral level. Loyalty programs have been developed and operated to have an influence on customers' behavior, either in purchase frequency or purchase amount. The results for this hypothesis indicate that there is a positive relation between members' behavioral level and customer loyalty programs.

The second objective of this study was concerned with determining whether the loyalty program generated positive revenue overall. Customer lifetime value, which subtracted the total amount of cost associated to the loyalty program from the total amount of revenue generated from the members, was created as a variable to investigate the effectiveness. The results for this hypothesis indicated that the loyalty program did have an impact on customer lifetime value. It was also found that the financial impact of the loyalty program to be generally positive, thus indicating that loyalty programs play a role in producing profitability.

The third objective of this study was concerned with determining whether the loyalty program tier levels had an impact on the members' behavioral level. Loyalty programs are normally designed in a number of tiers to treat customers differently based on their performance. Tiered programs also encourage customers to change their behaviors by rewarding them or offering different types of benefits (Liu, 2007). As suggested, study results showed that the program tier levels significantly had an impact on the members' behavioral level. Nevertheless, it should be noted that not all tiers increased their visit frequency and purchase amount after joining the loyalty program and not all of the tiers showed a positive outcome in their behavioral performance.

For example, tier 1 and tier 2 were the highest level tiers and both increased their visit frequency and purchase amount after joining the loyalty program. Both tiers also generated positive customer lifetime value, which indicated that they were profitable until 2007. Although, study results indicated that both tier 1 and tier 2 started to show a decrease in their visit frequencies and purchase amounts, it was still identified that both tiers were ultimately profitable. On the other hand, tier 3 showed similar behavior

changes with tier 1 and tier 2, but turned out to be unprofitable from a long-term perspective because it generated negative customer lifetime value in the end. This would probably entail the fact that tier 3 customers were not observed logically enough and were offered too much complimentary offers or incentives.

Tier 4 and tier 5 customers increased their visit frequency and purchase amount in 2008 and 2009 when other tiers were negatively affected by the economic crisis. Overall, they turned out to be profitable as well. In contrast, though tier 6 and tier 7 customers showed an increase in their visit frequency and purchase amount during the economic crisis, customer lifetime value changes turned out to be negative every year, indicating unprofitability. It is important to note that, negative figures shown in 2008, 2009, and 2010 were due to the financial crisis. Therefore, it is difficult to determine the behavior changes in each tier in a specific way and it should not be interpreted in the same way as earlier years. On the whole, higher level tier customers were more affected to the economic crisis impact and lower tier customers were able to take more advantage of the situation. Similar to tier3 customer, the unprofitability of lower tier customers indicates that they were over given complimentary offers and incentives.

In conclusion, all three study hypotheses were supported in this study. Thus, loyalty programs have a positive impact on customers' behavioral loyalty and can generate profitability. Despite that previous studies provided inconsistent results and suggested that loyalty programs rather do not accomplish much, creating successful loyalty programs is not impossible. Loyalty programs have been considered ingenious marketing tools and when they are operated wisely, and they can become a competitive source to improve and sustain customer loyalty. In fact, loyalty programs were initially

developed to increase competitive advantage from a long-term perspective. Businesses should pay more careful attention to the details of the program design and whom they are targeting towards. True loyalty may be difficult to achieve as the hospitality market is considered to be mature and saturated, but companies will likely have more healthy and long-term relationships with customers.

This study especially contributes to the theoretical foundation by attempting to provide a new model by incorporating variables that were not utilized in previous studies. It has been noted that customer lifetime value is an important indicator to estimate a company's profitability. Since a company's financial data is mostly restricted to the public, there have not been preceding studies in academia that exploited customer lifetime value as a variable in investigating a loyalty program's financial perspective. It is expected that this attempt will add value to the hospitality literature review.

Moreover, this study discovered the impact of segmentation on loyalty programs. Study results are expected to add contribution to the theoretical foundations by validating the magnitude and necessity of segmentation in marketing tools. Generally, the fundamental assumption of tiered loyalty programs is based on the points accrued or total purchase amount in dollars. A member would become a higher tier level customer and receive more benefits as more points he or she accumulates or the more amount he or she spend in dollars. Study results showed that some tiers seem to be profitable from a short-term viewpoint but turned out to be unprofitable by generating negative customer lifetime value in the long run. This once again validates that businesses should be aware of the significance of tracking customers' behavior among segments as they are constantly changing (Badgett & Stone, 2005). It also validates the necessity of effective

segmentation to increase a company's profitability (Foedermayr & Diamantopoulos, 2008).

Simultaneously, the study results add practical contribution by alerting gaming operators to revisit their loyalty program structures. The loyalty program of this specific property was comprised of three different card levels, but the tiers do not necessarily represent direct proportion to its value because patrons are upgraded to the next level from only the points they earn. Customers earn points for playing slot machines but they do not earn points for playing table games. This is due to the fact that slot players are accurately rated on their loyalty program cards when input into the slot machines. On the other hand, table players are rated from human, either the pit boss or the dealers, so information is not as accurate in many cases. This would be one of the biggest discrepancies of loyalty programs between the gaming industry and other industries.

Furthermore, slot players and table players are not rated in the exact same way, which often results in unfair treatment to the customers. That is, a Tier 2 slot player does not necessarily spend more money or visit the property more often than a Tier 1 table player (where Tier 1 is a higher level than Tier 2). This not only indicates that slot players and table players are not treated equally but it also indicates that patrons can be either treated more or less than their actual value or performance level depending on the type of game they play. This study took this reality into consideration and segmented the tier levels separately by total dollar amount spent to examine slot players and table players from an equivalent point of view. Although such efforts were made to better answer the research questions, there still exists a significantly high possibility of table expenditure to be rated

inaccurately. Table expenditure is recorded by human, so it can never be precise and the variance may have influenced the study results.

## Implications for Management

As the usage of loyalty programs among various hospitality businesses continues to grow, it is essential for management to better understand its impact and effectiveness in creating and building customer loyalty. Previous study results from different industries revealed inconsistent conclusions on the effectiveness of loyalty programs leaving contradictory ramifications for management. A number of operations raised questions with regards to the necessity of loyalty programs while others were persistent on keeping them only because their competitors did (Nunes & Drèze, 2006).

The findings of this study are expected to offer hospitality management with practical assistance as it answers some of the most essential questions that management were concerned about. The results from this study showed positive outcomes and there were a number of facts that management should especially be alerted to. First of all, loyalty programs are usually classified into several tiers to provide differentiated service or benefits based on the customers' performance. As it was assumed, tier levels did have an impact on customers' behavioral level. Ultimately, not all tier levels turned out to generate positive customer lifetime value.

While the highest two tiers were profitable and the lowest two tiers were unprofitable, the three mid tiers showed mixed results. The mid tier level customers may appear loyal in terms of purchase frequency or by the length of being engaged in the loyalty program. Results clearly imply that mid tier level customers are attracted more by the promotional

deal or relational benefits that were offered to them. Namely, mid tier level customers have been more likely rewarded on their membership card ownership instead of their loyalty. The fact that mid tier level customers are the most potential market for increasing loyalty (Liu, 2007) was not quite adequate for this particular business as it was more a high end property. Therefore, even if mid tier levels are generally regarded as the most potential market, rewards should be offered more carefully. Companies should reward loyalty if they lead to profit. American Airlines revamped its AAdvantage system to track their program members according to their profitability (Nunes & Drèze, 2006) and it has been known that airline frequent flier programs are performing better compared to any other businesses in the service sector (Dekay, Toh, & Raven, 2009).

Moreover, determining behavioral loyalty solely by purchase frequency and purchase amount may be ambiguous and aiming for short-term profitability. It is especially complicated to assess a customer's value within the gaming industry because there is such a wide variety of game types offered and they all have different house advantage percentages, which affect the ways to measure its associated price and cost. In particular, since slot players and table players are treated differently in estimating their value and obtaining points, it is strongly recommended that other components should be incorporated when they are being appraised. For example, slot players can play a longer time with the same or even smaller amount of money than table players. Slot machines also include a larger assortment of game types with lower denominations while average bet amount for table games can be unlimited. Table players also show more inconsistency on their table expenditure in total dollar amount. A player may spend only $200 on one trip and spend more than $2,000 on another trip. Thus, management should

integrate a mixture of structures and measures such as the members' actual gaming hours, the minimum and maximum amount of gaming expenditure, and the average length difference between each visit, to forecast a customers' value more accurately for longer term profitability.

The gaming industry, not to mention Las Vegas, is particularly aggressive in attracting customers with a range of offers such as complimentary room offers and promotional offers. Customers are more offer-driven than any other service industry and faced with plenty of choices in a highly competitive market. Often, customers will be engaged in more than one rewards program and they will try to take the most advantage possible by comparing the incentive available to them. Therefore, marketers should re-evaluate their assessment and segmentation criteria consistently and verify the appropriate amount or type of offers and tempt to make any adjustments when needed.

Overall, the findings are expected to be most valuable for casino marketers to enhance the practical utilization of casino loyalty programs by increasing the implementation of differentiated segmentation for loyal customers. Casino loyalty programs can become successful when they are utilized wisely and rewarding intelligently. Marketers should go into deeper segmentation to their marketing actions and make a clear distinction between table and slot players so patrons do not perceive any kind of dissatisfaction due to unfair treatment. It could become a potential threat for a service provider if customers recognize even the least amount of dissatisfaction especially in such a unique market where competitors are constantly attracting customers with tempting offers.

Tiered loyalty programs have been developed to serve customers more efficiently by targeting a number of groups that show similar behaviors and they are normally segmented by simply leveraging the groups' purchase amount. As it was mentioned that determining behavioral loyalty exclusively by a few purchase units may be misleading, other measures that take account for the complexity of assessing a customer's value should be developed and comprised in the segmentation process. Keeping track of the profitability of customers is also dominant. Further, loyalty programs from business that include gaming should be differentiated from other businesses in the service industry by being more customized meticulously. Employing a dynamic segmentation from a multidimensional level and offering an extensive range of marketing actions will more likely act beneficially. The whole segmentation process would become more complex indeed but it would allow the casino marketers to provide more personalized service to the existing customers and hence increase customer loyalty in the long run.

## Study Limitations and Recommendations for Future Studies

As with all research, limitations can be addressed for this study. First of all, findings from this study cannot be generalized since the data was obtained from a single high-end property in Las Vegas. Therefore, study results would not be generalizable to different segments of hospitality businesses such as mid-price or budget sectors. In addition, the property where the data was originated from shows higher performance in table games. Other business sectors might show different tendencies regards to gaming type. Moreover, the inaccurate nature of the measurement method for table revenue might not have sufficiently taken into account for the gaming expenditure. Although this study only used

table expenditure as a measurement for table games revenue, it is strongly recommended that future studies observe gaming performance in other measurement units and compare the outcomes.

Although all of the three study hypotheses were supported in this study, it is important to recognize that this does not provide evidence that loyalty programs are all positively effective and they produce profitability. Previous studies argued that there are different levels of loyal customers due to situational factors and individual circumstances. Some loyal customers are truly loyal and show high emotional attachment and high repeat patronage. On the other hand, other loyal customers may not show a high repeat patronage but still are strongly attached to the brand (Baloglu, 2002). It is clear that not all loyal customers are the same and study findings cannot be generalized to all levels of loyal customers.

It should be acknowledged that the data sample did not include all the members who signed up for the loyalty program. This study selected a very exclusive sample from the database to answer the research question and indeed attempted to select the most loyal customers (high loyalty customers) to conduct the research. Only the most loyal customers were offered room complimentary offers and all the sample data were customers who were offered them. It selected loyalty program members who showed continuous behavior for a minimum of four years and excluded any international customers. In spite of the fact that there were a variety of relational benefits the loyalty program offered, this study purposely selected customers in a certain behavior range, who received the same type of relational benefits for comparison. As a result, a wide range of

loyal customers was not included in this study sample and study findings are only applicable to that specific target.

The result of data analysis for the last hypothesis might include some flaws. As the sample data set for this study was retrieved in a time series format instead from a customers' individual behavior format, it was difficult to exactly identify how members' loyalty behavior changed each year. To be precise, it was difficult to verify whether a customer's visit frequency increased year after year or the customer's expenditure increased year after year since the data sample included aggregate information by each tier level. Moreover, due to the type of the data format, it was complicated and difficult to identify the accurate time period when a member became a member or how long that member was engaged in the loyalty program. Thus, the study results observed the change of customers' loyalty behavioral level from an overall tier standpoint and the hypothesis was answered from the firm's perspective taken as a whole. With that being addressed, it is recommended for future research to attempt to investigate the financial impact from the individual customer's perspective.

As this is one of the few reported studies that attempted to discover the impact of loyalty programs from a longitudinal financial perspective, replication of this study would be essential to the research stream. Repeating this study with a different sample among diverse segments of hospitality businesses would assist in establishing the external generalizability or applicability of the study results. This study selected a very exclusive sample from the database to answer the research question. It selected loyalty program members who showed continuous behavior for a minimum of four years and excluded any international customers. It selected customers in a certain behavior range

who received the same type of relational benefits so it would be analogous. Therefore, a wide range of loyal customers was not included in this study sample. It is expected that replicating this study in multiple stages and containing other segments of the customers from the database would help understand the impact of loyalty programs.

It has been argued that customer loyalty should be understood from a multi-dimensional point of view. Even though the objective of this study was to specifically investigate customer loyalty from the behavioral perspective, it would be beneficial for future studies to expand the research area by including the attitudinal and composite loyalty perspective as well. It could be possible to observe customer loyalty from an attitudinal and composite perspective by collecting data through primary field study designs and investigate how customers' emotional commitment level may have changed over time. Finding out customers' level of loyalty through tools such as surveys and questionnaires or conducting in-depth interviews are suggested (Zikmund, 2003). Such extension of findings is expected to provide valuable insights to truly comprehend the impact of loyalty programs.

Further work to improve the model can progress by utilizing other statistical data analysis methods. It is suggested that the ARIMA modeling performs beneficially in time series analysis for gaming data because it accounts for systematic effects and shock effects in the endogenous variables. It has been proposed as a preferred data analysis method due to its advanced abilities in forecasting and its robustness. However, the ARIMA modeling method is still limited by requirement of stationarity of the time series and normality and independence of the residuals. For the real-world time series, the conditions of time series stationarity and residual normality and independence are

sometimes hard to meet. Therefore, newer data analysis techniques or a combination of multiple methods can be suggested. For instance, if a newer time series data mining framework method provides innovative data mining concepts for analyzing time series data and is known to overcome some of the traditional limitations. The time series data mining framework focuses on forecasting events and permits to predict nonstationary, nonperiodic, and irregular time series (Povinelli & Feng, 2003). The effort to analyze data by trying to implement a mixture of statistical techniques is always a way to advance research.

APPENDIX A

UNLV
UNIVERSITY OF NEVADA LAS VEGAS

# Social/Behavioral IRB – Exempt Review
# Deemed Exempt

**DATE:** July 22, 2011

**TO:** **Dr. Billy Bai,** Tourism and Convention Administration

**FROM:** Office of Research Integrity – Human Subjects

**RE:** Notification of review by /Cindy Lee-Tataseo/
Ms. Cindy Lee-Tataseo, BS, CIP, CIM

Protocol Title: **The Long-Term Impact of a Loyalty Program: An Evaluation from a Las Vegas Casino Hotel**
Protocol # 1105-3830M

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This memorandum is notification that the project referenced above has been reviewed as indicated in Federal regulatory statutes 45CFR46 and deemed exempt under 45 CFR 46.101(b)4.

*Any* changes to the application may cause this project to require a different level of IRB review. Should any changes need to be made, please submit a **Modification Form**. When the above-referenced project has been completed, please submit a **Continuing Review/Progress Completion report** to notify ORI – HS of its closure.

If you have questions or require any assistance, please contact the Office of Research Integrity - Human Subjects at IRB@unlv.edu or call 895-2794.

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