Yield Management Results at Great Blue Heron Casino: A Case Study

Yield management strategies have been shown to improve efficiency and profitability in many industries. With the help of Tangam's Table Games Yield Management software (TYM), the Great Blue Heron Casino (GBH) implemented a new approach to managing their Blackjack games at the end of Q3 of 2009. With their new approach, table spreads and betting minimums are based on analytics and actual player behaviours instead of traditional practices and anecdotal opinion. The results were an increase in Hold from 17% to 20% and a 7.2% increase in Win in Q4 of 2009 compared to Q4 of 2008. This document is adapted from a one hour webinar conference which was hosted in April, 2010 that explores how GBH acheived these results. The conference was hosted by Tangam Systems and featured guest speaker Peter Klugsberger, the Executive Director of Table Games at GBH.

OPERATIONAL CHANGES

TABLE SPREAD PLANNING

Most operators adjust the table spread to get to a certain overall utilization (e.g. 50% or 55%) based on a one-size-fits-all utilization model. The assumption with this model is that table occupancy affects all player segments the same way, and as a result, planning spreads and table minimums does not account for varying player preferences. GBH used similar utilization spreadsheets to plan table spreads, where all the players are assembled in one segment.

In order to better understand player behaviour and spending patterns, Tangam analyzed more than 100,000 Blackjack player sessions at different betting levels. From this analysis, Tangam discovered that players spend differently based on their average wagers and occupancy preferences. Figure 1 illustrates the analysis of Time on Device or play time, and Cash Buy-In at the various average occupancies experienced by players during their visit to the casino for two different player segments, $10 and $50. The Time on Device chart reveals that $50 players play for the longest time at an occupancy of 3, as opposed to $10 players who play for the longest at an occupancy of 5. This however, is only one dimension. The Cash Buy-In chart shows that $50 players buy in for the most at an occupancy of 2, and $10 players at an occupancy of 3. It's also observed that the average Cash Buy-in for $50 drops sharply as the table occupancy increases, whereas it's mostly consistent for $10 players. While this data shows a specific player behaviour pattern, it must be noted that the optimal occupancy for each betting level can be different, and will change from property to
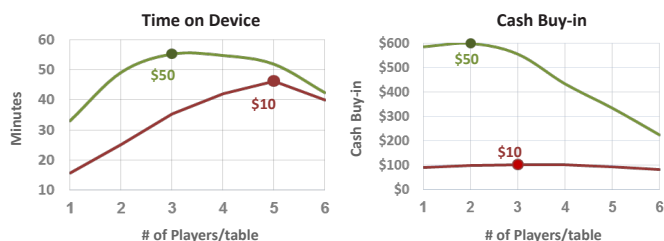
property depending on the player base, and other factors.

As a result of the analysis, GBH adopted a new spread planning approach, offering the optimal occupancy to players for each betting level in order to encourage maximal spend, with the lowest cost. TYM's spread planner analyzes historical demand to optimize table-spreads and pricing given the profit models for each betting level. Table 1 shows the optimal occupancy targets that were determined for each segment.

Player Type	$5	$10	$15	$25	$50
Target Occupancy	5	4	3	2	1

Table 1: Optimal Occupancy Targets

Audience Question: Can you talk a little bit about how the system helps you figure out game mix changes?

Peter: That's quite a science now. We tried in the past to do this with excel spreadsheets and this-and-that while also evaluating our gaming mix. In order to do this properly, we really needed to break down business volumes on a table level, hour by hour. Just to give you an example, about a month ago we actually looked at the analytics module in TYM and immediately noticed we had high occupancy levels on Spanish blackjack. With that information we were immediately able to act. We got an additional table in there within two weeks, where normally it would have taken us a month or two months at least – and that's if we thought to investigate at all. So I would say that from the analytics point of view you're able to really walk through and see where there is a potential bottleneck, and I think that was very useful.

DYNAMIC MANAGEMENT

Another operational change made by GBH was in their dynamic management philosophy. Betting minimums were typically set by schedule, and changes delegated to the floor staff. As demand continuously fluctuated throughout the day, GBH wanted to change pricing more frequently and systematically to ensure player occupancy preferences
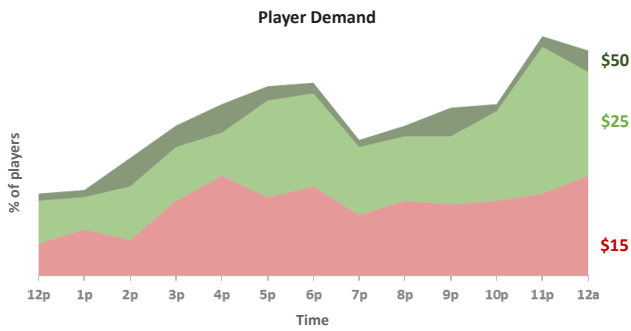

Figure 1: TIme on Device and Cash Buy-in based on Occupancy. Cash buy in calculated as aggregate of all tables visited by player

Player Demand

$50

$25

$15

% of players

12p 1p 2p 3p 4p 5p 6p 7p 8p 9p 10p 11p 12a

Time

Figure 2: Player Demand Fluctuations

were maintained. To illustrate further, Figure 2 shows player demand fluctuations over a 12 hour period for the $15, $25 and $50 segments. Consequently, as business volumes change continuously, it is important to change pricing more frequently, as static or scheduled minimums would result in missed revenue opportunities.

Also, with dynamic management delegated to the floor staff, management had no way to measure performance, or keep an audit trail. How were the tables priced last night? How did staff perform? Could the tables have been priced in line with player demand?

With the help of Tangam's Yield Management Software (TYM), GBH is able to change minimums dynamically and in tune with player demand. TYM analyzes the players' bets, headcounts and current table minimums continuously and sends out prompts to the floor staff if a sub-optimal
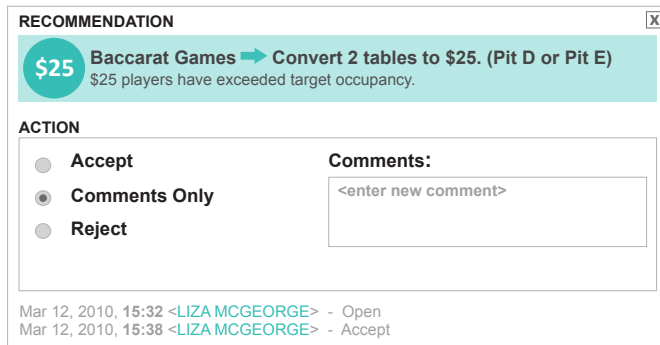

RECOMMENDATION   X

$25 | Baccarat Games ➡ Convert 2 tables to $25. (Pit D or Pit E)
$25 players have exceeded target occupancy.

ACTION

○ Accept
● Comments Only
○ Reject

Comments:

<enter new comment>

Mar 12, 2010, **15:32** <LIZA MCGEORGE> - Open
Mar 12, 2010, **15:38** <LIZA MCGEORGE> - Accept

Figure 3: Sample TYM Recommendation

situation persists. For example, if player demand exceeds the target occupancy, a recommendation such as the one shown in Figure 3 is sent out to the floor. This particular alert was a recommendation to raise the limit on 2 games to $25.

The floor supervisors respond to the alerts, and they can accept, reject or enter comments. GBH management can now establish accountability with an audit trail. What happened the previous night and how staff reacted to the prompts sent out can easily be reported to proactively manage staff performance.

In conclusion, the GBH floor is now being managed dynamically, based on real-time player demand and staff performance can be measured.

Audience Question: How did this impact the customer experience? How was this measured?

Peter: Initially when we started with this project we were very, concerned with how it would impact the customer experience. Particularly because we were changing the limits throughout the night. Every time we changed the limits, there was a possibility that someone might be upset.

What we found though is that we actually didn't have much negative feedback, and we validated this in two ways. One was the financial impact - seeing what really happens to our turnover. The second way was to look at the move and the motion component. In addition, we also looked at comment cards and spoke to front line staff to really get a feel for the feedback.

What we found is that the system improves the customer experience for the higher value players. Say for instance, we have $25 players sit down on a lower limit table and play by themselves. The (TYM) system recognizes this and wants to prevent lower value players from entering the game and slowing it down. So what happens is the software recommends that the table limit is raised. People are actually quite happy to do that because it really improves their playing experience. At the same time it aligns well with what the casino wants.

SUMMARY OF ACTIONS

To summarize the actions that produced the outcome, we compare the old approach to the new approach in Table 2. Decision making moved from a subjective approach to a more analytical and precise approach. Player behaviours and preferences are studied using a multi-dimensional analysis, and custom occupancy targets set for each betting level to maximize time on device and gaming spend. Betting minimums continuously match player demand across the entire casino. And finally, staff performance is measured and proactively managed.

	Old Approach	New Approach
Decision Making	Subjective 'Gut-feel'	Analytical Based on player behaviour
Table Spread Planning	'One-size-fits-all' Utilization Tables	By betting level Custom occupancy targets
Minimums Management	Scheduled ad-hoc changes	Adaptive Matches player demand Based on casino-wide view
Audit Trail	None	Comprehensive

Table 2: Summary of Actions

This sums up the operational changes made by GBH to better manage the yield of their tables. Although some of these steps can be manually done, or through analysts, Tangam's software helps to automate the process and apply the practices more precisely.

Tangam Question: Could you talk about any additional training for your staff. Were staff able to adapt to this new process? Was there any push back?

Peter: Yeah the system is not going to work if your staff are not on board with it. And that's clear, I mean that's how it goes - the front line staff have to execute it. We did some extensive training sessions for all our gaming staff, however the benefits really outweigh the cost. I would actually say it was a strategic investment in our front line staff. I think one

of the comments was "What you measure gets done". So, we have seen our staff be more engaged because the tool gave them more meaning, they really feel that they can do their part in making table games successful.

Where they previously focused a lot on administrative tasks - running the break list, doing hourly scores, changing cards, looking after the table limits - now they understand there's value adding activities and non-value adding activities. I think the biggest lesson was that you can't treat all customers the same – so you prioritize customer service. You have to pick and choose which customers to serve better, and now we have clear guides on who those customers are, and the ones we want to attract.

RESULTS

Despite the tough economic conditions during Q4 of 2009, there was a substantial increase in Blackjack win of 7.2% at Great Blue Heron compared to Q4 of 2008, and this increase has been sustained. There was a remarkable hold percentage improvement from 17% to 20% since the introduction of automated yield management practices during the same period. These gains were largely the result of more $25 and $50 action, as the percentage of revenue from these segments grew from 68% to 76%. Figure 4 summarizes these results. GBH has now adopted the same yield management principles to all table games.

Hold: Increased from **17%** to **20%**

Win: Increased by **7.2%**
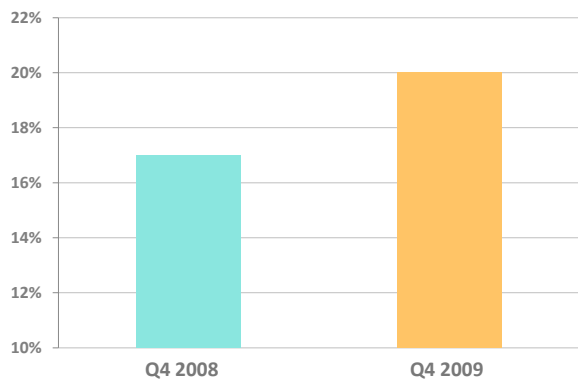
Revenue from $25/$50 segment: Increased by **12%**

Figure 4: Hold % increase from Q4 of 2008 to Q4 of 2009

Tangam Question: Given your practical experience with yield management and the results you've seen, how important is yield management to your overall operation?

Peter: On the slots side, people have nearly perfect information and they're overloaded with information, while for table games, you don't really have quality information

available - running the table games department has been highly subjective. Now (with TYM) we've been able to get away from having pit managers or shift managers decide willy-nilly how to match table supply with player demand, and how to change table limits. In addition, we now recognize opportunities we were missing out on – opportunities to really get people to play more. We can really test the customers' willingness to play, and maximize the revenue potential of each individual.

Tangam Question: Were there any aspects of the system that surprised you?

Peter: Outside of revenue improvements, improved customer service is what really surprised me. What happened was that we now focus more on satisfying high worth or high value players' needs. And this also incentivizes other people to play more. So overall, the customer experience is actually heightened. We looked at the financials and could explain them, and tie them back to higher customer satisfaction.

Audience Question: Could you talk to the size of the casino, the number of tables, and how that relates to the effectiveness of yield management and this tool?

Peter: I think you have to understand the principles of managing your table and if dynamic pricing is valid for any casino, if it's small or big. If you have a lot of VIP action, if you have a lot of grind action, and how much you can actually take advantage of - that depends on your business environment and maybe on your customer segmentation. The principles are all valid for each individual property. We're all familiar with yield management of Las Vegas Hotels – I can check in on a Monday night at the Wynn in Las Vegas for maybe $160/night, but obviously the rate changes on a daily basis. The price changes are based on occupancy levels. And that should happen on the table.

About Peter Klugsberger:

Peter Klugsberger is the Executive Director of Table Games at Great Blue Heron Casino, and has more than two decades of international experience in the gaming sector. Peter has held several other senior-level positions, including CEO, COO and General Manager.

The Great Blue Heron Charity Casino (GBH) opened on January 31, 1997. Located in picturesque Port Perry, it is one of the premier casino destinations in Ontario. GBH employs over 1,000 staff and offers customers 60 table games and 545 slot machines. Located 40 minutes from Toronto, GBH entertains 4,500 guests daily. Designated a charity casino by the Ontario Lottery and Gaming Corporation (OLG), a portion of winnings are donated to support charitable organizations.

TANGAM SYSTEMS® Tangam's Table Games Yield Management (TYM) is a business intelligence software tool that helps operators improve their table game mix, table spreads, staffing levels, schedules and betting minimums management.

TYM provides (i) recommendations on how to change the game mix to capture unmet profit opportunities, (ii) predictive analytics to adjust your table spread and schedules based on customer demand patterns, (iii) a spread optimizer to generate optimal schedules based on your business rules and labour constraints, and (iv) real time prompts to floor staff to open or close more games and adjust betting minimums as player demand fluctuates throughout the day.

The results are a 5%-15% increase in profitability, improved efficiency, and a ten-fold increase in productivity for your analysts. TYM offers better player experiences by providing an appropriate occupancy level for players of different games/betting tiers and game availability to your most profitable customer segments.

Headquartered in Ontario, Canada, TYM was developed by a multi-disciplinary team of individuals who have decades of experience in software engineering, casino operations and statistics/mathematics. Since TYM's market launch in 2010 its install base has doubled every year, and now includes casino operators in Macau, United States, Australia, New Zealand, Canada and Phillipines.