Do You Know Your Casino's VCL?

By Steve Karoul

By now many of you are beginning to tire hearing me constantly say that the casino business today is not about making money but rather it is about creating value. Value is a nebulous term that can relate to both the customer and to the casino. It can even relate to a public company's share holders or to a Native American Tribe's members. VCL is one of the many variable factors that can affect value. Therefore, I think is important to review VCL and hopefully clear up some of the many misconceptions that are out there.

Do you know your casino's VCL? VCL stands for "Volatility Comfort Level". For that matter, do you know what your own personal Volatility Comfort Level is? For example, if you went to a Roulette Table, would you be comfortable betting $1,000 straight up on a number that pays 35 to 1 odds? This represents high risk but high potential reward as well as a high VCL. Or, on the other hand, would you be more comfortable betting only $10 on Black or Red which is an even money bet with minimal risk but also minimal potential reward or low VCL. Simply stated, your tolerance for risk in relation to potential value is what VCL is all about. As I mentioned previously, it is one of the subtle influencing factors that can have a dramatic affect upon value or perceived value in a casino. It can also influence profitability as well. Therefore, without profitability, it will be very difficult for a casino to create value.

With all of the recent consolidations in the casino industry, VCL will become an increasingly more important subject in the future so I think it is worth discussing. It will also be very interesting to watch and observe how some of the giants of the industry will make future decisions based upon VCL. For example, Harrahs which is known for a relatively low VCL recently acquired Caesars Palace which is known for having a very high VCL. This is similar to Circus Circus when they built the Mandalay Bay Casino. Circus Circus is basically a grind casino with a very low VCL and the Mandalay Bay Casino is higher end with a fairly high VCL. However, MGM Mirage Corporation just acquired Mandalay Bay and Circus Circus. This means that we now have two of the giants of the industry with properties within their groups with diametrically opposed VCL's. The big question is what will happen next?

Will Harrahs operate Caesars Palace with a very high VCL? Their options are to downgrade their VCL for the property but by doing so they would denigrate the Caesars Palace brand and cachet for being a high-roller property. Another option would be to spin off Caesars Palace and sell the property and thereby keep the Harrahs corporate VCL consistent throughout the company. This would surely simplify various marketing programs as well as yield some cost saving efficiencies to their marketing efforts. The same could be true for MGM Mirage who will also have to decide what to do with grind properties such as Circus Circus. Companies that offer corporate Players Club cards such as Harrahs, MGM-Mirage, etc. will

face new problems, challenges and expenses as their customers try to figure out where they receive the best "value" from their membership.

Volatility Comfort Level (VCL) has also played a big role in operations that are run by an individual leader such as Steve Wynn or Benny Binion. Steve Wynn has always been known for having a very high VCL which can be seen today at his new Wynn Casino where the table maximums are all $10,000 or higher. Benny Binion took a different approach using VCL. His marketing strategy to attract high-rollers to a non-high-roller property was through the use of an aggressive VCL policy of accepting an individual's first bet as his maximum bet. High risk, high reward is also quite synonymous with many of the casinos in London. Most of these casinos are small with 15 or fewer table games. In addition, British gaming regulations are quite restrictive and prohibit the casinos from advertising gaming per se. Therefore, many of the London casinos have accepted a very high Volatility Comfort Level (VCL) with the hope of attracting more high-roller play to their tables. They understand the volatility and accept it as a consequence of high risk, high reward.

Some of the highest betting in the world takes place in the VIP rooms in Macau where you can bet up to $250,000 a hand at Baccarat. However, there is one big difference that I think is worth mentioning. Most of the VIP Room operators in Macau all use a Table Differential to lower or control their VCL and still allow customers to wager much higher amounts of money. A table differential is the amount that the casino will set as the difference between what is bet on Banker and what is bet on Player at the same table. Therefore, a $100,000 Table Differential is the Volatility Comfort Level (VCL) of that particular operator. In other words, they are willing to accept up to $100,000 worth of risk on every hand wagered even if the actual betting is much higher. For example, you could have two players playing against each other on the same table with one betting $500,000 on the Banker which would be perfectly acceptable as long as the other player did not bet more than $600,000 on the Player. The VCL or differential for the table is $100,000 per hand.

Cruise ships used to always have very low VCL's until Star Cruises owned by Genting in Malaysia started to operate high level shipboard casinos offering land based casino betting limits. This has set a new trend for VCL's for casinos on cruise ships and you can now find gaming cruises or sea-going gaming junkets on board Star Cruises, NCL, Carnival Cruise Lines, etc. As an industry we have also witnessed other VCL changes in both table games and in Slots. For example, table games such as Caribbean Stud Poker actually reduce a casino operator's VCL since the game basically accrues money from other players on the game and then pays it out for the big winning hands. Customers like these games because they can get a chance at big payouts for a minimal investment. The accrual therefore lowers the casinos VCL. The same is true for example with IGT's Megabucks Jackpot Slot Machines. They allow the casino to market huge jackpots with minimal risk

thereby lowering the casino's VCL since the huge jackpot does not get paid out directly from that individual casino but rather from IGT's accrued jackpot funds.

There are some casino games such as Roulette that allow a player to decide their own personal VCL. A player can bet even money bets on the game thereby choosing a very low VCL or they can bet numbers straight up for 35 to 1 odds going after much higher payout which means they are willing to accept a much higher VCL. The Lottery probably represents the lowest VCL of any gaming entity and the highest VCL for any customer who actually bets on a lottery. Even, Poker, which is red hot right now, has a very low VCL for the casinos since it has no risk. The players are playing against each other and not the casino. The casino takes the "rake" which is a small percentage of the amount wagered which translates into low risk, low reward for the casino.

Back to the basics. If you work in the casino industry today you need to understand as much as possible about Volatility Comfort Levels (VCL) for many reasons. First, your boss may ask you about a big player and whether or not to book their action. Second, you really do want to have some comfort level that you are making the right decision when it comes to risk which we all know can be extremely volatile. In addition, many high-rollers will ask for things in advance such as pre-paying their airfare or chartering a private jet or helicopter to fly them in to play at your casino. Therefore you need to understand a little bit about how standard deviations work at estimating your probability of beating a particular player for a certain amount of money to cover your expenses and also make a reasonable profit for your casino. There are programs available that will compute this for you. All you need to do is plug in the game, the time period, their average bet, the house advantage for that game and number of hours to be played.

Volatility - Identical Theoretical Expectation with Different Maximum Bet

$50,000 Casino Theoretical Expectation

Probability of "Player A" Winning $300,000							
Name	Account	Game	**Hours**	Hands/ Hour	**Average Bet**	House Adv.	Theoretical Loss
Player A		B.J	**20**	100	**$5,000**	0.50%	$50,000
Probability of Winning				Probability of Losing			
Winning over	% chance	Actual		Losing Over		% chance	Actual
$0	42.23%			$0		57.77%	
$102,000	27.55%			-$102,000		41.92%	
$204,000	15.96%	$300,000		-$204,000		27.29%	
$306,000	8.13%			-$306,000		15.77%	
$408,000	3.62%			-$408,000		8.01%	
$510,000	1.40%			-$510,000		3.56%	

Patron's Actual
$300,000

Patron's Chance of Winning Their Actual or More
8.49%

90% Confidence		
-$470,671	to	$370,671

				-$612,000		1.38%	

Probability of "Player B" Winning $300,000							
Name	Account	Game	**Hours**	Hands/ Hour	**Average Bet**	House Adv.	Theoretical Loss
Player B		B.J	**10**	100	**$10,000**	0.50%	$50,000
Probability of Winning				Probability of Losing			
Winning over	% chance	Actual		Losing Over		% chance	Actual
$0	44.49%			$0		55.51%	
$136,000	30.30%			-$136,000		40.57%	
$272,000	18.59%	$300,000		-$272,000		26.90%	
$408,000	10.20%			-$408,000		16.04%	
$544,000	4.97%			-$544,000		8.53%	
$680,000	2.15%			-$680,000		4.03%	
				-$816,000		1.68%	

Patron's Actual
$300,000

Patron's Chance of Winning Their Actual or More
16.58%

90% Confidence
-$644,918 to $544,918

Probability of "Player C" Winning $300,000							
Name	Account	Game	**Hours**	Hands/ Hour	**Average Bet**	House Adv.	Theoretical Loss
Player C		B.J	**5**	100	**$20,000**	0.50%	$50,000
Probability of Winning				Probability of Losing			
Winning over	% chance	Actual		Losing Over		% chance	Actual
$0	46.09%			$0		53.91%	
$187,000	32.10%	$300,000		-$187,000		39.41%	
$374,000	20.28%			-$374,000		26.26%	
$561,000	11.54%			-$561,000		15.81%	
$748,000	5.88%			-$748,000		8.55%	
$935,000	2.67%			-$935,000		4.13%	
				-$1,122,000		1.78%	

Patron's Actual
$300,000

Patron's Chance of Winning Their Actual or More
24.62%

90% Confidence
-$891,342 to $791,342

Table Maximums can be used to expand or lessen a casino's volatility. In the example listed, three scenarios of patrons playing Blackjack are presented with each resulting in $50,000 Theoretical Win for the casino. To illustrate volatility, "Player A" plays $5,000 a hand for 20 hours, "Player B" plays $10,000 a hand for 10 hours, and "Player C" plays $20,000 a hand for 5 hours. From the casino's perspective, each player is equally valuable but they present different amounts of risk for the house.

The chart reflects the normal distribution of expected results associated with the standard deviation derived by each style of play. The term 90% confidence is used to give a reasonable expectation of a player's winning or losing and is meant to account for 90% of all occurrences. The actual results can be outside the limits listed and the degree of confidence can be portrayed at levels other than 90% (i.e. 95% or 99%).

The results of this experiment show that "Player C" has the potential to win or lose more money than "Player A" creating a more volatile situation for the casino. While "Player C" has the same profitability as "Player A", the casino needs to take into account the added exposure to short term losses created by more volatile action.

The following chart shows the risks of losing money to a high action player. The situation is a player that wagers one hand of blackjack at $25,000 per hand for 10 hours of play. What is the patron's chance of winning for the trip? What are his chances of winning one million dollars? These are questions managers should know before accepting this type of high action play.

Probability of "Player D" Winning $1,000,000							
Name	Account	Game	Hours	Hands/ Hour	Average Bet	House Adv.	Theoretical Loss
Player D		B.J	10	100	$25,000	0.50%	$125,000
Probability of Winning				Probability of Losing			
Winning over	% chance	Actual		Losing Over		% chance	Actual
$0	44.49%			$0		55.51%	
$323,000	30.96%			-$323,000		41.31%	
$646,000	19.62%			-$646,000		28.16%	
$969,000	11.24%	$1,000,000		-$969,000		17.46%	
$1,292,000	5.80%			-$1,292,000		9.77%	
$1,615,000	2.68%			-$1,615,000		4.92%	
				-$1,938,000		2.21%	

Patron's Actual
$1,000,000

Patron's Chance of Winning Their Actual or More
10.60%

90% Confidence		
-$1,612,296	to	$1,362,296

Under these conditions, the casino has a 10.6% chance of losing over $1,000,000 to this patron for the trip. This represents the casino's VCL. Do you know your casino's VCL? Good luck.

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