Jul 30th, 11:30 AM - 12:30 PM

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ABSTRACT

This study reports the results of a field experiment that assessed the relationship between free-play coupon value and a player's slot wagering volume. Customers in the player database of a Las Vegas hotel casino were assigned to either a $50 free-play incentive (control offer) or a $100 free-play incentive (experimental offer). Results indicated little effect of free-play coupon value on slot gaming volumes. Furthermore, the estimated net cash flow per player by coupon value indicated that a $50 incentive was more profitable than a$100 offer. These findings imply that a higher incentive value is not necessarily more effective than a comparable lower incentive value in increasing a player's slot gaming volume and coupon profitability.

Key Words: Casino marketing, Coupons, Direct mail marketing, Casino Operations, Database marketing

INTRODUCTION

As today's U.S. casino markets become more competitive and mature, effective marketing for player acquisition and retention is crucial for the overall success of casino operations (Gu, 2002; Kilby, Fox, and Lucas, 2004; Lucas, Dunn, and Singh, 2005; Lucas and Kilby, 2008). In an attempt to increase guest traffic to the casino and retain players, casino marketers employ variety of marketing programs. For example, free-play offers for slots and match play coupons for blackjack tables games as a marketing tool, are well-known and widely used in the gaming industry (Kilby, Fox, and Lucas, 2004; Lucas and Bowen, 2002; Lucas et al., 2005; Lucas and Kilby, 2008). By offering these incentives, casino marketers hope to attract new customers who may not be familiar with casino games and/or encourage them to join the casino's membership program (Lucas, 2004; Lucas et al., 2005; Lucas and Kilby, 2008). With respect to existing customers, these incentives are often viewed as an investment in players in an effort to generate additional casino trips and play (Lucas, 2004; Lucas et al., 2005; Lucas and Kilby, 2008).

Despite the wide use of monetary play incentives in the gaming industry, little is known of the impact of monetary incentives on player behavior. It is possible that gaming volumes may not necessarily increase with the face value of a play incentive. Even though gaming volume has increased because of the higher value coupon, the incremental costs associated with the high incentive value could in fact erode the profitability of the offers. In fact, several researchers and industry pundits have pointed out that casino marketers often raise the values of play incentives merely to remain on par with competition, and this often damages the profitability of the incentives (Lucas, Kilby and Santos, 2002; Lucas et al., 2005; Lucas and Kilby, 2008).

This study examined the relationship between free-play coupon value and a player's slot gaming volume (coin-in) by varying coupon value: a coupon representing a high incentive value ($100) and the other representing a low incentive value ($50). Furthermore, the current study estimated the profitability of each of the two coupons per player basis. The significance of the current investigation is two-fold. First, it extends the work of Lucas et al. (2005) on the slot gaming contribution of free-play offers by addressing the effect of free-play coupon value on a player's slot gaming volumes. Second, this study provides a basis for understanding on the relationship between play incentive value and a player's slot gaming volume, helping casino marketers design more effective and cost-efficient marketing programs.

LITERATURE REVIEW

Coupon Face Value

The marketing literature contains some empirical evidence regarding the effect of coupon face value on consumer behavior. Using the data from a consumer goods company offering coupons, Reibstein and Traver (1982) found that higher value coupons were positively associated with higher redemption rates. Similarly, Bawa and Shoemaker (1989) reported that households receiving higher value coupons produced incremental purchases for the coupon-offering brands that were significantly greater than households receiving lower value coupons. Chakraborty and Cole (1991) provided additional empirical evidence of a positive relationship between coupon face value and redemption rates. However, coupon users in their study exhibited a higher tendency to seek promotional deals but less brand loyalty than non-coupon users. A recent study conducted by Barat and Paswan (2005) also found that consumer intentions to redeem coupons for common grocery items increased with the coupon face value.

Other researchers, however, found little impact of coupon face value on redemption rates and product purchases (Neslin and Clarke; 1987; Krishna and Shoemaker, 1992). Krishna and Shoemaker (1992) examined three coupon face values (high, medium and low) in a field experiment using scanner panel data for a consumer product class. They found that there was no statistically significant difference in the number of units or the package size purchased irrespective of the presence of coupons. Furthermore, a high coupon value failed to affect the package size purchased, the number of units purchased, or the total quantity purchased (package size times units). Similarly, Neslin and Clarke (1987) reported little effects of coupon face value on redemption rates.

Monetary Play Incentives and Gaming Volumes

Several researchers have dealt with the effect of monetary play incentives on the aggregate daily gaming volumes (i.e., Lucas, 2004; Lucas and Bowen, 2002; Lucas et al., 2005; Lucas and Santos, 2003). Lucas (2004) reported that a match play coupon promotion that was designed to increase blackjack table game volumes (cash drop) for a Las Vegas hotel casino failed to achieve its goal. With respect to play incentives for slots, Lucas et al. (2005) found that direct mail free-play offers ($50 and $100 offers) failed to produce a positive and statistically significant model effect on a player's slot gaming volume per trip. In fact, a negative relationship between $50 and individual trip slot volume was observed. The authors offered players' bankroll substitution with free-play slot credits as a potential reason for the decrease in slot volume from the no-incentive slot gaming level.

To the contrary, Lucas and Santos (2003) found a statistically significant and positive model effect of a variable representing the dollar-amount of redeemed direct mail slot play incentives on the aggregate daily slot gaming volumes of a mid-western casino. Similar results were observed in Lucas and Bowen (2002) with regard to the direct mail premiums offered by a Las Vegas hotel casino. The authors also found that the dollar amount of cash awards in a drawing-based (lottery-type) promotion was positively associated with slot gaming volumes. However, the incremental slot revenue, or win, associated with cash awards failed to cover prize money expenses. For every dollar of cash prize expense, slot revenue increased only $0.64.

While the gaming literature provides valuable insights regarding the effect of monetary play incentives on gaming volumes, little is known about how individual players' wagering volumes vary by different incentive values. Contrary to the general expectation on a high value play incentive, the amount of money that a player wagers in a slot machine(s) may not increase with incentive value. Considering the mixed findings regarding the impact of coupon face value on consumer behavior in the marketing and gaming literatures, a non-directional hypothesis regarding free-play coupon value was advanced.

H1: There will be a statistically significant relationship between free-play coupon value and a player's slot gaming volume.

Coupon Profitability

A couple of studies on coupon profitability were identified and reviewed (i.e., Neslin and Clarke, 1987; Shoemaker and Tibrewala, 1985). Based on 280 personal interviews with a sample of shoppers, Shoemaker and Tibrewala (1985) found that the estimated incremental profits resulting from lower value coupons were substantially higher than those from comparable higher value coupons. Similarly, Neslin and Clarke (1987) detected higher coupon redemption rates among loyal brand users than among new, rare or occasional brand users. However, the authors argued that, coupons redeemed primarily by loyal consumers would lower coupon profitability, let alone incur coupon costs, as these customers could have purchased the brand without coupons.

Play Incentive Profitability

In gaming, Lucas et al. (2005) estimated net cash flow per trip associated with free-play offers and found that the offers failed to produce slot revenues beyond the offer costs. Similarly, Lucas and Brewer (2001) reported negative profits resulting from direct-mail play incentives. In their study, the estimated incremental slot profit per dollar of incentive expense was $0.74. Lucas, Kilby and Santos (2002) also argued that high value play incentives to obtain premium players in the table game market have resulted in the failure of the casinos to assure an acceptable profit margin. These claims along with the findings of the gaming and marketing literatures provide a reasonable ground to question the effectiveness of high free-play coupon values in producing a corresponding increase in profits. To examine the effect of free play coupon value on coupon profitability, the following hypothesis was advanced.

H2: A higher free-play incentive value will produce a greater net cash flow per player than a lower free-play incentive value.

Model

The model shown in Figure 1 was designed to explore the relationship between free-play coupon value and a player's slot gaming volume by varying incentive values. The model is based on the model that was empirically tested in Lucas et al. (2005). In Lucas et al. (2005), variables representing the average retail values of complimentary room nights and other awards per trip, the average win or loss amount on slots per trip, the average dollar amount withdrawn through slot club point redemption, and the average par or house advantage of games played were statistically significant in predicting individual trip slot volume.

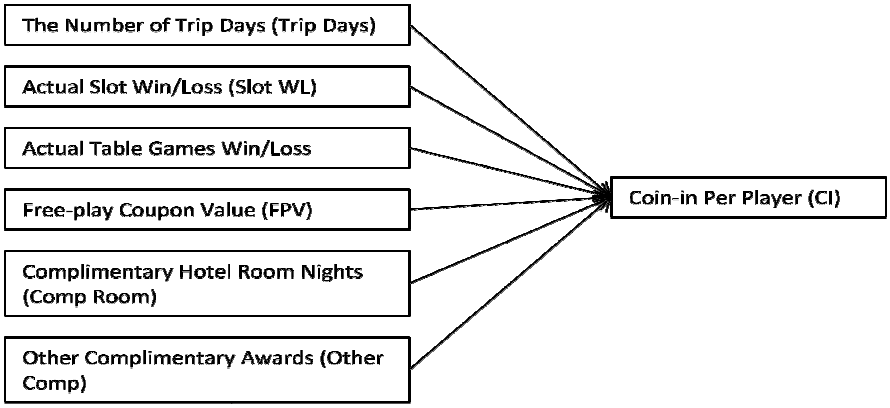

Figure 1

A Model to Measure the Effect of Free-play Coupon Value on Slot Gaming Volume

Variables

Coin-in (CI) per player represented the average amount of money each subject wagered in a gaming device(s) during his/her free-play coupon redemption trip. Coin-in and slot gaming volume were used interchangeably throughout this paper. Free-play Coupon Value (FPV) was a binary variable representing the face value of a free-play offer redeemed by a player. A value of one was assigned to the cases associated with $100 offer redemption and a value of zero was assigned to all other cases associated with $50 offer redemption. Other variables known or theorized to affect players' slot gaming volumes were included in the model. They were the number of consecutive days that a player who redeemed a free-play coupon stayed at the subject hotel (Trip Days), the aggregate retail values of complimentary hotel room nights (Comp Room) and other complimentary awards for food and beverage (Other Comp) offered to each player during his/her free-play coupon redemption trip, and the actual dollar amount won or lost on slot games (Slot WL) and/or table games (Table WL) during the player's stay at the subject property.

METHODOLOGY

Data

A Las Vegas Strip hotel-casino mainly serving a tourist clientele donated field experiment data from its player database for the purposes of conducting this study. The subject property offers various resort-style non-gaming amenities in addition to thousands of slot machines and hundreds of table games. The player database of the subject property consists of multiple segments (tiers), and each tier is comprised of players with similar levels of historical play. The data from the player database contained gaming, non-gaming and demographic information at the individual player level during his/her direct-mail free-play coupon redemption trip. According to the management of the property, players in a select tier were divided into two groups and randomly assigned to either $50 control offer group or $100 experimental offer group, one free-play coupon for each player. The management of the subject property described that the select tier used to receive $50 free-play offers prior to this experiment. The offer terms, conditions and graphic designs of the $50 and $100 free-play offers were exactly same except coupon face value**.** Both coupons were accompanied by complimentary awards for hotel rooms, food and beverage (RFB). The RFB awards were same for the two groups. All of these offers were mailed simultaneously. The offers were valid for a period of three consecutive months starting October in 2007. Other than the free-play and RFB offers, no other awards were mailed by management to the subjects during the three-month promotion period. In total, the subject property donated 409 slot player data that consisted of 168 players who redeemed $50 free-play offers and 241 players who redeemed $100 free-play offers.

Analysis

Multiple regression analysis was conducted with individual player coin-in during the coupon redemption trip as the dependent variable. Data screening revealed cases with large residual values (29 observations), and they were excluded from analysis. Hence, the current investigation was based on a total of 380 observations. Additionally, the net cash flow per player resulting from free-play offers was estimated by following the method of free-play coupon profitability analysis introduced in Lucas et al. (2005).

RESULTS

Descriptive Statistics

The sample included 155 redeemers of $50 free-play offers and 225 redeemers of $100 free-play offers. It appears that increase in coupon value led to high redemption rates among experimental offer recipients. Table 1 summarizes descriptive statistics for the variables used in the regression model, and Table 2 presents the correlations among the model variables. As shown in Table 1, the average amount of coin-in per player was greater in the $100 offer group than in the $50 offer group ($6,189.34 v. $5,478.19).

Table 1
Descriptive Statistics

	$50 Incentive Group (n = 155)			$100 Incentive Group (n = 225)		
	M	Mdn	SD	M	Mdn	SD
CI [a]	$ 5,478.19	$ 3,830.00	$ 5,759.12	$ 6,189.34	$ 4,292.00	$ 5,638.45
Room Comp [b]	$280.80	$270.00	$150.16	$290.85	$270.00	$144.63
Slot WL [c]	$ 610.99	$425.00	$ 841.60	$ 626.76	$ 460.00	$ 870.74
Table WL [d]	$63.08	$0.00	$606.38	$ 92.31	$0.00	$886.34
Other Comp [e]	$30.67	$26.00	$57.87	$28.71	$26.00	$46.95
Trip Days [f]	3.73	4.00	0.96	3.91	4.00	1.27

Note. [a] Coin-in. [b] Retail value of complimentary room nights. [c] Actual dollar amount won or lost on slot games. [d] Actual dollar amount won or lost on table games. [e] Retail value of other complimentary awards. [f] The number of trip days

Table 2
Intercorrelations between the Model Variables (n = 380)

	Room Comp	Other Comp	Trip Days	CI	Slot WL	Table WL
Room Comp	--					
Other Comp	-0.05	--				
Trip Days	0.35**	0.25**	--			
CI	0.19**	0.34**	0.25**	--		
Slot WL	0.13**	0.30**	0.21**	0.60**	--	
Table WL	-0.06	0.2**	0.06	-0.01	0.00	--

** $p < .01$, two-tailed.

Multiple Regression Analysis

The six-variable regression model explained 64% of the variance in coin-in. The model F statistic of 43.15 was statistically significant ($df = 373, 6$, $p < .0001$). However, the regression coefficient of the Free-Play Coupon Value (FPV) variable was not significant ($B = 617.25$, $t = 1.34$, $df = 373$, $p = 0.182$, two-tailed), failing to support Hypothesis 1.

Table 3
Summary of Regression Analysis (n = 380)

Variable (VIF [a])	*B*		*SE B*	*β*
Constant	59.20	n/s	1,052.20	
FPV (1.01)	617.25	n/s	461.86	0.05
Room Comp (1.19)	3.90	*	1.68	0.10
Other Comp (1.23)	19.57	**	4.86	0.18
Trip Days (1.26)	271.09	n/s	219.71	0.06
Slot WL (1.14)	3.47	**	0.28	0.52
Table WL (1.05)	-0.33	n/s	0.30	-0.05

Note. [a] indicates variance inflation factor.
* $p < .05$, two-tailed. ** $p < .01$, two-tailed. n/s indicates not significant

Analysis of Free-play Coupon Profitability

Net cash flows associated with each incentive value were estimated on a per-player basis. First, t-win, or slot revenue, resulting from free-play offers was estimated by multiplying the mean value of coin-in per player for each incentive value by slot win percent. Next, the related offer costs and expenses were subtracted from the

estimated t-win. Table 4 shows the results of coupon profitability analysis. Contrary to expectation, the amount of net cash flow per player produced by $100 incentives was far less than that produced by $50 incentives. As shown in Table 4, this is partly because of the incremental costs associated with a high incentive value. The results of profitability analysis failed to provide support for Hypothesis 2.

Table 4
Estimated Net Cash Flow per Player by Free-play Offer Value

	$50	$100
Coin-in	$5,478	$6,189
Par[a]	6.80%	6.80%
T-win	$373	$421
Less Expenses:		
Complimentary room cost[b]	$160	$160
Incentive cost[c]	$47	$93
Tax[d]	$25	$28
Cash-back liability[e]	$34	$38
Other awards costs[f]	$15	$16
Slot Dept. variable costs[g]	$75	$84
Net Cash Flow	$18	$2

Notes. [a] The average house advantage for slots, or the average floor par, for the subject property was not available for analysis. Hence, the slot win percent of 6.80% obtained from the 2007 Gaming Revenue Report published by Nevada Gaming Control Board was used as a proxy for the average floor par. The slot win percent of 6.80% represents the average hold percentage for slots in Las Vegas Strip properties with revenues of $72M and over in 2007 (see NGCB, 2007).

[b]denotes the product of the variable costs (i.e., housekeeping labor and hotel room amenities) per room night and the number of trip days. The management of the property estimated the variable costs at $40 per room night. The number of trip days was obtained from the descriptive statistics in Table 1.

[c] The casino's free-play coupon cost is reduced by the product of the coupon face value and the house advantage for slots, or ($50.00)(0.068) for a $50 incentive and ($100.00)(0.068) for a $100 incentive.

[d] assumes a 6.75% gaming tax rate paid on t-win.

[e] represents the casino's slot club point liability. According to the management of the property, slot club points are refunded in the form of cash awards at the average cash-back rate of 9% of t-win.

[f] refers to the costs of other complimentary awards (i.e., food and beverage). These costs were estimated at 50% of the retail values of other complimentary awards by the management of the property. The retail values of other awards were obtained from Table 1.

[g] Information regarding the slot department variable costs (i.e., labor for processing coupon redemption) associated with t-win was not available for analysis. Hence, 20% of t-win used in Lucas et al. (2005), which appears to be a realistic, yet conservative, estimate of slot department variable costs was applied to the current analysis.

DISCUSSION

The results of the current investigation show that a high-value free-play coupon failed to produce a positive and statistically significant model effect on a player's slot gaming volume. Further analysis on coupon profitability indicated that profitability did not increase with coupon face value. In fact, a lower incentive value generated higher cash flows per player than a higher incentive value. These results are in line with the findings of Krishna and Shoemaker (1992), Neslin and Clarke (1987), and Shoemaker and Tibrewala (1985). Krishna and Shoemaker (1992) and Neslin and Clarke (1987) discovered little effect of coupon face value on incremental sales and redemption rates, respectively. Similarly, Shoemaker and Tibrewala (1985) found that high-value coupons were not necessarily associated with more profits. The results of the current study, however, are not consistent with the findings of Lucas

and Bowen (2002) which produced a positive association between cash prize awards and slot volumes. The inconsistent findings between the current investigation and Lucas and Bowen (2002) might be related to the type of promotion examined in each study (drawing vs. direct mail) and the type of data used for analysis (aggregate daily coin-in vs. coin-in from individual players who redeemed free-play offers).

The lack of a significant and positive relationship between free-play coupon value and a player's slot gaming volume observed in the current investigation might be an indication of the presence of bankroll cannibalization. Lucas et al. (2005) pointed out that players might use free-play incentives as a substitute for their bankroll, thereby reducing/replacing their original gaming budgets. Likewise, some players in the current investigation might have taken advantage of the increased free-play credits. This further could have damaged the profitability of high-value coupons. On the other hand, the results might be an indication that a $50-increase in incentive value might not be sufficient to lead to a significant increase in a player's slot gaming volume. Due to intense competition, casino customers are inundated with monetary play incentives from multiple casinos (Lucas and Kilby, 2008). Hence, without a noticeable increase in incentive value, it might be difficult for a casino to differentiate itself from competition. However, raising incentive values over those of competitors may not necessarily increase coupon profits due to incremental offer costs. Furthermore, such offers could mainly draw deal-prone customers with little or no brand loyalty.

Managerial Implications

The results of the current investigation imply that a higher-value free-play offer may not necessarily generate greater slot volumes/net cash flows per player than a comparable lower-value free-play offer. However, this does not necessarily mean that casino marketers should not offer high-value coupons. It is difficult to know the extent to which free-play coupons influence the casino patronage decisions of coupon recipients. High incentive values might be a compelling reason for some players to make a trip to the coupon-offering casino that they would not otherwise visit. Additionally, as several researchers have pointed out, it is possible that play incentives have become the casino's cost of doing business. This is because some players tend to perceive play incentives as an entitlement (i.e., Lucas et al. 2005; Lucas and Kilby, 2008). However, considering high costs and low profitability associated with high-value coupons, casino managers would be wise to attract customers in a cost-efficient manner.

For direct mailing purposes, casino marketers should consider segmenting customers based on propensity to increase slot gaming volumes in response to increase in play incentive value. To identify players who are likely to produce incremental slot volumes, a predictive modeling at the individual player level is recommended. In comparison to customer segmentation based solely on a player's observed, historical play, customer segmentation based on a player's potential value would help casino marketers target the most profitable customers. Additionally, adjusting free-play coupon values based on a player's potential worth could help casino marketers improve coupon profitability. For instance, higher-value coupons can be offered only to players who are likely to produce significant increases in their gaming volumes while lower-value coupons can be offered to those who are less likely to increase their gaming volumes. Despite the possibility of decrease in response rates due to lower incentive values, the lower-value offers could be more profitable than higher-value offers.

Offering non-monetary awards could be an alternative to monetary incentives especially for players who are less deal-prone or loyal to the casino brand. Nonmonetary awards such as value added services and benefits that are unique to the casino brand might enhance customers' emotional attachment to the brand and help the casino gain competitive advantages. Furthermore, non-monetary awards could deliver higher return on investment than monetary awards. Finally, developing loyalty strategies based upon non-monetary benefits could help casino marketers avoid price-based competition.

Limitations and Future Research

The sample examined in the current study is based on only one hotel casino. Results might vary by player segment, target market and casino market condition. Hence, any effort to replicate this study with different samples

would enhance our understanding of players' coupon redemption behavior. Additionally, future research may expand the model to see how additional variables, such as monetary play incentives from competing casinos, would affect a player's trip slot volume. Future study could test different levels of free-play coupon values in an effort to measure players' sensitivity to different coupon values and to identify the incentive value that generates the highest profit. As increase in response rates resulting from high-value play incentives may not necessarily yield the highest coupon profit due to substantial costs associated with high-value coupons, findings from such investigation would help casino managers maximize coupon profitability. Additionally, researchers should consider conducting a longitudinal study on whether a player's casino trip frequency and gaming volume gradually changes with free-play coupon value. Such investigation would help casino marketers gain a better understanding of the long-term effect of free-play coupons on player behavior. Finally, research on the effects of different types of play incentives on a player's gaming and coupon redeeming behavior would provide helpful information for identifying the type of coupon that is most likely to generate desirable player profiles.

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