



By the team at Tangam Systems
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Yield Management Results at Fallsview Casino: A Case Study

In today's globally competitive gaming market, table games operators are under constant pressure to find ways to grow the top and bottom line. Often, the approach that is taken to raising revenue is to "get more people in the door", requiring new marketing spending, promotions, etc. However, can revenue and profits be meaningfully improved, with no new capital spending, but by more efficiently catering to customers already walking in through the door? This document summarizes the contents of a 1 hour webinar hosted by Tangam in July of 2010 featuring Mr. Shane Lett, Senior Manager of Growth and Development at Fallsview Casino Resort in Niagara Falls, Canada. He shares his experience with Tangam's Table Games Yield Management (TYM) system. The case study focuses on how Fallsview Casino optimized table game spread, staffing, and dynamic table minimums with new tools and processes, thus resulting in significant efficiency gains and profit margin growth. This study was carried out over a period of 8 months and results exclude VIP play. All data has been anonymized and only the relevant metrics and results are shared in order to preserve confidentiality.

CHALLENGES

The first challenge in table spread planning was that floor staff, specifically the operations managers, were not engaged enough in the decisions. Without floor staff involvement there is no direct link between what is happening on the floor and what is planned behind the scenes. Secondly, the manual analysis of daily utilization spreadsheets was time consuming; there was a decision lag of 4-6 weeks between the time when staffing or occupancy problems occurred and when management could identify and fix them. Finally, it was difficult to analyze historical trends due to a disconnect between the analysts creating reports and operations managers who needed to use the reports to make decisions.

In dynamic management, the key challenge was in the lack of visibility available to pit staff to make decisions that were beneficial to the gaming floor as a whole, not only to their pit and tables. Secondly, the minimums were generally static, and based on a schedule updated once a month or once a quarter. This failed to address the dynamic nature of player demand. Finally, there was insufficient performance reporting with regards to minimums management. Shane and his team wanted to know on a daily basis how his floor staff were managing the floor: who did a great job and who dropped the ball?

SOLUTIONS

Fallsview resolved these challenges by:

1. Educating and training all of the floor staff, from pit managers to shift managers. This ensures that there is consistent awareness across all levels of the organization with respect to table games profitability and yield management in general.
2. Using a Business Intelligence tool for planning the spread and for dynamic floor management. By empowering staff with powerful on-demand analytics, the floor staff who are closest to the business can, given actionable information, make better decisions.
3. Establishing a reporting and performance feedback loop that gives management answers to who is doing well and who needs coaching.

Tangam: Fallsview's decision to adopt the TYM system was driven by the desire to improve efficiencies and profitability with minimal capital expenditure. What would you consider to be the biggest challenge in launching the TYM management system?

Shane: I think going into this we anticipated our biggest challenge would be to change the decision-making culture of our floor managers. They've all been working with us a very long time, they're very experienced, and they're very strong in their roles. However, we found the training to be very successful and their performance actually exceeded our expectations. Managers quickly adapted to the new approach and learned to be proactive in dynamic management with the tools and the suggestions provided by the software.

OPERATIONAL CHANGES

IMPROVED UTILIZATION TARGETS AND OPTIMIZED STAFFING

Once marketing gets the customers in the door it is up to operations to serve the customers' needs. The concept of yield management is common on the slots floor but less common in table games due to the complexities of player behaviour, labor rates and game parameters. By understanding how

player behaviour differs across areas, game types and betting levels, Fallsview Casino's operations team can match customer demand with the right mix of tables.

The first step in the yield management process is to define an optimal occupancy for each segment on the casino floor that matches player preferences and maximizes casino profit. Analyzing ratings data provides information about play time,

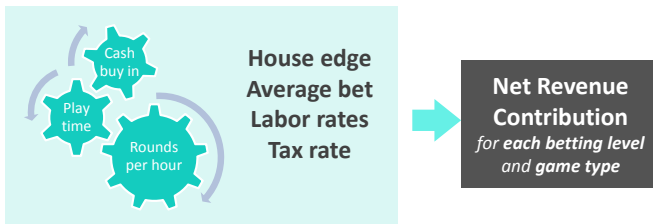


Figure 1: Net contribution as a produce of player, game and casino statistics.

buy-in and average bet. This, when combined with game statistics such as rounds per hour, house edge and min bet, gives an estimate of the net contribution per player visit at various occupancy levels. Segmenting this data further by game type and betting level reveals information about player preferences and their relation to table occupancy.

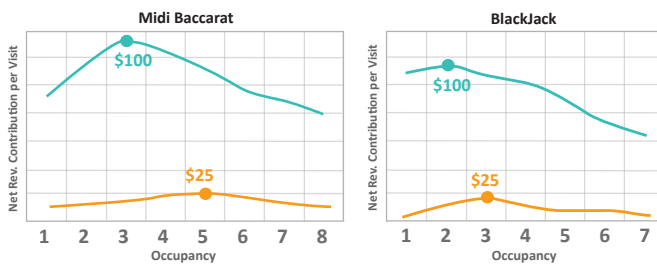


Figure 2: Net contribution for Midi Baccarat and BlackJack based on occupancy

The two charts in Figure 2 show the theoretical net contribution of midi baccarat and blackjack at different occupancy levels for the \$25 average bet and \$100 average bet player segments. As a result of this statistical analysis, target occupancies are derived for each game and price point. These are summarized in Table 1.

	Price Point	\$25	\$50	\$100
Bacc - Optimal Occupancy		5	4	3
BJ - Optimal Occupancy		3	2	1.5

Table 1: Optimal occupancy targets

Configured with these new optimal occupancies, the TYM dashboards help Fallsview uncover significant opportunities. By comparing actual floor utilization against the optimal utilization, TYM makes it possible to clearly identify situations occurring week after week, such as tables closing too early or opening too late. The historical trend analysis includes the ability to exclude certain days such as holiday periods, and the table spread planning dashboards create a mathematically optimized schedule based on casino dealer shifts and floor constraints.

As a result of the new process and training, Fallsview staff makes frequent, proactive table spread changes and misallocated table hours dropped by half during the 8 month period.

Tangam: Which feature do you use the most from the TYM dashboards, and what can you do now, that you couldn't do easily before?

Shane: There are several different features of the product that offer visibility at different levels. The Daily Overview allows us to easily investigate specific times from a previous day. In addition it draws light to the previous trends and forecasts demand for the remainder of the day. It's also very valuable for making immediate table spread decisions and alterations from real time data. The scheduling dashboards help us anticipate customer demand, and adjust game mix and staffing levels to match it.

DYNAMIC MANAGEMENT

With most operators today betting minimums are set by schedule and changes are delegated to the shift manager and floor staff. Combining casino headcount and ratings data with targets show that player supply fluctuates continuously throughout the day. The graph in Figure 3 shows the number of players betting \$25 average bet, \$50, and \$100 over a 24 hour period.



Figure 3: Player Demand fluctuations

This variation can be in part accounted for by spread planning but to manage on a continuous basis requires real time feedback to the floor staff. With the new approach, Fallsview uses Tangam's yield management system to collect and analyze the current floor utilization. Using current betting minimums, player bets, and headcounts TYM calculates the current ideal spread of the area by game type and compares this to the number of tables actually open. If a suboptimal situation persists, TYM sends out prompts to the pit staff suggesting changes to spread and/or minimums. TYM then uses new headcount data to determine if the suggestion has been applied.

The system depends heavily on the cooperation of the floor staff. To maintain engagement, interactive training is administered to teach floor staff how their actions add value. In this training, they go through the different dimensions that come into play when determining the occupancy that maximises profitability. This ensures that there is consistent awareness across all levels of the organization with respect to table games profitability and yield management in general. The user performance reports highlight situations where users

NAME	ID	SHIFT	DATA FRESHNESS	DATA VALIDATIONS	APPLIED	REVIEWED
Luick	2861	10p-6a			100%	100%
Lance Savala	521	2p-10p			85%	100%
Noreen Foglar	4022	6a-2p	Needs more (72%)	55%	83%	50%
Margery Thomablen	4723	6a-2p	Excellent (97%)		82%	100%
Darryl Engelbrecht	198	2p-10p	Excellent (100%)		79%	90%
Darrin Lancon	3277	10p-6a			75%	100%
Nelson Mullin	199	6a-2p			68%	97%
Cody Strmge	3328	2p-10p			67%	100%
Carlene Toll	542	6a-2p	Excellent (92%)	56%	67%	100%
Josiah Moany	362	2p-10p	Good (81%)		66%	95%
Alana Lauritsen	4580	2p-10p	Good (81%)	0%	63%	93%
Amie Luth	3333	10p-6a			63%	95%

Figure 4: Sample TYM user reporting.

may require additional training and establish an audit trail, promoting accountability, as seen in Figure 4. Individual names have been anonymized to preserve confidentiality.

The responses by floor staff are summarized in a monthly report, visible to all where staff can see who is doing well and who needs coaching. In this monthly report, Margery is highlighted as reviewing 100% of the recommendations and applying a majority of these.

Now that the floor is being managed dynamically, in tune with customer supply, Fallsview management can measure performance with detailed reporting. As a result there was a threefold increase in the frequency of limit changes during the 8 month period.

Tangam: Shane, lets discuss a little more about the real-time application of yield management. What would you say has been the biggest change you have seen on how floor staff manage table minimums?

Shane: Well, the most measured change would simply be the number of adjustments made throughout the gaming day. The demand for various table minimums is always changing, and both proactive and reactive decisions need to be made constantly. Our floor staff continue to make table limit decisions based on their strong business sense as always, but that coupled with the yield management tools we've provided to them is ensuring a more consistent approach in all gaming

areas across the floor.

SUMMARY OF ACTIONS

Through training, the floor staff are re-engaged and given an awareness of how their actions impact business decisions. Allowing analysts to see what is happening on the main gaming floor in detail gives them the insight required to make adjustments to spreads and staffing. In addition real-time analytics highlights situations where the floor does not match player demand. Actionable prompts are sent to the floor staff, which can be logged through TYM software to create an accountability trail highlighting training opportunities.

	Old Approach	New Approach
Floor staff awareness	Inconsistent 'follow orders'	Consistent Empowered & engaged
Table Spread Planning	Manual analysis 4-6 week decision lag	On-demand analytics Proactive, frequent changes
Minimums Management	Scheduled Ad-hoc changes	Dynamic, with BI tool Matches player demand
Performance Reporting	Incomplete	Comprehensive

Table 2: Summary of actions

Tangam: Now that you've used the yield management system for some time, what aspect surprised you the most?

Shane: I think the greatest surprise initially would be how quickly and successfully we implemented this new culture, and hit our goals and targets at all levels in relation to individual performance - supervisors to shift managers. We're very happy with the benefits we've seen thus far from yield management.

Like other managers viewing this webinar, everyone knows their property and business – and each one is unique. What we found is that we now had some measures and reports to confirm our ideas, quantify results, and really give us a confident direction for future best practices.

RESULTS HIGHLIGHTS

There are remarkable improvements in the table spread and dynamic management of table games. The frequency of floor changes has increased by three-fold. In addition to this, labour has been reallocated toward more profitable opportunities. It is now a continuous process, with adjustments to spread based on where the demand is and where they need to allocate, or reallocate staff to more profitable opportunities. The number of misallocated table hours dropped by 50% as a result of this. Misallocation is measured by how many tables are over or under optimal utilization.

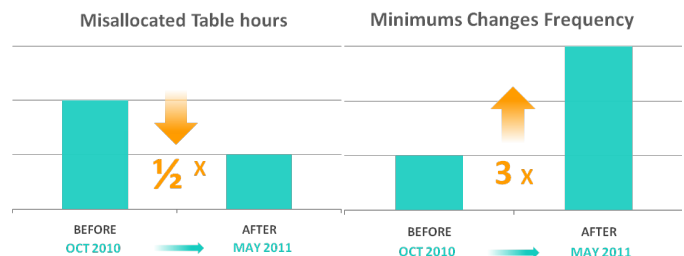


Figure 5: Changes in operations performance indicators before and after installing TYM

Finally, the results of the segmental growth from two of the most popular games – Baccarat and BJ - at Fallsview are outlined in Figure 6. The bar chart illustrates the percentage of their overall theoretical revenue of Bacc and BJ that comes from the \$50 average bet player segments and higher. There

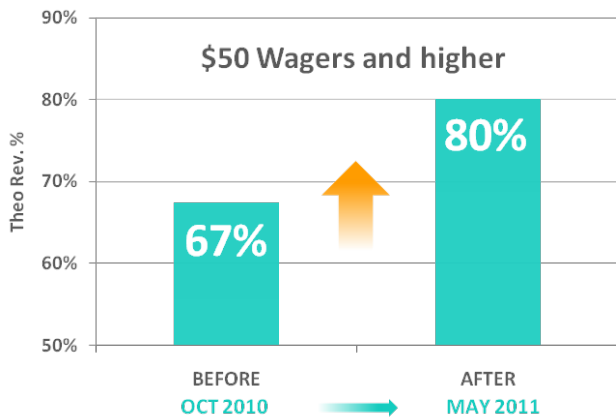


Figure 6: Percentage of theoretical revenue increase before and after installing TYM

has been a substantial 13 percentage point growth in the \$50 and higher player segments. Fallsview continues to enjoy a steady and consistent growth in these segments.


Tangam: Shane, any closing comments?

Shane: Just to reiterate that we're happy with the culture that yield management has provided for our business. I don't want to mislead anybody because every property and business is different. As I mentioned previously, these results confirm a lot of what we already knew, we now have it readily reportable, and are able to be more proactive and efficient. And this is evident as presented here with regard to blackjack and baccarat – the two most dominant games at our property.

I'm sure everyone out there is asking what the specific impact to the bottom-line is, and just like most of you out there, I can't share specific revenue numbers. But suffice to say that we're very happy with the system and the changes it's allowed us to implement.

FALLSVIEW
CASINO RESORT

Built on a cliff overlooking the world-famous Horseshoe Falls, Fallsview Casino Resort is the largest and most elegant gaming resort facility in Canada. The crown jewel in Niagara's stunning array of wonders, Fallsview offers a world-class casino with over 3,000 slot machines, 100 gaming tables and an exciting poker room. The resort also features a 374-room luxury hotel, full service spa and fitness centre, dozens of shops and restaurants, the Avalon Theatre (an intimate 1500-seat state-of-the-art venue) and over 30,000 sq. feet of meeting and convention space.

 **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.