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Improving casino profitability through effective offer packages

Ren Zhang
University of Nevada Las Vegas

IMPROVING CASINO PROFITABILITY THROUGH EFFECTIVE OFFER PACKAGES

By

Ren Zhang

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Harbin Engineering University
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ABSTRACT

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By

Ren Zhang

Dr. Sarah Tanford, Examination Committee Chair
Assistant Professor of Hotel Management
University of Nevada, Las Vegas

The purpose of the this study is to investigate effective marketing techniques to attract potential customers in a particular demographic group, young people aged from 21 to 34, as a way of exploring the local market. This demographic group constitutes a dynamic part of the local population and is characterized by its unique financial conditions and spending preferences. The hypothesis is that with well-designed price bundling, the casinos can realize increased revenue through increased visits from the local young population. The marketing technique used in this study is to utilize offer packages which bundle promotional items and other hotel-provided services.

A set of offer packages were created which were designed to meet the characteristics of the local young population. Questionnaires were then distributed to a sample population to query their preference to the offer packages and the future change of their gambling habit.

Based on the completed questionnaires data, the study found that different personal profile groups may have different response to offer packages, and that offer packages can have a positive effect on the gambling budget for the local young people, and may also attract new customers who do not visit casinos previously. The revenue of the casinos can be increased by the use of offer packages.

This study confirmed that offer packages can be an effective marketing tool to explore the local young population market for casinos in Las Vegas.

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I would like to dedicate this thesis to my beloved husband and my son. Their love is the inspiration for this study.

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CHAPTER I

INTRODUCTION

Problem Context

The casino gaming industry produces annual revenues of approximately $34.13 billion in the United States in 2007 and has enjoyed steady expansion (American Gaming Association, http://americangaming.org). Casinos in Las Vegas, NV generate a significant portion of their annual revenue and profit from leisure-bound guests traveling from other parts of the country or abroad to Las Vegas for casino-related recreational activities. To attract those guests, casinos in Las Vegas have utilized different incentives including free or discounted hotel stays, complimentary dining or recreational activities, as well as other marketing techniques to attract and retain guests coming from outside the region.

Local casino patrons who reside in the vicinity of the Las Vegas area are also a significant source of revenue for casinos. According to Las Vegas Convention and Visitors Authority (LVCVA) (2006), gambling continues to be highly ranked among leisure activities in which Clark County residents participate and two-thirds of the Clark County residents gamble at least occasionally, among which 46% do so at least once a week. Yi and Busser (2008) stated, “Clark County is located in Southern Nevada where most of the state’s population resides along with Las Vegas residents.” (Yi & Busser, 2008, p. 344). As to the gamblers’ average gaming budget, LVCVA (2006) found that more than six in ten

gamblers (63%) budget $25 or more per day for gaming---with 16% budget $25 to $49 per day, 47% budget $50 or more per day, and 8% budget less than $10 per day. LVCVA (2006) also investigated local residents' most frequently visited gaming places and the results found that seven in ten gamers (71%) gambled at local area casinos, among whom 85% reported that they gambled at a hotel casino most often. Seventy-two percent of the gamers who gambled at local area casinos gambled at least once a month, 37% gambled once a week or more, and 35% gambled once or twice a month. Also, similar results can be found in the study of Yi and Busser (2008). In their review of related literature, the authors summarize that 61% of the Las Vegas locals participate in legalized gambling at least twice a year or more, 73% visited a casino at least once a month and 39% visited a casino weekly.

Furthermore, the local market is especially critical during those seasons with fewer travelers coming to Las Vegas. Yi and Busser (2008) noted in their literature review that locals are an emerging market segment for casino gambling and can be defined as local area residents who participate in legalized gambling, as opposed to tourists who visit the area to partake in gambling activities. They also pointed out that "Las Vegas has one of the strongest growing local resident markets compared to other cities such as Chicago, Detroit, New Orleans, and St. Louis" (p. 344). The researchers also cited the result of the study of Shinnar et al. (2004) that local gamblers act as an important market segment for casino marketers and provide a reliable source of revenue during slow periods.

It is important to note that targeting a specific demographic group is an effective way

of exploring the local market. Different demographic groups have different characteristics and interests. For example, females like shopping more than males do, young people like rock ‘n roll music more than old people do, and young people tend to try and accept new concepts and products more quickly and easily. As to the gambling behavior, Shoemaker and Zemke (2005) report in their literature review that “women prefer small but frequent payouts, while men prefer less frequent but larger payouts when gambling” (p. 382). A particular demographic group, young people aged from 21 to 34, constitutes a dynamic part of the local population. They carry all the characteristics of young people but encounter more temptations in the specific circumstances of Las Vegas they live in and therefore, they are more open-minded and have their unique spending preferences. LVCVA (2006) found that residents under 40 years old play a significantly higher number of coins or credit per play than older residents. LVCVA (2006) also revealed that residents under 30 years old are far more likely than older residents to play “progressive” machines”. According to Shoemaker and Zemke (2005), study has found that gambling frequency decreases with age and young adults are more likely to participate in higher stakes in casino gambling than in other gambling, such as sports, lotteries and in-home games. LVCVA (2006) shows that the residents’ likelihood of going to a casino on the Strip for non-gaming entertainment tends to decline with age, with attendance greatest among residents under 30 years old (48%) and smallest among those 60 and older (27%). Thus, the specific demographic group, local young people from 21 to 34, constitutes a potential market to be explored and

it seems important to attract this group to gamble more in casinos via effective marketing techniques.

The marketing technique used in this study is to utilize offer packages that bundle promotional items and other casino-provided services. For the purpose of this study, price bundling/price packages refer to offer packages.

The Problem Statement

As stated in previous paragraphs, local young people aged from 21 to 34 are a potential market to increase revenues for casinos. Therefore, the problem statement is to test the efficacy of specifically designed offer packages to realize increased revenue for casinos through attracting and increasing gambling visits of this specific demographic group. Many studies do investigate on an economic or marketing basis how to increase revenue by designing proper price bundles, taking into consideration customer preferences, costs and bundle price information. However, no studies are conducted on efficacy of offer packages in the casino context only using local young people between 21 years old to 34 years old as a situation. This study is intended to fill the gap by evaluating the efficacy of specifically designed offer packages to realize increased revenue for casinos through attracting and increasing gambling visits of this specific demographic group.

To measure the efficacy of offer packages, specifically designed offer packages have to be created. Therefore, five offer packages are systematically designed, considering

factors including the local young people's interest and consumption tendencies, costs of the bundle components and profit margin of each package.

Objectives of the Study

The purpose of the study is to investigate effective marketing techniques to attract potential customers in a particular demographic group, young people aged from 21 to 34, as a way of exploring the local market. The research question related to this purpose is: are the offer packages able to attract local young people to pay more gambling visits to casinos? Will the local young people increase their gaming worth during each visit due to the incentives provided by the offer packages? Can casinos increase their revenue by exploring the potential market of this group through providing well-designed offer packages?

To answer these questions, efficacy of each offer package is measured through evaluating customer preferences, the costs and its profit margin. The specific objectives of this study are to 1) evaluate the attractiveness of each offer package and likelihood to redeem it, and 2) provide guidelines for improvement and future development of offer packages.

Research Hypotheses

Specific hypotheses generated for the study are listed as below:

Hypothesis 1: Local young people will respond to offer packages differently based on their personal profile characteristics.

Hypothesis 2: Local young people will be attracted by the offer packages and increase their gambling visit to the casino.

Hypothesis 3: Local young people will be attracted by the offer packages and increase their gaming worth during their visits to the casino.

Hypothesis 4: By providing properly designed offer packages, casinos will increase their revenue by exploring the potential market of local young people.

Potential Contributions of the Study

This study has the following potential contributions to the casino industry:

1. The study introduces a model for measurement of a specific marketing technique.

2. The casino management could understand better how to design proper offer packages to attract local young people.

3. The casino management could improve their offer packages so as to maximize their revenue.

Definitions of Terms

Gaming worth*:* average gaming budget of a gambler.

Organization of the Study

Chapter I provides the background of the study, including problem statement, study objective, hypotheses and potential contribution. Chapter II is the review of related literature, which covers the history of offer package as a marketing technique, importance of proper design of offer packages, customers' psychological responses to offer packages, downsides of offer packages, and Las Vegas local residents' casino-based dining and entertainment behavior. Chapter III discusses the methodology used for the study, including survey and questionnaire design. Chapter IV conducts data analysis to test the hypotheses and reveals results of the study. Chapter V is the conclusion of the study and implications for future research.

CHAPTER Ⅱ

LITERATURE REVIEW

History of Offer Packages as a Marketing Technique

Bundling is broadly defined by Guiltinan (1987) as “the practice of marketing two or more products and/or services in a single “package” for a special price” (p. 74). As a marketing technique, this practice is employed in numerous industries and situations. For example, hotels offer discounted airfares, meals and accommodations when these products are purchased as a package; banks bundle credit cards with no annual fee into their discounted insurance; grocery stores offer free samples when customers purchase certain items; fast food restaurants offer “value meals” such as combinations of burgers, fries and cokes.

Janiszewski & Cunha (2004) summarized in their literature review that the seller bundles products in hope that the consumer surplus (i.e., reservation price less actual price) associated with an attractive product will compensate for the consumer deficit associated with a less attractive product. (p. 534) Therefore, the researchers raised their viewpoint that the emphasis on using bundling as a marketing strategy for extracting consumer surplus has led to the development of methods for identifying the optimal composition and pricing of bundles for a given distribution of consumer preferences.

Importance of Proper Design of Offer Packages

Proper design of offer packages is essential for the success of this marketing technique. Based on market-level analysis, Green and Wind (1984) investigated consumers' preferences for bundled versus unbundled products in the context of hotel amenity pricing and if one can predict consumers' preference for a bundle from their evaluations of the components making up the bundle. In their research, categorical conjoint analysis was carried out and data for the analysis were collected from one-one interviews with 180 adults who had lodged at least one night for business purpose within a 6-month period. The study results suggested that 1) simple functions of respondents' self-explicated utilities for bundle components are not good predictors of their preferences for the total bundle of hotel amenities, 2) the overall bundle price adds significantly to the accounted-for variance in preference for hotel bundles, and 3) individual respondent evaluations of the bundled stimuli can be predicted. The research also found that the hybrid categorical conjoint analysis model produces reasonable results, which, together with other information from this study, provides management with specific guidelines for the development of a new hotel chain.

Hanson and Martin (1990) and Stauβ and Schlecht (2005) focused on the development of usable decision models and appropriate algorithms for generating optimal bundles and prices.

In Hanson and Martin's (1990) study, the researchers investigated how a single firm,

facing segmented customer demand and product specific costs, can determine optimal product line breadth and pricing. In the research, a survey based on a questionnaire for a fictional company offering home services for urban professionals was carried out in two MBA classes of 38 and 36 students, respectively. Results of their research suggested that firms have to consider the entire product line when determine pricing and be alert to effects of other marketing variables when they use bundling as a marketing technique. Their study also found that bundling is an important method to control costs in a number of industries and lowering costs on bundles increases profits, and that with customers "mixing and matching" for their most desired total product, separate pricing for each of the individual components is a flexible method for firms to encourage customers to purchase products with the lowest costs.

Stauβ and Schlecht (2005) proposed a heuristic approach to find the most profitable bundles and respective prices. The researchers argued that an essential behavioristic construct frequently used in predicting the demand of potential bundles at a certain price is given by incorporating the reservation price concept into classical choice models. As to creating promising bundles of components and determining the respective bundle prices, the authors pointed out that one of the most ingenious ways is to use quantitative decision support tools and corresponding optimizing techniques. In order to test the proposed design heuristics, real data were collected, based on which individual reservation prices on a component level were estimated to identify bundle candidates. Using the same method

employed in the research of Stauβ and Schlecht (2004), that is, an experimental design that requires monetary valuations based on eight pairs of comparisons, data were collected in the firm's customer center. From the analysis of the paired comparison data collected, the researchers concluded that there is a great potential in increasing computational performance of the proposed design heuristics if appropriate bundle candidates are chosen.

Customers' Psychological Responses to Offer Packages

Consumers' psychological responses to price bundles have also been studied in the literature. Drumwright (1992) summarized some other marketing researchers' (Dolan 1987, Nagle 1987, Karlinsky and Farquhar 1988) application of Kahneman and Tversky's prospect theory (1979) to generate an alternative behavioral explanation for the effects of bundling. According to Drumwright (1992), in prospect theory, consumers' value functions are concave in gains and convex in losses and the impact of perceived losses is greater than the impact of perceived gains. Based on this theory, Drumwright (1992) suggested that in as much as buyers view separate products in a bundle as distinct benefits (many positive values or gains) for one price (a single negative value or a loss), they would be more likely to buy products in a bundle than they would be to buy the products separately (many positive values for many losses). Also, in his review of related literature, Drumwright (1992) cited Thaler's mental accounting (1985) about bundling, which is an extension of prospect theory, that buyers purchase products that they would not purchase if they were

priced and sold separately. With the justification that according to behavioral theory, bundling can create a certain type of psychological context in which a relatively small net loss may not be perceived and is not determinative, Drumwright (1992) carried out an experiment to examine if consumers purchase more with bundling. In the experiment, seventy-four junior and senior undergraduates were used as subjects and both their preferences for individual items priced separately and their preferences for packages with the individual items bundled were measured. In the study, the results of the experiment provided some supports for the behavioral theory that bundles create contexts that influence evaluation and choice in the manner predicted by prospect theory and mental accounting.

Research by Yadav and Monroe (1993) also examined behavioral aspects of bundling. Their work considered buyers' perceptions of savings when they evaluated a bundle offer. Using 270 undergraduate students from a state college as subjects, the researchers asked the subjects to complete questionnaires, which were designed to investigate whether transaction value in a bundle offer is positively influenced by consumers' perceptions of savings. They hypothesized that perceived savings on the bundle items if purchased separately and perceived additional savings on the bundle would be viewed by buyers as two separate savings, and each would significantly influence total transaction value. The results of their study suggested that although a bundle's total transaction value appears to be influenced largely by the additional savings offered on the bundle, savings offered on

the individual items are also very important. Therefore, the authors implied that dividing up the saving between the items and the bundle, instead of offering one large saving on a bundle alone, may be an appropriate pricing alternative to implement a mixed bundling strategy.

In further research, Yadav (1994) provided insights about the anchoring and adjustments heuristic in the context of bundle evaluation and argued that people tend to examine bundled items in decreasing order of perceived importance. In the research, with business undergraduate students at a state university used as subjects, two experiments were carried out and three statistical approaches, ANOVA, regression and protocol analysis, were employed. The researcher hypothesized that 1) buyers will form an overall evaluation of a set of bundle items by examining the items in decreasing order of their perceived importance and adjusting their bundle evaluations in the direction of the succeeding item evaluations, 2) adjustments made while evaluating a bundle of items will result in weighted averaging, that is, the overall evaluation of a bundle's items will be a weighted average of the individual items' evaluations, and 3) adjustments made while evaluating a bundle of items will be insufficient, in that the overall bundle evaluation will be biased in the direction of the item evaluated first. The results of the research showed validity of the three hypotheses that items perceived as more important are examined prior to the less important items, the overall bundle evaluations can be expressed as a weighted average of the individual items' evaluations, and subjects do make insufficient upward or

downward adjustments to evaluate the overall bundle. Further, the researchers argued that if moderate items are perceived as “losses” when combined with excellent anchors and as “gains” when combined with poor anchors, the results are consistent with the Kahneman and Tversky’s prospect theory (1979) that the impact of perceived losses is greater than the impact of perceived gains. Based on his argument, Yadav (1994) pointed out that it is important for firms to provide consistent levels of quality in a bundle when seeking out possible items for bundling.

Johnson, Herrmann and Bauer (1999) found that consumers’ responses were most positive when price information was bundled and discount information was debundled in a price bundling offer. In their research, the authors extended the mental accounting theory to a price bundling context. To test the assumptions, a questionnaire-based survey was conducted. Subjects were randomly selected from the mall intercept during the primary selling season for new cars and were asked to fill out written questionnaires. After collecting the raw data, the researchers used ANOVA models to test three hypotheses: 1) consumer evaluations of an offer increase as component price information is bundled, 2) consumer evaluations of an offer increase as component price discount information is debundled, and 3) the predicted increase (decrease) in consumer evaluations of an offer as component price (price discount) information is bundled is lower for more experienced consumers than for less experienced consumers. The results of the study suggested that when a company bundles items for sale, price information should be integrated into a

package price, while price discount information should specify separate discounts on each of the items that makes up the bundle, and in this way, consumers' satisfaction of the present offer and their likelihood to recommend and repurchase the brand will be systematically increased.

Janiszewski and Cunha (2004) also argued that constructing attractive bundle offers not only depends on the understanding of the distribution of consumer preferences but also depends on the framing of the prices and discounts in the presentation of the offer. In their research, four experiments were carried out to test four hypotheses that: 1) price discount frames influence bundle evaluations because the evaluations of individual products receive unequal weights during integration, 2) people place more weight on the value of the less attractive product in the bundle, 3) making the valuation of the tie-in product severely negative would encourage consumers to value discounts to the focal product more than discounts to the tie-in product, and 4) people could differentially weight evaluations of the offer prices associated with products in the bundle. To test the four hypotheses, the researchers employed a computer-based procedure and randomly chose the subjects, undergraduate students to participate in the four experiments. Results of the research showed that consumers subjectively value individual products in a bundle and then sum these values to arrive at an overall evaluation of the bundle. The researchers further implied that when designing bundle offers (two item bundles were used as an example), price discounts should be assigned using the existing price referent relationship as a guide. This

implication was further explained by the authors that when one of the products in the bundle has an offer price that is above the consumer's reference price and the other product has an offer price below the consumer's reference price, the discount should be assigned to the less attractively priced item, and if not, when both of the products in the bundle have an offer price above the consumer's reference price, the price discount should be segregated and partially assigned to each product, and when both of the products in the bundle have an offer price below the consumer's reference price, the price discount should be listed as a separate item.

Downsides of Offer Packages

It should also be noted that while offer packages are generally regarded as an effective marketing tool to decrease price sensitivity and increase purchase likelihood, studies also found that bundling products may reduce product consumption, and thus hurt repeat sales (Gourville & Soman, 2001).

In Gourville & Soman's (2001) research, four studies were carried out to test four hypotheses respectively, that is, 1) relative to an unbundled transaction, a bundled transaction will result in greater willingness to forego any individual unit of consumption, 2) transaction decoupling will increase as the relative attractiveness of the consumption opportunity decreases, 3) consumption of individual benefits will decrease due to the difficulty to allocate costs across benefits, and 4) ticket bundling adversely affects a

person's theater attendance, after other potential contributory factors, such as ticket price, etc. are controlled for. In the first three studies, the authors carried out three questionnaire-based surveys with undergraduate students from the University of Colorado. In the fourth study, actual transaction and attendance data from a summer theater series were used in two logistic regressions to test the respective hypothesis.

With all four hypotheses confirmed, the results of the research suggested that in a bundled service, when it is cognitively difficult to allocate costs across benefits, people's sunk cost pressure to consume an individual benefit would decrease and they are more likely to forgo consumption and demand less compensation for that benefit purchased in the bundle. Therefore, the authors implied that price bundling can lead to a systematic decrease in actual demand for an offered service. They further pointed out that service providers should psychologically unbundle its offerings by itemizing or highlighting the cost of each procedure covered within the bundled fee so as to encourage consumption.

Las Vegas Local Residents' Casino-based Dining and Entertainment Behavior

According to the Clark County Residents study conducted by Las Vegas Convention & Visitors Authority (LVCVA, 2006), 72% of the residents who gamble at a casino usually eat at the casino restaurant where they gamble. Among these residents, 40% usually eat at a buffet in the casino and 28% usually eat at a coffee shop, of which 25% eat at a coffee shop

in the casino.

Also, according to the entertainment report of LVCVA (2006), 63% of the Las Vegas residents have been to a hotel casino show, of which 22% attend shows once a month or more, 27% go to shows 4 times a year, 27% go twice a year and 23% go once a year or less. The report also shows that residents who gamble are more likely to attend a hotel casino show than those who do not gamble. The likelihood to attend a hotel casino show tends to increase with income, from 46% of those who earn less than $30,000 to 70% of those who earn $50,000 or more, and with education, from 51% of those who have a high school education or less to 73% of college graduates. With regard to the relationship between gambling and hotel casino show attendance among all residents, the entertainment report reveals that 44% of the residents both gamble and go to a hotel casino show, while 23% do not go to hotel casino shows, 19% go to hotel casino shows and 14% neither gamble or go to a hotel casino show. The likelihood of both gambling and going to shows tend to increase with income, from 36% of those earning less than $30,000 to 47% of those earning $50,000 or more.

The LVCVA (2006) also showed that the residents' likelihood of going to a casino on the Strip for non-gaming entertainment tends to decline with age, with attendance greatest among residents under 30 years old (48%) and smallest among those 60 and older (27%).

Review of this literature shows that the local residents, especially the local young

people, do have an interest in some unique casino-based dining and entertainments in Las Vegas, such as buffet and shows.

Summary

This chapter reviews the literature available on (1) history of offer package as a marketing technique, (2) importance of proper design of offer package, (3) customers' psychological responses to offer packages, (4) downsides of price packages, and (5) Las Vegas local residents' casino-based entertainment behavior.

Based on the review of related literature, it is important to structure offer packages properly based on a quantitative analysis of the overall profitability of each package, taking into consideration customer demand and preferences, their psychological responses, for example their reservation prices for individual components of the offer package, specific costs of the package components as well as the total package, and integrating price information and discount price information for each individual package component into the package price.

Though currently there are limited published studies on the direct connection between offer packages and attracting particular demographic group, such as the local young people, studies did find that a specific demographic group has unique characteristics and consumption tendencies. Review of the literature shows that Las Vegas young people have distinct casino-based gambling, dining and entertaining behavior. Thus, it is

important to consider these factors and add potential interests of the local young people to the design of the offer packages as incentives to attract them to increase their gambling visits to the casinos.

Therefore, this proposed study is aimed at evaluating the attractiveness and potential profitability of offer packages specifically designed for the local young people in Las Vegas according to their gambling and entertaining preferences, so as to provide guidelines for improvement and future development of offer packages.

CHAPTER Ⅲ

METHODOLOGY AND DATA DESCRIPTION

Introduction

The objective of this study is to evaluate the attractiveness and potential profitability of certain designed offer packages so as to provide guidelines for improvement and future development of offer packages. Therefore, properly designed offer packages have to be created and then evaluation of the efficacy of each offer package will be conducted, taking into consideration preferences of individual package components and total cost of each package. To evaluate the efficacy of the offer packages, three steps, (1) questionnaire design, (2) selection of the sample, and (3) data analysis are taken.

Questionnaire Design

A questionnaire-based survey is conducted to test the hypotheses as listed below:

Hypothesis 1: Local young people will respond to offer packages differently based on their personal profile characteristics.

Hypothesis 2: Local young people will be attracted by the offer packages and increase their gambling visit to the casino.

Hypothesis 3: Local young people will be attracted by the offer packages and increase their gaming worth during their visits to the casino.

Hypothesis 4: By providing properly designed offer packages, casinos will increase their revenue by exploring the potential market of the local young people.

To do so, two variables have to be manipulated: type/value of offer and gaming worth of the guest. Based on these two variables, a set of 5 offer packages are systematically designed and specifically tailored to meet the characteristics of the local young population in Las Vegas for casino-related activities. On the one hand, individual offer components are designed based on young people's interest and consumption tendencies, which include cash or cash equivalent such as promotional items, cash back, food and beverage discounts, and show tickets. Each of the four offer components consists of five items with five different levels of value. On the other hand, gaming worth of guest per visit are categorized as very low (0-$24), low ($25-$49), medium ($50-$99), medium high ($100-$149), high ($150-$199) and very high (above $200). Then specific combinations of offer items and gambling spend requirement are generated as potential packages, which means that each level of gaming worth is combined with four offer items with correspondent level of value, one from each of the four offer components.

With the well-designed offer packages, the questionnaire is structured, which is composed of the following three sections.

Section 1 of the questionnaire measures subjects' casino playing history and their average historic gaming worth. In this section, participants are asked 5 multiple-choice questions about whether or not they gambled in a casino in the past 12 months; their

average frequency of visiting casinos; their average gaming spend per visit; their intention to gamble at a casino in the near future (3 months) and their future gambling budget during the next visit.

Section 2 carries casino offer package questions. In this section, all the gaming worth categories and their respective offer packages are listed, which is shown in the following table:

Table 1 Comparison of Offer Packages Used for This Study

Offer Package	1	2	3	4	5
Product	T-shirt	Ball Cap	Polo Shirt	Long-sleeve Denim Shirt	Hooded Zip-front Jacket
Casino Buffet Coupon	10% Off	25% Off	50% Off	One Free Buffet	Two Free Buffet
Cash Back	$5	$10	$20	$35	$50
Casino Show Ticket	None	20% Off	50% Off	One Free Ticket	Two Free Tickets
Gambling Amount Required	$25	$50	$100	$150	$200

Note: Original Casino Buffet Price: $30/person; Original Casino Show Ticket: $50/person

Then questions are posted on measures of attractiveness, preference and value of each package and likelihood to choose each category of gaming worth with its respective offer package. Participants are asked to read the descriptions of the five offer packages and

complete 4 multiple-choice questions: 1) Using the Likert scale from 1 to 5, where 1 represents “most preferred” and 5 represents “least preferred”, the preferences of the above five offer packages are listed below. Please rate the preference of each offer package by circling the appropriate number. 2) How much likely would you be to visit the casino in the near future to redeem the offer packages? 3) With the offer packages available for each of your future casino visits, how frequently do you plan to visit the casino? 4) With the offer packages available for each of your future casino visits, how much money will you spend on gambling each visit?

Section 3 is designed to collect the demographic information of the subjects. Participants are asked about their age, gender, part-time or full-time student status at UNLV, annual personal income in the past 12 months and their marital status.

To improve design of the questionnaire and prevent error in the main study, pilot study was carried out. Eight UNLV students from four different departments took part in the study and results show that two of them, that is, 25% increased their gambling budget with the availability of the offer packages. Based on the results, some items of the offer packages were changed so as to make the packages more attractive. Then questionnaire for this study was determined to be designed as stated previously.

A sample questionnaire for this study is provided in the Appendix.

Selection of the Sample

Since many UNLV students do hold jobs outside of school, tend to be older than typical university students, and identify as state residents to a substantial percentage, they are expected to be fairly representative of young local casino guests. Therefore, a sample population of 350 university students aged from 21 to 34 in Las Vegas who have gambled in a casino in the past 12 months is selected to be subjects of the study. To make the sample more representative of the whole population of the local young people, the subjects are randomly selected from twelve classes of six different departments at UNLV: the Management Information System Department, the Marketing Department, the Hotel Management Department, the Mathematical Sciences Department, the English Department, and the Accounting Department.

Procedures

To improve design of the questionnaire and prevent errors in the main study, pilot study is carried out. Then this study is conducted through distributing the questionnaires to the sample population. The UNLV Institutional Review Boards (IRB) has approved the questionnaire. Subjects participate in the survey on a voluntary basis and it takes approximately 10-15 minutes to complete the questionnaire. The student investigator goes to each selected class and distributes the consent forms and questionnaires to the students who volunteer to participate.

A total of 307 questionnaires are completed.

Analysis of the Data

After compilation of the raw data from completed questionnaires, detailed statistical analysis is carried out to test the hypotheses proposed in this thesis. The analysis includes the following aspects:

1. Analysis of relation between subjects' personal profile and their gambling behavior before offer packages are given. Based on the response to sections 1 & 3 in the questionnaire, descriptive statistics is used to obtain subject profiles. Subjects are subsequently categorized according to their gender, personal income level, gaming history, and past gaming worth. Based on these data, different personal profile groups' gambling behavior of the local young people is obtained.

2. Analysis of preference for offer packages. This analysis shows the number and percentage of the subjects who picked each specific preference level for each offer package. The average attractiveness and likelihood to redeem each of the five offer packages are also evaluated. One-way ANOVA is performed to test statistically significant difference in overall attractiveness and likelihood to redeem between any two offer packages. Together with the correlation analysis, this analysis is used to evaluate properly design of the offer packages.

3. Analysis of difference in preference to a particular offer package among certain

personal profile categories and analysis of difference in preference to the five offer packages in one certain personal profile group. This tests hypothesis 1 that local young people will respond to offer packages differently based on their personal profile characteristics. The information obtained from this analysis is used to improve offer packages that cater to the majority personal profile characteristics of a demographic group. This analysis focuses on the following areas: 1) Likelihood to redeem an offer package in relation to the subjects' gender, 2) Likelihood to redeem an offer package in relation to the subjects' income level, 3) Perception of attractiveness of an offer package in relation to the subjects' gender, 4) Perception of attractiveness of an offer package in relation to the subjects' income level, and 5) Correlation between offer package attractiveness and likelihood to redeem.

Two-way ANOVA and repeated measures analysis are used to test the statistical significance of the differences among different categories and whether there is significant correlation between attractiveness and likelihood to redeem for each offer package and between each pair of offer packages.

4. Analysis of increase in casino visit frequencies due to offer packages: This tests hypothesis 2 in this study. To test this hypothesis, subjects' intended future casino visit frequencies with the existence of offer packages are compiled and compared with their historic casino visit frequencies. T-test is carried out to test the statistical significance of the difference between the historical gambling frequencies and future gambling frequencies,

and further t-test is employed to test whether there is statistically significant difference in casino visit frequency among personal profile groups.

5. Analysis of increase in casino gambling budget per visit due to offer packages. This tests hypothesis 3 in this study. To test this hypothesis, subjects' intended future gambling spend per casino visit with the existence of offer packages is compiled and compared with their historic casino visit spend. T-test is carried out to test the statistical significance of the difference between the historical gambling spend and future gambling spend per visit. Also, t-test is used to further test the statistical significance of difference in gambling budget among personal profile groups.

6. Profitability analysis. This tests hypothesis 4 in this study. To test this hypothesis, the overall historical and future gambling spend per year is compared, taking into account both each subject's casino visit frequency and gambling budget per visit. The overall gambling spend is calculated using the following equation:

$$Overall\ Spend = \sum_{i=1}^{307} N_i \times B_i$$

where N_i is the historical or future number of casino visits per year for subject i, and B_i is the average historical or future gambling budget per visit for subject i. Then analysis is carried out regarding whether casinos realize their revenue increase with the availability of the offer packages.

Summary

In this chapter, the framework of the research methodology for this study is provided and detailed information about the questionnaire design, sample selection and statistical methods used in data analysis are presented. The results of the survey are discussed in Chapter IV.

CHAPTER IV

DATA ANALYSIS

Introduction

In the previous chapters, methods used in this study are presented in details. In this chapter, sample data gathered for this study are presented, and statistical analysis is performed to test the hypotheses in this study.

Subject Personal Profiles

The University of Nevada, Las Vegas (UNLV), is a leading higher learning institution in southern Nevada. The student population at UNLV formed a small subgroup in the local young demographic population. According to the UNLV official online webpage statistics, in the Fall Semester of 2007, UNLV had a total headcount of 28,371 students, of which 22,108 (78%) were undergraduate students, and 6,263 (22%) were graduate students. 12,482 (44%) were male, and 15,889 (56%) were female students.

As discussed in Chapter III, questionnaires were distributed to subgroups of current students enrolled in the University of Nevada, Las Vegas. These included undergraduate as well as graduate students. Questionnaires were distributed to students while they were taking classes, and a total of 307 students turned in completed questionnaires.

Subjects' personal profiles are listed in Table 2. The average age of the subjects was

23.7±2.9 years old (range: 21 to 34 years old). 146 subjects (47.6%) were male, while the other 161 subjects (52.4%) were female. 282 (91.9%) were full-time students at UNLV, while only 25 (8.1%) were part-time students. 282 (91.9%) were single, and only 25 (8.1%) were married.

A majority of the subjects had low to moderate personal income in the past 12 months. 39 (12.7%) reported no income, 63 (20.5%) reported income in the range of $0 to $5,000, 50 (16.3%) reported income in the range of $5,000 to $10,000, 60 (19.5%) reported income in the range of $10,000 to $20,000, and the rest 91 (29.6%) reported income over $20,000 in the past 12 months.

Table 2 Subject Personal Profiles

Profile Type	Category (% in each Category)	
Gender	Male (47.6%)	Female (52.4%)
Student Status	Full-time (91.9%)	Part-time (8.1%)
Marital Status	Single (91.9%)	Married (8.1%)
Annual Income	$0 (12.7%)	$0 - $5,000 (20.5%)
	$5,000 - $10,000 (16.3%)	$ 10,000 - $ 20,000 (19.5%)
	More than $20,000 (29.6%)	

Gambling History Profiles

Subjects were asked for personal gambling history in the past 12 months. This included casino visit frequencies in the past, average gambling budget, and the likelihood to participate in casino gambling activities in the near future.

Table 3 shows the subjects' response statistics to gambling profile questions.

Table 3 Subject Gambling History Profiles

Profile Type	Number (%)
Have gambled in the past 12 months	
Yes	251 (81.8%)
No	56 (18.2%)
If answered "Yes" in the previous question:	
Casino visit frequency:	
1) Twice a week or more	26 (10.4%)
2) Once a week	44 (17.5%)
3) 1 – 2 times a month	80 (31.9%)
4) Less than once a month	101 (40.2%)

Average gambling budget	Number (%)	Likelihood to visit casino in next 3 months	Number (%)
1) $0	8(3.2%)	Extremely unlikely	72(23.5%)
2) $0 - $24	96(38.2%)	Somewhat unlikely	60 (19.5%)
3) $25 - $49	41(16.3%)	Slightly unlikely	28 (9.1%)
4) $50 - $99	45(17.9%)	Slightly likely	41 (13.4%)
5) $100 - $149	30(12.0%)	Somewhat likely	54 (17.6%)
6) $150 - $199	9(3.6%)	Extremely likely	47 (15.3%)
7) > $200	22(8.8%)		

The data shows that a majority of subjects participated in casino activities: 251

(81.8%) had gambled at least once in the previous 12 months, while only 56 (18.2%) had not.

Among those 81.8% of the subjects who ever gambled at least once in the previous 12 months, 26 (10.4%) frequented the casino at least twice a week, 44 (17.5%) frequented once a week, 80 (31.9%) frequented once or twice a month, and 101 (40.2%) frequented less than once a month. In terms of average gambling budget in the past, 8 (3.2%) had a budget of $0, 96 (38.2%) spent between $0 to $24, 41 (16.3%) spent between $25 to $49, 45 (17.9%) spent between $50 to $99, 30 (12.0%) spent between $100 to $149, 9 (3.6%) spent between $149 to $199, and 22 (8.8%) spent between $200 or more during their casino visits.

Among all the subjects, when asked about the likelihood to gamble in the next three months, 72 (23.5%) chose “Extremely unlikely”, 60 (19.5%) chose “Somewhat unlikely”, 28 (9.1%) chose “Slightly unlikely”, 41 (13.4%) chose “Slightly likely”, 54 (17.6%) chose “Somewhat likely”, 47 (15.3%) chose “Extremely likely”, and 5 (1.6%) failed to provide an answer.

Interaction between Personal Profiles and Gambling Profiles

Relationship between variables in subjects’ gambling profiles and subjects’ personal profiles are investigated. In doing so, three types of gambling profile, that is, gambling activities in the past 12 months, gambling frequency and gambling budget, and two types of personal profile, that is, gender and income are chosen and each type of gambling profile

is compared with the two personal profile types respectively. The student status and marital status may also correlate with subjects' gambling profiles. However, since the sample group was primarily composed of full-time single students, analysis of the different gambling habit in full-time and part-time, married and single population was not performed.

First, difference in gambling activities between two gender groups is investigated. Data demonstrates that there are 161 subjects in the female group and 146 subjects belong to the male group. In the female group, 120 subjects, that is 74.5% had gambled in the previous 12 months; while in the male group, 131 subjects, that is 89.7% had gambled in the previous 12 months. The fact that there is no overlap between the 95% confidence interval for female students and that for male students, which is 67.8% - 81.2% and 84.8% - 94.6% respectively, demonstrates that with statistical significance, a higher percentage of male students participated in gambling activities than female students.

Next, difference in gambling activities between income groups is tested. To simplify the problem, income level of $10,000 is chosen to divide the sample into two groups which are roughly equal in size. Subjects with income less than $10,000 in the previous year fall into the Lower Income Group, while those with income more than $10,000 in the previous year fall into the Higher Income group. Data show that of the 303 subjects who complete the related section of the questionnaire, 152 of them belong to the lower income group and 151 fall into the higher income group. In the lower income group, 119 subjects, that is 78.3%

have gambled in the past 12 months; while in the higher income group, 129 subjects, that is 85.4% have gambled in the past 12 months. Due to the overlap between the 95% confidence interval for the lower income group and higher income group, which is 71.7% - 84.8% and 79.8% - 91.1% respectively, we conclude that though there is slight higher percentage of students with higher income participate in gambling activities in the past 12 months, there is no statistically significant difference in gambling activities in the past 12 months among the income groups.

Then, we compared difference in casino visit frequency between male and female groups as well as between lower income and higher income groups. T-test was employed to test whether there is significant difference of casino visit frequency between gender groups and between income groups. Table 4 lists the test result.

Table 4 Comparison of Casino Visit Frequency in Personal Profile Groups

Personal Profile Group	t-value	Significance	Mean	
Gender	-4.282	0.000	Male:	2.78
			Female:	3.30
Income	1.346	0.180	Lower:	3.12
			Higher:	2.95

Note: There are 4 scales in casino visit frequency, among which,
1 = twice a week or more, 2 = once a week
3 = 1-2 times a months, 4 = less than once a month

Test results imply that on the one hand, with a significant P-value of .000, there is statistically significant difference in casino visit frequency between males and females. Furthermore, comparison of means of casino visit frequency of the male group and the

female group shows that with lower means of casino visit frequency, males visit casinos significantly more frequently than females. On the other hand, there is no significant difference between lower income and higher income groups in terms of casino visit frequency.

Last, similar analysis is performed in terms of difference in average gambling budget between different personal profile groups. T-test was employed to test whether there is significant difference in average gambling budgets in the gender group as well as in the income group. Table 5 lists the analysis results.

Table 5 Comparison of Casino Gambling Budget in Personal Profile Groups

Personal Profile Group	t-value	Significance	Mean	
Gender	5.941	0.000	Male:	3.96
			Female:	2.80
Income	-3.097	0.002	Lower:	3.07
			Higher:	3.70

Note: There are 7 scales in average casino gambling budget, among which
1 = $0, 2 = $0-$24, 3 = $25-$49, 4 = $50-$99, 5 = $100-$149, 6 = $150-$199,
7 = $200 and more

Test results imply that with significant P-values of .000 and .002 respectively, there is statistically significant difference in gambling budget between the gender groups and between the income groups. Then, by comparing gambling budget means of the male and the female group and that of the lower income and higher income group, we can conclude that females had a smaller gambling budget for each casino visit than males, and subjects with higher income have higher gambling budgets than those with lower income.

In conclusion, analysis finds that personal profile groups does correlate with gambling profiles in certain aspects. That is, subjects in different personal profile groups have different gambling behavior: higher percentage of male students participate in gambling activities than female students; males visit casinos significantly more frequently than females; females have a smaller gambling budget for each casino visit than males; and subjects with higher income have higher gambling budgets than those with lower income.

Offer Package Attractiveness and Likelihood to Redeem

For each of the five offer packages presented in the questionnaire, the subjects were asked for its attractiveness as well as their likelihood to redeem the offer package. Five numeric levels from 1 to 5 were used to quantify the attractiveness of each offer package and the likelihood to redeem each offer package, with 1 meaning least attractive or least likely to redeem, and 5 meaning most attractive or most likely to redeem. To test whether there is statistically significant difference in overall the attractiveness and the likelihood to redeem between any two offer packages, one-way ANOVA was performed. Table 6 lists the results, which shows that there is statistically significant difference in overall attractiveness, but not in the likelihood to redeem. By comparing means of attractiveness and the likelihood to redeem each offer package, which are shown in Table 7, we conclude that the higher the gambling level for each offer package, the more attractive the offer package is.

Table 6 Overall Attractiveness/Likelihood to Redeem between Offer Packages

	Attractiveness	Likelihood to Redeem
F-Value	105.286	1.511
Significance	.000	.197

Table 7 Average Attractiveness/Likelihood to Redeem Each Offer Package

Offer Package	1	2	3	4	5
Attractiveness	2.01	2.38	2.93	3.27	3.88
Likelihood to Redeem	2.56	2.68	2.73	2.69	2.85

Statistical methods were carried out to investigate the following three aspects: 1.whether different personal profile groups have significantly different preference toward each offer package, that is, whether the four different personal profile groups have significant difference in their likelihood to redeem a certain offer package and in their perception of attractiveness of this package; 2.whether a certain personal profile group has significant difference in its preference toward the five different offer packages, that is, whether this group has significant difference in its likelihood to redeem the five offer packages and in its perception of the attractiveness of these offer packages; 3.whether there is any correlation between attractiveness of the offer packages and likelihood to redeem them.

First, to test if different personal profile groups have different preference toward each offer package, two-way ANOVA was used to evaluate means of likelihood to redeem each of the five offer packages in the gender and income group. Results of the analysis were listed in Table 8 and Table 9.

Table 8 Offer Package Likelihood to Redeem among Personal Profile Groups

Personal Profile Group		Pkg 1	Pkg 2	Pkg 3	Pkg 4	Pkg 5
Gender	F-value	0.106	3.957	23.867	12.632	15.915
	Significance	0.745	0.048	0.000	0.000	0.000
Income	F-value	5.247	1.756	0.813	0.087	1.364
	Significance	0.023	0.186	0.368	0.768	0.244
Gender x Income	F-value	0.736	0.943	0.581	0.016	2.353
	Significance	0.392	0.332	0.447	0.900	0.126

Table 9 Means of Offer Package Likelihood to Redeem among Personal Profile Groups

Personal Profile Group	Pkg 1	Pkg 2	Pkg 3	Pkg 4	Pkg 5
Male	2.610	2.861	3.092	3.000	3.232
Female	2.551	2.558	2.416	2.408	2.442
Lower Income	2.788	2.810	2.816	2.679	2.722
Higher Income	2.374	2.609	2.691	2.728	2.953

Table 8 shows F-values and P-values of the gender group and income group's likelihood to redeem each of the five offer packages. In the gender group, P-values of likelihood to redeem offer package 2, 3, 4 and 5 are smaller than .05, which implies that different gender group has significant difference in likelihood to redeem offer package 2, 3, 4 and 5. Also, in the income group, only P-value of likelihood to redeem offer package 1 is significant, which means that different income group has significantly different likelihood to redeem offer package 1. Table 9 lists means of the two gender groups' as well as of the two income groups' likelihood to redeem each of the five offer package. Comparison of means of the male group and the female group's likelihood to redeem offer package 2, 3, 4 and 5 demonstrates that males are more likely to redeem offer package 2, 3, 4 and 5 than females, which implies that males are more likely to redeem offer packages with higher

gambling spend requirement and rewards offered. Similarly, comparison of means of lower income group and higher income group's likelihood to redeem offer package 1 demonstrates that lower income group is more likely to redeem offer package 1 than higher income group. This result implies that the lower income group is more likely to redeem the offer package with the lowest gambling spend requirement, though this package has the lowest reward at the same time.

Similarly, two-way ANOVA was carried out to investigate whether different personal profile groups perceives differently toward attractiveness of each offer package. Test results show F-value and P-value of the gender group and income group's perception of attractiveness of each of the five offer packages, which were listed in Table 10. The results show that P-value of the income group as well as of the combined gender and income group are smaller than .05, which means that in perception of the attractiveness of offer package 1, there is significant difference in the income group and there is two-way interaction between gender and income group. On the one hand, to further test the difference in perception of attractiveness in the two income groups, means of the income groups' perception of attractiveness of the offer packages were compared.

Table 11 lists means of the two gender groups' as well as the two income groups' perception of attractiveness of each of the five offer package. Result of the comparison shows that subjects with lower income perceive offer package 1 more attractive than those with higher income. On the other hand, to further investigate the two-way interaction

between gender and income group in perception of attractiveness of offer package 1, post hoc test was carried out. The result was listed in Table 12, which shows that there is significant difference in perception of attractiveness of offer package 1 between female lower income and female higher income groups, but no significance was found between male and the two income groups.

By comparing the mean difference between the female lower income group and the female higher income group, we can conclude that the female lower income group perceives offer package 1 as more attractive than the female higher income group. This analysis result agrees with results generated in the previous sections that females have lower gambling budget than males, that subjects with lower income have lower gambling budgets, and that the lower income group is more likely to redeem offer package 1, which has the lowest gambling spend requirement. Based on the analysis above, we can summarize that the female lower income group perceives offer package 1, that is, the package with the lowest gambling spend requirement more attractive than the female higher income group.

Table 10 Offer Package Attractiveness among Personal Profile Groups

Personal Profile Group		Pkg 1	Pkg 2	Pkg 3	Pkg 4	Pkg 5
Gender	F-value	0.655	2.621	2.392	0.647	0.487
	Significance	0.419	0.106	0.123	0.422	0.486
Income	F-value	13.115	1.164	0.065	0.589	2.190
	Significance	0.000	0.282	0.799	0.444	0.140
Gender x Income	F-value	5.187	1.694	0.928	0.446	1.666
	Significance	0.002	0.168	0.427	0.720	0.174

Table 11 Means of Offer Package Attractiveness among Personal Profile Groups

Personal Profile Group	Pkg 1	Pkg 2	Pkg 3	Pkg 4	Pkg 5
Male	2.107	2.499	3.035	3.321	3.916
Female	1.911	2.264	2.830	3.221	3.839
Lower Income	2.296	2.481	2.964	3.216	3.737
Higher Income	1.722	2.282	2.900	3.325	4.018

Table 12 Attractiveness of Offer Package 1 among Mixed Personal Profile Groups

Mixed Personal Profile Group	Significance	Mean Difference(Income- Gender)
Female x Lower Income	.005	.770
Female x Higher Income	.017	.603

Therefore, we conclude that subjects in different personal profile groups have different preference toward a certain offer package.

Next, repeated measures analysis was employed to test whether a certain personal profile group has significant difference in its preference toward the five different offer packages. This analysis tests both a certain personal profile group's likelihood to redeem the offer packages and its perception of attractiveness of these offer packages.

Table 13 lists the test results, which reports the interaction between the between-subjects factor and within-subjects factor. On the one hand, the between-subjects effects results show that in likelihood to redeem the offer packages, the P-value of gender is smaller than .05, implying that the effect of package is different for males and females, that is, between the male and the female group, there is statistically significant difference in likelihood to redeem at least one offer package. This result confirms the two-way ANOVA test results discussed in the previous section that different gender group has significant

difference in likelihood to redeem offer package 2, 3, 4 and 5. On the other hand, the within-subjects effects results show that P-value of gender group's likelihood to redeem the five offer packages is .017, implying that the effect of package is different for male and female groups, that is, there is significant difference in likelihood to redeem the five offer packages between male and female groups. Also, P-value of the income group's likelihood to redeem the offer packages is .057, which means that the effect of package is marginal different for lower income group and higher income group, that is, there is marginal significant difference in likelihood to redeem the five offer packages between lower income and higher income groups.

Table 13 Attractiveness and Likelihood to Redeem in Certain Personal Profile Group

	Personal Profile Group	Likelihood to Redeem		Attractiveness	
Between-Subjects Effects	Gender	F-value	18.549	F-value	2.987
		Significance	.000	Significance	.085
	Income	F-value	.633	F-value	.902
		Significance	.427	Significance	.343
	Gender x Income	F-value	.015	F-value	.520
		Significance	.903	Significance	.471
Within-Subjects Effects	Package	F-value	1.715	F-value	139.79
		Significance	.185	Significance	.000
	Pkg x Gender	F-value	4.397	F-value	0.315
		Significance	0.017	Significance	0.735
	Pkg x Income	F-value	3.019	F-value	6.860
		Significance	0.057	Significance	0.001
	Pkg x Gender x Income	F-value	1.830	F-value	0.721
		Significance	0.167	Significance	0.490

To find out detailed difference in likelihood to redeem the five offer packages between male and female groups and between lower income and higher income groups, each pair's means of likelihood to redeem each of the five packages are compared and the results are shown in Figure 1 and Figure 2. From the two figures, we can find that with increase of both gambling spend requirement and rewards offered from package 1 to 5, males and subjects with higher income increase their likelihood to redeem the packages, while females and those with lower income do not change much or even decrease their likelihood to redeem the packages.

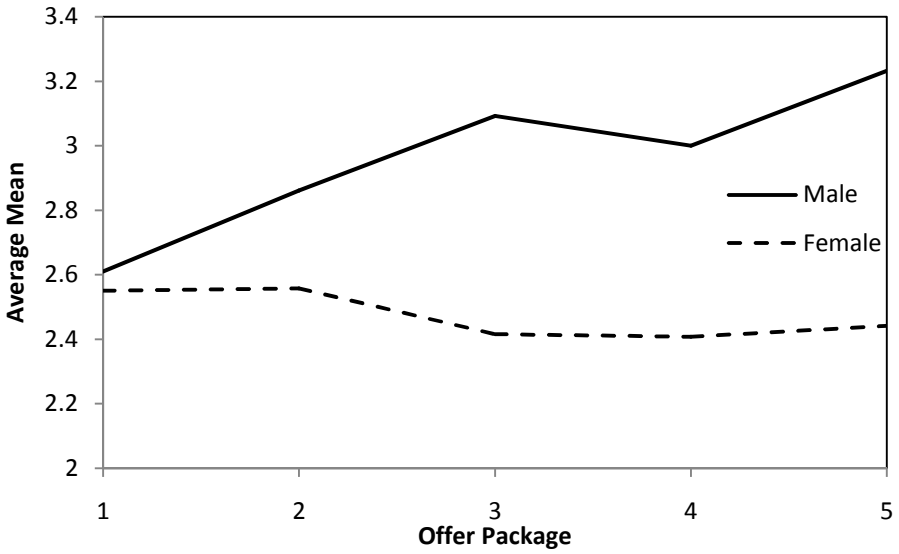

Figure 1 Comparison of Means of Offer Package Likelihood to Redeem in the Gender Group

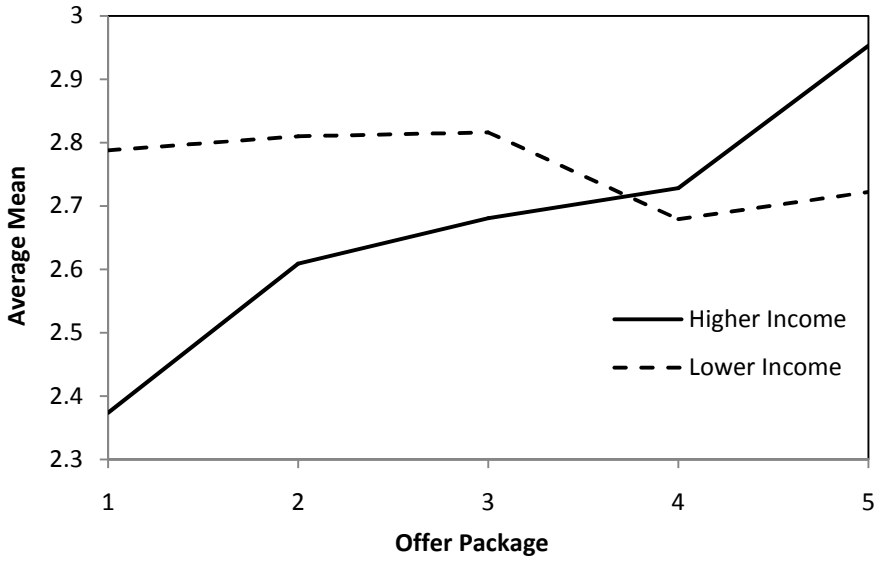

Figure 2 Comparison of Means of Offer Package Likelihood to Redeem in the Income Group

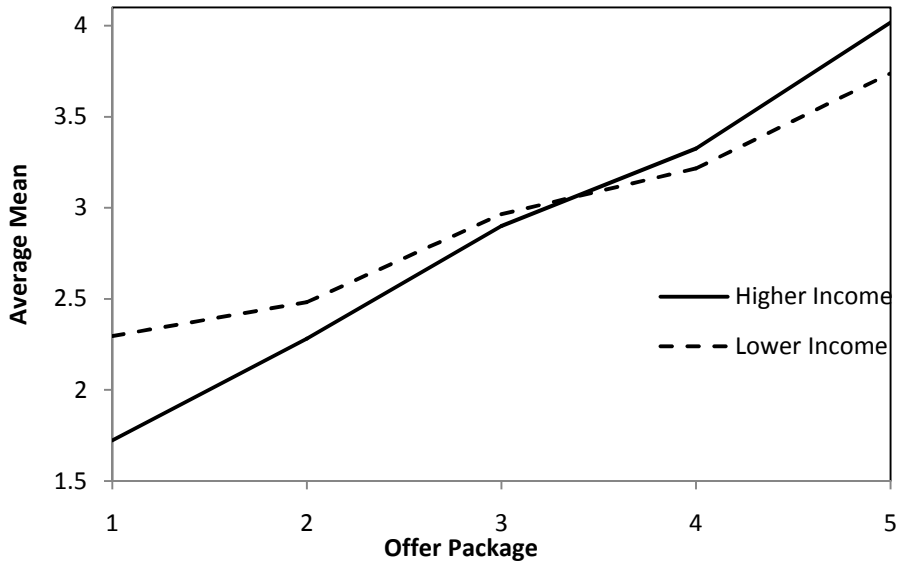

Figure 3 Comparison of Means of Offer Package Attractiveness in the Income Group

In testing a group's perception of attractiveness of the offer packages, results show that P-value of income group's perception of package attractiveness is .001, which means

that there is statistically significant difference in perception of package attractiveness between subjects with lower income and those with higher income. By comparison of means of the two income groups' perception of the five offer packages, which are listed in table 10, we can find that with the increase of both gambling spend requirement and rewards offered from package 1 to package 5, both income groups increase their level of perception of attractiveness of the five offer packages. However, subjects with lower income conceive offer packages 1, 2 and 3, that is, packages with lower gambling spend requirement more attractive than those with higher income do, while those with higher income think offer packages 4 and 5, that is, packages with higher rewards more attractive than those with lower income do. This testing result is shown in Figure 3.

Table 14 Correlation between Attractiveness and Likelihood to Redeem

		Likelihood to Redeem				
		Pkg 1	Pkg 2	Pkg 3	Pkg 4	Pkg 5
Attractiveness	Pkg 1	0.429 (0.000)	0.348 (0.000)	0.149 (0.009)	-0.038 (0.507)	-0.137 (0.017)
	Pkg 2	0.316 (0.000)	0.435 (0.000)	0.257 (0.000)	0.072 (0.211)	-0.017 (0.767)
	Pkg 3	0.207 (0.000)	0.391 (0.000)	0.450 (0.000)	0.212 (0.000)	0.149 (0.009)
	Pkg 4	0.100 (0.082)	0.206 (0.000)	0.335 (0.000)	0.473 (0.000)	0.378 (0.000)
	Pkg 5	0.003 (0.961)	0.081 (0.157)	0.233 (0.000)	0.413 (0.000)	0.471 (0.000)

Note: Significance of each Pearson correlation coefficient is included in parentheses.

Last, correlation between attractiveness of an offer package and likelihood to redeem

it was investigated based on calculations of the Pearson correlation coefficient. Correlation coefficient for each package's attractiveness and likelihood to redeem this package and that for each package's attractiveness and likelihood to redeem the other four offer packages are summarized in Table 14 above.

The results show that for each offer package, correlation coefficient is between .429 and .473. According to the correlation coefficient range -1 to +1, we can conclude that there is moderate correlation between offer package attractiveness and subjects' likelihood to redeem it, which means that attractiveness of an offer package is proportional to subjects' likelihood to redeem it. Also, from slightly lower values of correlation coefficients of attractiveness of an offer package and likelihood to redeem the packages close to it, we find that there is also correlation between attractiveness of one package and likelihood to redeem packages close to it. For instance, if subjects perceive package 4 attractive, they may be not only likely to redeem this package, but also likely to redeem package 3 and package 5.

Offer Package Effect on Casino Visit Frequency

The efficacy of offer packages is in 1) change of future casino visiting frequency, and 2) change of future gambling budget, for the target customer group.

In the questionnaire, the subject was first asked if he/she had visited a casino in the past twelve months. If the answer was yes, then the subject was asked about historical

casino visit frequency. All subjects were asked for future casino visiting frequency if the offer packages were available for their visits. Four casino visit frequency levels were provided from high to low, where Level 1 denotes twice a week or more, Level 2 denotes once a week, Level 3 denotes 1 – 2 times a month, and Level 4 denotes less than once a month.

In the sample, 18.2%, or 56 out of 307 subjects, did not have any casino visit in the past 12 months. These subjects were regarded as historical non-gamblers, and they were not asked for historical casino visit frequencies, but were asked for future casino visit frequencies with the offer packages. Among these subjects, 14 (25.0%) intended to have future casino visits at least once a month, while the other 42 (75%) intended to visit less than once a month. It should be noted that due to the questionnaire design, the true effect of the offer packages on these 42 subjects could not be quantified. A historical non-gambler might be tempted by the offer packages to gamble once every three months in the future, or he/she might remain not going to casinos at all in the future. In both cases, the subject would choose the frequency option of less than once a month for future casino visits.

The other 251 subjects in the sample who had visited casinos at least once in the past twelve months were regarded as historical gamblers, and they were asked for both historical and future casino visit frequencies. For these historical gamblers, 186 (74.1%) did not intend to change the visit frequency, 30 (12.0%) intended to reduce the visit frequency, and 35 (13.9%) intended to increase the visit frequency in the future. Table 15

lists the percentage of the historical gamblers in each visit frequency category, both historically and with the offer packages, which shows that those who increase their casino visit frequency move to the next higher level of casino visit frequency.

Table 15 Cross-tabulation of Historical and Future Casino Visit Frequency

Historical Visit Frequency		1 (2/week or more)	2 (1/week)	3 (1-2/month)	4 (less than 1/month)
Future Visit Frequency	1	17 (65.4%)	4 (9.1%)	0 (0%)	1 (1.0%)
	2	4 (15.4%)	30 (68.2%)	6 (7.5%)	1 (1.0%)
	3	2 (7.7%)	6 (13.6%)	57 (72.2%)	17 (16.8%)
	4	3 (11.5%)	4 (9.1%)	16 (20.3%)	82 (81.2%)

A paired T-test was carried out to test whether there is significant difference in casino visit frequencies for historical gamblers. Result of this test is shown in Table 16, that is, there is no statistically significant difference between historical and future frequencies for historical gamblers.

Table 16 T-test Results for Comparison of Casino Visit Frequency

t-Value	Significance	Mean	
-1.389	.166	Historical	3.03
		Future	3.09

Also, one-way ANOVA was carried out to evaluate whether there is significant difference between historical and future casino visit frequency distributions for each personal profile group. Table 17 shows t-test results for frequency changes in the four

different personal profiles of historical gamblers. However, the result shows that for all the four groups evaluated, no significant difference was found.

Table 17 Frequency Changes in Different Personal Profile Groups

Personal Profile Group	F-value	Significance
Gender	0.948	0.824
Income	0.823	0.751
Gender x Income	0.499	0.683

Considering that low statistics in the sample may lead to lack of significant difference, to further testify the effect of offer packages on casino visit frequencies, total historical casino visits in the past year and total future casino visits in one year are calculated and compared.

We first calculate the total historical casino visits in the past year in the sample. For subjects who chose Level 1, a conservative frequency of twice a week was assumed. For subjects who chose Level 3, an average frequency of 1.5 times a month was assumed. For subjects who chose Level 4, a frequency of once every six months was assumed. With the above assumptions, the total number of casino visits in the past twelve months for all the subjects was given by the following formula (based on data in Table 3):

$$\sum = (2/\text{week} \times 52\ \text{weeks/year} \times 10.4\% + 1/\text{week} \times 52\ \text{weeks/year} \times 17.5\% + 1.5/\text{month} \times 12\ \text{months/year} \times 31.9\% + 2/\text{year} \times 40.2\%) \times 251$$

$$= 6{,}634\ /\ \text{year}$$

Then we calculate the total future casino visits in one year. To do this, we perform the

similar calculation above for the historical gamblers. In addition, we also calculate the total yearly casino visits for those historical non-gamblers who decided to visit casinos with the offer packages. For the historical gamblers, the total number of future visits is 6,158 / year; for the historical non-gamblers, the total number is 354 / year. So the total number of future casino visits in the sample is estimated to be 6,512 / year.

Compared to the historical number of casino visits, future number of casino visits is -1.8% lower. However, it should be noted that this is a conservative estimate, since those historical non-gamblers who chose Level 4 for future casino visits were regarded as not going to gamble at all in the future.

Offer Package Effect on Gambling Budget

In the questionnaire, subjects who gambled at least once in the past 12 months were subsequently asked for their historical average gambling budget levels. Later in the questionnaire, subjects were asked for their future gambling budget levels with the availability of the offer packages. Seven gambling budget levels were listed, with Level 1 being the smallest and Level 7 being the largest in amount spent per visit. Figure 4 compares historical and future gambling budgets for these historical gamblers and Table 18 lists the percentage of these historical gamblers in each gambling category.

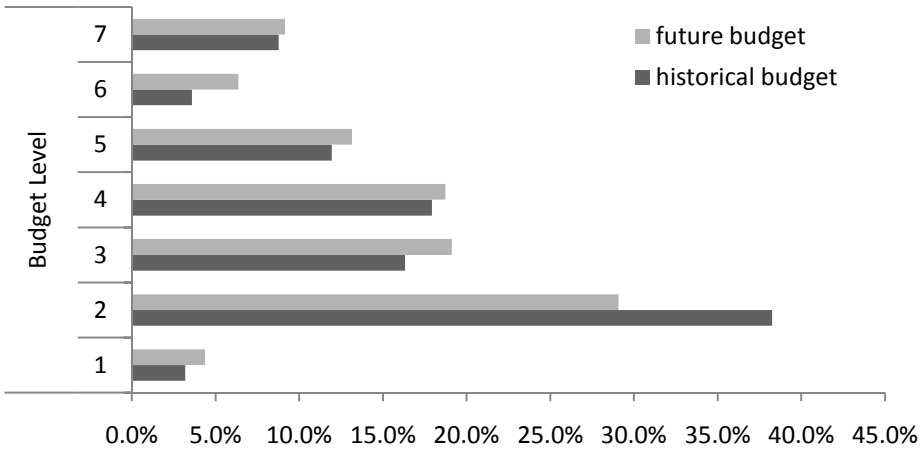

Figure 4 Comparison between Historical and Future Gambling Budget for Historical Gamblers

Table18 Cross-tabulation of Historical and Future Gambling Budget

Historical Gambling Budget		1 ($0)	2 ($0-$24)	3 ($25-$49)	4 ($50-$99)	5&6 ($100-$199)	7 ($200 or more)
Future Gambling Budget	1	5 (62.5%)	5 (5.2%)	1(2.4%)	0(0%)	0(0%)	0(0%)
	2	1 (12.5%)	68 (70.8%)	2(4.9%)	2(4.4%)	0(0%)	0(0%)
	3	2 (25.0%)	18 (18.8%)	24(58.6%)	2(4.4%)	2(5.1%)	0(0%)
	4	0(0%)	4 (4.2%)	11(26.8%)	29(64.5%)	2(5.1%)	1(4.6%)
	5&6	0(0%)	0(0%)	3(7.3%)	10(22.3%)	33(84.7%)	3(13.6%)
	7	0(0%)	1 (1.0%)	0(0%)	2(4.4%)	2(5.1%)	18(81.8%)

Table 18 shows that with the offer packages, those who increase their gambling budget move to the next higher level.

Paired T-test was performed to evaluate the statistical significance of the difference in gambling budget distributions in Figure 4. Table 19 lists the test result, which shows that there is statistically significant difference between the historical and future gambling budget level distributions. From comparison of the average means of historical and future

gambling budgets, which is 3.40 and 3.62 respectively, we conclude that subjects increase their gambling budgets with availability of the offer packages.

Table 19 Comparison between Historical and Future Gambling Budget

t-Value	Significance	Average Mean	
-3.905	.000	Historical	3.40
		Future	3.62

Next, one-way ANOVA was carried out to test gambling budget changes in the four personal profile groups with availability of the offer packages. Results are listed in Table 20, which shows that there is no statistically significant difference in gambling budget change in the personal profile groups.

Table 20 Gambling Budget Changes in Different Personal Profile Groups

Personal Profile Group	F-value	Significance
Gender	0.948	0.824
Income	0.823	0.751
Gender x Income	0.499	0.683

To further evaluate the effect of the offer packages on gambling budget, a rough estimate for the average gambling spending is calculated using the following equation:

$$Mean\ Budget = \sum_{i=1}^{7} R_i \times X_i \qquad \text{(Equation 1)}$$

where R_i is the percentage of the sample for budget Level i, and X_i is average gambling spend per visit for this group of sample. For simplicity, the median values for each budget level were used as X_i for Budget Levels 1 to 6. And for Level 7 (corresponding to budget of

$200 or more), a conservative lower limit of $200 was used. Using these assumptions, the historical gamblers' mean historical gambling budget is found to be $62.8, and the mean future gambling budget is found to be $70.5, a 12.3% increase compared to the mean historical gambling budget. This suggests that offer packages could have a positive effect on gambling budget for historical gamblers.

From the above analysis, we can draw a conclusion that with the availability of offer packages, subjects increase their gambling budgets and they intend to increase their budgets to the next higher level.

Offer Package Effect on Casino Profitability

To have a comprehensive evaluation of offer package effects, we compare the overall historical and future gambling spend per year in the sample, taking into account both each subject's casino visit frequency and gambling budget per visit. The overall gambling spend is calculated using the following equation:

$$Overall\ Spend = \sum_{i=1}^{307} N_i \times B_i \qquad \text{(Equation 2)}$$

where N_i is the historical or future number of casino visits per year for subject *i*, and B_i is the average historical or future gambling budget per visit for subject *i*.

To obtain the historical overall gambling spend using Equation 2, the historical non-gamblers were not included in the calculation. For historical gamblers, the following approximations are used for N_i: twice per week for Level 1 frequency, once a week for

Level 2 frequency, 1.5 times a month for Level 3 frequency, and twice a year for Level 4 frequency. For the value of B_i, the approximations discussed in the previous section are used. The historical overall gambling spend is then found to be $428,696.

To obtain the future overall gambling spend using Equation 2, we include those historical non-gamblers who intended to have future casino visits at least once a month. The future overall gambling spend is then found to be $493,490. This is a 15.1% increase compared to the historical overall gambling spend, which means that casinos increase their revenue with the offer packages.

It should be mentioned that the overall profitability benefit that the offer packages offer for the casino should take into account the total cost of the offer packages as well as associated business created. Due to lack of data from the real businesses, it is very hard to estimate the exact profit generated from these offer packages as well as profit from customers' associated spending while being present at the casino. However, with the result generated from the above profitability analysis, we hold positive expectation toward profitability increase with availability of the offer packages.

Testing of Hypotheses

The validity of each of the four hypotheses proposed in this study is discussed in this section.

Hypothesis 1 is that local young people will respond to offer packages differently on their personal profile characteristics.

It has been tested in the Personal Profile section that subjects in different personal profile groups have different characteristics in gambling behavior: More percentage of males participate in gambling activities than females do; males visit casinos more frequently and have a larger gambling budget for each casino visit than females; subjects with higher income have higher gambling budget than those with lower income.

As stated in previous chapters, people in different personal profile groups have different characteristics. Therefore, it is assumed that with different personal profile characteristics in gambling behavior, local young people will respond to offer packages differently based on their personal profile characteristics.

To test this hypothesis, the assumption that subjects in different personal profile groups have different characteristics in gambling behavior is first tested in the Personal Profile section. The results support the hypothesis that subjects in different personal profile groups have different characteristics in gambling behavior: more percentage of males participate in gambling activities than females do; males visit casinos more frequently and have a larger gambling budget for each casino visit than females; subjects with higher income have higher gambling budget than those with lower income.

Then, to further test this hypothesis, statistical methods were carried out to investigate whether different personal profile groups have significantly different preference toward a

certain offer package, whether a certain personal profile group has significant difference in its preference toward the five different offer packages, and whether there is any correlation between attractiveness of the offer packages and likelihood to redeem them. First of all, test results show that there is moderate correlation between offer package attractiveness and likelihood to redeem: subjects' likelihood to redeem an offer package is proportional to their perception of attractiveness of this package and if they perceive one offer package attractive, they may not only redeem this package, but also redeem packages close to it. Second, test results imply that different personal profile groups have different preference toward a certain offer package: males are more likely than females to redeem offer package 2, 3, 4 and 5, subjects with lower income are more likely to redeem offer package 1 than those with higher income, females with lower income perceives offer package 1 more attractive than females with higher income. Last, test results show that a certain personal profile group has different preference toward the five offer packages: with increase of both gambling spend requirement and rewards offered from package 1 to 5, males and subjects with higher income increase their likelihood to redeem the packages, while females and those with lower income do not change much or even decrease their likelihood to redeem the packages; at the same time, with the increase of both gambling spend requirement and rewards offered from package 1 to package 5, both income groups increase their level of perception of attractiveness of the five offer packages. However, subjects with lower income conceive offer packages 1, 2 and 3, that is, packages with lower gambling spend

requirement more attractive than those with higher income do, while those with higher income think offer packages 4 and 5, that is, packages with higher rewards more attractive than those with lower income do.

From the above analysis results, hypothesis 1 is supported.

Hypothesis 2 is that local young people will be attracted by the offer packages and increase their gambling visit to the casino.

Data analysis results shown in Table 13 did not find statistical significant enhancement of casino visit frequencies for those subjects who had gambled in the previous 12 months. Nor did results in Table 14 find any significant difference between any two profile groups in terms of casino visit frequency changes. Therefore, this hypothesis cannot be verified for historical gamblers.

However, data in this study show that 25% of the subject group who did not gamble in the previous 12 months intended to have casino visits at least once a month with the offer packages. This implies that the offer packages have the effect of attracting new customers for the casinos.

Therefore, to investigate the validation of this hypothesis, more statistics is needed.

Hypothesis 3 is that local young people will be attracted by the offer packages and increase their gaming worth during their visits to the casino.

Paired t-test finds that there is statistically significant increase in gambling budget for historical gamblers with the availability of the offer packages. At the same time, the data

show that the average gambling budget increased from $62.8 to $70.5 for historical gamblers. When the sample group was evaluated together, there is an increase of 15.1% in total yearly gambling spend with the availability of offer packages.

Therefore, this hypothesis is supported.

Hypothesis 4 is that by providing properly designed offer packages, casinos will increase their revenue by exploring the potential market of the local young people.

First of all, from tests results generated from the previous sections, we can conclude that the five offer packages were properly designed due to the fact that there is correlation between offer package attractiveness and likelihood to redeem, different personal profile groups have different preference toward a certain offer package and a certain personal profile group has different preference toward the five offer packages.

Then, the analysis found that by using these properly designed offer packages, subjects increased their gambling budget for future casino visits and the overall gambling spend would increase by 15.1% in the sample. This result is due to future casino visits by historical non-gamblers and change of gambling budget among historical gamblers. The result implies that casinos can increase revenue by using offer packages.

Therefore, this hypothesis is supported.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Introduction

In the previous chapter, data gathered for this study were presented and analyzed statistically to test the validity of the hypotheses. In this chapter, the results of the analysis are summarized and their implications are discussed. The limitations of this study are also listed.

Summary of Results

This study was carried out to evaluate the efficacy of using offer packages as a marketing tool for casinos to explore the local young population market. In summary, the hypotheses proposed in this study are that local young people will respond positively to offer packages, increase their casino visit frequency and gambling budget, so that casinos will realize increased revenue.

To test the hypotheses, we used a set of offer packages and tested their effectiveness with a special subgroup of local young people – current university students. Instead of applying offer packages in real-world casino marketing activities to obtain first-hand evidence, their effect was simulated by the use of questionnaires. The results show that the hypotheses were generally supported, that is, different profile groups responded differently

to each offer package, the future gambling budget was increased, and through providing properly designed offer packages, casinos realize revenue increase by exploring the potential market of the local young people. However, more statistics is needed to support the increased casino visit frequency and casino profitability. In the following, different aspects of the results in this study are reviewed and discussed.

Intercomparison of Offer Packages

In this study, five offer packages were used for five different gambling budget levels. The offer packages were designed with the principle that more gambling spending should lead to higher rewards.

The data in Table 6 and Table 7 show that the higher the gambling level, the more attractive the offer package is.

Two reasons could exist for this preference towards higher offer packages with larger gambling budget level. First, subjects found more value in the offer items for higher gambling amount. Table 1 shows that with $25 gambling amount, only a T-shirt, a 10% off casino buffet coupon, and $5 cash back are offered, while with $200 gambling amount, the player will get rewards in all the categories of clothing, food, cash, and entertainment. Second, although offer packages with higher gambling spend requirement means more spending, subjects may regard the higher gambling amount as more opportunity for casino play enjoyment and more chance for winning. Therefore, offer packages with higher

gambling amount was deemed more attractive compared to those with lower gambling amount.

Interestingly, the data did not show statistically strong evidence that offer packages with higher gambling amount will have higher likelihood to be redeemed. The reason may lie in the fact that subjects have their particular characteristics and they may have a fixed gambling budget. Therefore, their likelihood to redeem an offer package may not be easily changed with increasing of gambling spend requirement or rewards offered.

Also, test results show that for each offer package, there is moderate correlation between offer package attractiveness and subjects' likelihood to redeem it. Marginal correlation is also found between attractiveness of one package and likelihood to redeem packages close to it. These results demonstrate that attractiveness of an offer package is proportional to subjects' likelihood to redeem it.

Effectiveness of Offer Packages

The effectiveness of the offer packages is judged by the following three aspects: proper design, its influence on subjects' casino visit habit, including casino visit frequency and gambling budget, as well as on casino's revenue increase.

First of all, from tests results generated from the previous sections, we can conclude that the five offer packages were properly designed. On the one hand, attractiveness of the offer packages increases with the gambling level for each offer package and there is a

moderate correlation between offer package attractiveness and likelihood to redeem. On the other hand, the five different offer packages do have an impact on the subjects and different responses were received from different personal profile groups. Test results imply that different personal profile groups have different preference toward a certain offer package: females with lower income perceives offer package with the lowest gambling spend requirement more attractive than females with higher income, subjects with lower income are more likely to redeem offer package with the lowest gambling spend requirement than those with higher income, and males are more likely than females to redeem offer package with higher reward. Test results also show that a certain personal profile group has different preference toward the five offer packages: with the increase of both gambling spend requirement and rewards offered from package 1 to package 5, both income groups increase their level of perception of attractiveness of the five offer packages. However, subjects with lower income conceive packages with lower gambling spend requirement more attractive than those with higher income do, while those with higher income think offer packages with higher rewards more attractive than those with lower income do. At the same time, with increase of both gambling spend requirement and rewards offered from package 1 to 5, males and subjects with higher income increase their likelihood to redeem the packages, while females and those with lower income do not change much or even decrease their likelihood to redeem the packages. Therefore, from the above two aspects, we can summarize that the five offer packages were properly designed.

Second, the offer packages have an influence on subjects' casino gambling habit, including their casino visit frequency and gambling budget. Data analysis found that by using these properly designed offer packages, subjects increased their gambling budget for future casino visits and they tend to increase their budgets to the next higher level. Although test results did not find statistically significant difference between subjects' historical and future casino visit frequencies, data do show that the offer packages have the effect of attracting new customers for the casinos. Thus, we can conclude that the offer packages do influence subjects' casino gambling habit.

At last, results of the analysis imply that casinos can increase revenue by using offer packages because the overall gambling spend would increase by 15.1% in the sample.

From the above analysis, we can conclude that the offer packages were properly designed and they have an impact on subjects' casino visit habit as well as on casino's revenue increase. In this sense, the offer packages are effective.

Recommendation to Casinos

Based on our data results, some general recommendations can be generated to aid casinos in designing their offer packages to increase their revenue.

Our data show that it is very important for casinos to target the local young population by designing effective offer packages according to their characteristics, their interests and specific consumption tendencies. Also, it is important for casinos to note that to design

effective offer packages, attractiveness is not the only one factor to be taken into consideration. Casinos have to realize that customers' likelihood to redeem the offer packages is even more important to increase their revenues. Therefore, specific characteristics of particular profile groups and their gambling behavior have to be considered. For example, realizing that males and those with higher income are more likely to redeem offer packages with higher gambling spend requirement than females and those with lower income, casinos should consider characteristics of male and people with higher income and design packages with higher gambling spend requirement according to these groups' preferences so as to achieve the highest revenue. Also, knowing that females with lower income are more likely to redeem offer package with the lowest gambling spend requirement, casinos should consider this group's preferences and properly design package with the lowest gambling spend requirement.

Also, it is of the same important for casinos to effectively communicate with the local young population and let them know about the offer packages available. Advertisement about the offer packages may be sent to the population via text communication, such as SMS short message service and email. Also, on line social networks, such as facebook, twitter, etc. may also be employed as options for the casinos to communicate with the targeting population.

Limitations

This study has the following limitations.

1. Limitations due to the sample used. The demographic characteristics of the local young population cannot be fully represented by the sample used in this study. The subjects' education level, income level, marital status, and career types are different from the local young population: the subjects in this study are only composed of university undergraduate and graduate students, while only 19.6% of the local population that are 25 years and over hold bachelor's degree or higher; 91.9% of the subjects are full-time students in a single institution, while the local young population are dispersed in the whole spectrum of professions; 91.9% of the subjects are single, while 59.1% of the local population that are 25 years and over are married; a majority of the subjects had low to moderate personal income and only 29.6% of the sample reported income over $ 20,000 in the past 12 months, while per capita income of the local population is $ 24,887. This limit was a direct consequence of limited resources for this study. Although not representing the population, the sample stands for a particular group in the local young population and study of this group gives close insight to the local population. To better evaluate the efficacy of offer packages, a comprehensive study should be carried out using a more diverse group of local young population.

2. A second limitation of this study is the relatively small sample size. Although a total of 307 completed questionnaires have been compiled and analyzed, the number of valid

datasets is limited for each type of profile groups. As a result, certain profile groups had to be combined into larger groups to allow the validity of statistical analysis. For example, subjects in different income levels are combined so that only two groups (lower income and higher income groups) are used in the analysis. For the same reason, effects of offer packages on people with different marital status were not analyzed, because the sample was primarily composed of single people.

3. Limitations due to the offer packages used. The offer packages used in this study are devised by the author at five gambling spending levels. These offer packages are by no means optimized to maximal interest of the local young population. By more extensive marketing research and tests, it can be expected that the offer packages could be significantly improved to increase their attractiveness to the local young population. Results and conclusions in this study could be significantly affected if more optimized offer packages are used in this study.

4. The other limitation of this study is that profitability analysis was not carried out. The overall profitability benefit that the offer packages offer for the casino is even more important for casinos than the revenue increase generated, however, due to lack of data from the real businesses, it is very hard to estimate the total cost of the offer packages which is crucial in the profitability analysis and therefore, only the revenue analysis was made in this study. In the future study, further research has to be done to estimate the overall profitability generated from the offer packages, considering the cost factor.

APPENDIX

HOSPITALITY RESEARCH QUESTIONNAIRE

Please read this first:

*This questionnaire is intended for people who are **between 21 to 34 years old**. If your age falls outside this range, please do not continue with this questionnaire.*

Section 1: Casino Playing History

1. Did you gamble in a casino in the past 12 months?

A) Yes. B) No.

If you answered Yes, please continue.

If you answered No, please skip Questions 2 & 3 and go to Question 4.

2. On average, how frequently did you visit casinos in the past 12 months?

A) Twice a week or more B) Once a week

C) 1-2 times a month D) Less than once a month

3. On average, what is your budget on gambling for each casino visit?

A) $0 B) $1-$24 C) $25-$49 D) $50-$99

E) $100-$149 F) $150-$199 G) $200 or more

4. How likely are you to gamble at casino in the next 3 months?

A) Extremely unlikely B) Somewhat unlikely C) Slightly unlikely

D) Slightly likely E) Somewhat likely F) Extremely likely

Section 2: Casino Offer Package Questions:

In this section, a number of offer packages are presented in the following table. ***If you spend certain amount of money on gambling during a single casino visit, you can get the respective offer package.***

Package Components	**Offer Package 1**	**Offer Package 2**	**Offer Package 3**	**Offer Package 4**	**Offer Package 5**
Product	T-shirt	Ball Cap	Polo Shirt	Long-sleeve Denim Shirt	Hooded Zip-front Jacket
Food	10% Off Casino Buffet Coupon	25% Off Casino Buffet Coupon	50% Off Casino Buffet Coupon	One Free Casino Buffet	Two Free Casino Buffet
Cash	$5 Cash Back	$10 Cash Back	$20 Cash Back	$35 Cash Back	$50 Cash Back
Entertainment	None	One 20% Off Casino Show Ticket	One 50% Off Casino Show Ticket	One Free Casino Show Ticket	Two Free Casino Show Ticket
Gambling Amount Required	**$25**	**$50**	**$100**	**$150**	**$200**

Note: Original Casino Buffet Price: $30/person

Original Casino Show Ticket: $50/person

5. Using the rating scale from 1 to 5, where 1 represents “least likely” and 5 represents “most likely”, the likelihood to redeem the above five offer packages are listed below. Please rate the likelihood to redeem each offer package in the next 3 months by circling the appropriate number.

	Least likely				Most likely
Offer Package 1	1	2	3	4	5
Offer Package 2	1	2	3	4	5
Offer Package 3	1	2	3	4	5
Offer Package 4	1	2	3	4	5
Offer Package 5	1	2	3	4	5

6. Using the same rating scale as in question 5, the attractiveness of the above five offer packages are listed below. Please rate the attractiveness of each offer package by circling the appropriate number.

	Least attractive				Most attractive
Offer Package 1	1	2	3	4	5
Offer Package 2	1	2	3	4	5
Offer Package 3	1	2	3	4	5
Offer Package 4	1	2	3	4	5
Offer Package 5	1	2	3	4	5

7. With the offer packages available for each of your future casino visits, how frequently do you plan to visit the casino?

A) Twice a week or more B) Once a week

C) 1-2 times a month D) Less than once a month

8. With the offer packages available for each of your future casino visits, what will your budget on gambling be for each visit?

A) $0 B) $1-$24 C) $25-$49 D) $50-$99

E) $100-$149 F) $150-$199 G) $200 or more

Section 3: Demographic Information

8. Age: _____

9. Gender: _____ Male. _____ Female.

10. Are you a full-time or part-time student at UNLV:

A) Full-time. B) Part-time.

11. What was your annual personal income in past 12 months?

A) $0 B) $1-$5000 C) $5000- $10,000

D) $10,000-$20,000 E) More than $20,000

12. Marital status: ____ Single. _____ Married.

This completes the questionnaire. Thank you for your participation.

BIBLIOGRAPHY

Dolan, R. J. (1987). Managing the pricing of service-line and service-line bundles. In L. K. Wright (Ed.), Competing in a Deregulated or Volatile Market, MSI Report No. 87-1111.

Drumwright, M. E. (1992). A demonstration of anomalies in evaluations of bundling. *Marketing Letters*, 3(4), 311-321.

Gourville, J. T. & Soman, D. (2001). How packaging services can hurt consumption: the potential downside of bundling. *Cornell Hotel and Restaurant Quarterly*, 42, 29-37.

Green, P. E., & Wind, Y. (1984). Conjoint analysis of price premiums for hotel amenities. *Journal of Business*, 57, 111-132.

Guiltinan, J. P. (1987). The price bundling of services: A normative framework. *Journal of Marketing*, 51(2), 74-85.

Hanson, W., & Martin, R. K. (1990). Optimal bundle pricing. *Management Science*, 36(2), 155-174.

Janiszewski, C., & Cunha, M. (2004). The influence of price discount framing on the evaluation of a product bundle. *Journal of Consumer Research*, 30, 534-546.

Johnson, M. D., Herrmann, A., Bauer H. H. (1999). The effects of price bundling on consumer evaluations of product offerings. *International Journal of Research in Marketing*, 16, 129-142.

Kahneman, D. & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, 47, 263-291.

Karlinsky, M. & Farquar, P. H. (1988). Context effects in price bundling. Proceedings from the Association of Consumer Research Conference.

Las Vegas Convention & Visitors Authority (2006). 2006 Clark Country Residents Study. Available online at http://www.lvcva.com/press/statistics-facts/index.jsp

Nagle, T. (1987). *The Strategy and Tactics of Pricing*. Englewood Cliffs, NJ: Prentice-Hall.

Shinnar, R. S., Young, C. A., & Corsun, D. L. (2004). Las Vegas locals as gamblers and hosts to visiting friends and family: Characteristics and gaming behavior. *UNLV*

Gaming Research & Review Journal, 8(2), 39-48.

Shoemaker, S., & Zemke, D. M. (2005). The “locals” market: An emerging gaming segment. *Journal of Gambling Studies*, 21(4), 379-410.

Strauβ, B., & Schlecht, V. (2005). Heuristic bundling. In D. Baier, R. Decker, & L. Schmidt-Thieme (Eds.), *Data Analysis and Decision Support*, (pp. 313-322). New York: Springer.

Thaler, R. (1983). Mental accounting and consumer choice. *Marketing Science*, 2, 199-214.

Yardav, M. S. (1994). How buyers evaluate product bundles: A model of anchoring and adjustment. *Journal of Consumer Research*, 21, 342-353.

Yardav, M. S. & Monroe, K. B. (1993). How buyers perceive savings in a bundle price: An examination of a bundle’s transaction value. *Journal of Marketing Research*, 30, 350-358.

Yi, S., & Busser, J. A. (2008). The influential attributes that affect resident slot gamblers’ patronage intentions and willingness to recommend casinos to others. *Journal of Hospitality & Leisure Marketing*, 16(4), 343-367.

VITA

Graduate College
University of Nevada, Las Vegas

Ren Zhang

Home Address:
501 Oak Trail Place
Glendora, CA 91741

Degrees:
Bachelor of Arts, English, 2001
Harbin Engineering University

Master of Arts, English Linguistics and Literature, 2004
Harbin Engineering University

Thesis Title: Improving Casino Profitability through Effective Offer Packages

Thesis Examination Committee:
Chairperson, Sarah Tanford, Ph. D.
Committee Member, Carola Raab, Ph. D.
Committee Member, Mehmet Erdem, Ph. D.
Graduate Faculty Representative, John Schibrowsky, Ph. D.