

## **Sailing Ships, Steamboats, Horse Carriages and Baccarat**

By Steve Karoul

What in the world do sailing ships, steamboats and horse carriages have in common with Baccarat? Nothing, other than the fact that they all succumbed to innovation and new inventions. What about the Polaroid camera or for that matter, film cameras? Again, replaced by innovation. True casino innovation is rare these days so when something innovative does come along it is especially exciting. We also know that our industry is known as a copy cat industry where most casinos copy new or innovative ideas in lieu of developing them. There is nothing wrong with that if the innovative new idea is a productive idea.

Casino gaming has also gone through an evolutionary development and has also experienced its fair share of innovation. Just look at the recent developments and success of slot machine gaming. Slots now out-perform table game revenues in most markets around the world except in Asia. That could possibly change as well as the innovation process continues with machines and programs designed to attract Asian players. However, for now, table games and in particular, Baccarat is still the preferred game in Asia.

However, Baccarat is the only game of the traditional big 4 table games (Roulette, Craps, Blackjack and Baccarat) that does not have a built in mechanism to produce the House Advantage. It is unique in relying upon an external devise, i.e. the collection of commission. Baccarat, especially in Asia, is the only traditional game that has forfeited the rhythm (hands per hour) of the game to the players or customers. The thought of a customer holding a pair of dice while thinking what to bet next (or what to have for dinner) sends shivers down the spines of seasoned casino managers that have this phrase forever imprinted in their minds – “MOVE THE DICE!” Time is money and the number of hands per hour represents money to most casino operators. Yet, this is exactly what happens in Baccarat pits today as a matter of fact. Consequently, Baccarat usually suffers from a very weak overall hold. In some casinos the Baccarat HPH (hands per hour) is down to 35 hands per hour or even lower. Baccarat (Mini-Bac) was a casino game that used to clock over 100 HPH. As a result of today’s “squeeze” games where the players slowly squeeze open the hands the speed of the game has decreased dramatically and as a result the turnover is also decreased.

In an effort to compensate this low Baccarat hold percentage, innovative operators have therefore concentrated on developing and incorporating high percentage “proposition” bets into the game. The unintended consequence of these offerings is that they cause the game to

slow down even more by offering more options to just a few players. The great majority of players are too educated to actually bet expensive “prop” bets in Baccarat on a consistent basis. How many Craps players would bet “boxcars” on a regular basis? Consequently, the big money for the casino lays with the low odds bets – Pass / Don’t Pass, Banker / Player – period.

Upon examining Baccarat by breaking down the different components of the game under actual operating conditions, one will find that the commission process takes up to 60% of the total process time in Baccarat. That’s right, 60% of the time since the dealer is involved with calculating, taking, mistaking, fighting, apologizing and defending the unwieldy commission. By the way, looking at the other side of the table, the customer is taking the opposite position and also going through the same process. This is not a formula for happiness with both casino management or with your customers.

So, how does one resolve such a bugaboo or dilemma in casinos around the world? One can resolve it via casino innovation. A relatively new version of Baccarat known as EZ Baccarat is just such an innovative new product that plays without the commission dilemma. This is not a new game but rather a new operating system for Baccarat. It is the Microsoft Windows of the world of Baccarat. It is that innovative. This is one of the best solutions to the problem that Baccarat has faced for the past 100 years or before Baccarat was bankrolled by the customers themselves resulting in casinos being forced to take the 5% commission from the pot. This new version called EZ Baccarat now puts the game on par with other table games that do not stop the winner every time to ask him or her to fork over part of their winnings to the casino.

The last time a traditional table game was superseded by an innovation that proved to be unstoppable was French Roulette (the game with tuxedos, 3 dealers, one or two supervisors, the same color chips, etc.) by a brash newcomer called American Roulette. Every one of the arguments being brandied about in the defense of Baccarat versus EZ Baccarat were heard before in the defense of French Roulette, e.g. “the players love it’s tradition and will never change to a new style of Roulette; possibly only the little players will play it but the VIP player will never change from French Roulette, etc., etc.” You remember French Roulette – or do you?

Along the same lines, long suffering table game managers who can fall asleep waiting for the next hand of Baccarat to be played, there is help available today via EZ Baccarat. EZ Baccarat has solved the dilemma of how to collect commission without affecting the traditional game which is favored by their Asian players in particular. With a single rule, borrowed from Craps where the 12 is barred on the “don’t come / don’t pass” bet, it manages to avoid collecting commission with effectiveness, practicality and pure elegant simplicity. Here is the trick: when the Bank wins with a 7 made of three cards, it is a “push” on the bank. That’s it. As long as those three must-have conditions are met, then you have what is known as a “Dragon Seven”

(more on this later). This little piece of DNA or casino innovation changes everything that needs to be changed, namely, no more collecting of 5% commission on winning Bank bets. Everything that is related to the commission collection process magically disappears; from figuring out the amounts, to collecting it, to disagreements, to doubts and calls to Surveillance, to the customers complaining to the dealer or from the Table Inspector or Pit boss fighting with the customer. All of this disappears and the qualitative indicators of the game become superb in the eyes of the player. The dealers are less stressed, the supervisors now have the time to take care of the customer's needs without risking the integrity of the game and the customers, yes, the customers, are also quite happy and stress free as well so they hopefully will also do what we want them to do –stay and play longer at the table.

Qualitative advantages for customers are oftentimes quickly dismissed by frustrated casino managers or supervisors. However, if each customer stays at the table just for an additional 30 minutes of play time because they are having a good time the results will show in the revenue increase or hold percentage of the game. Remember, time is money and EZ Baccarat can also result in more HPH as well as increased seat time. The developers of EZ Baccarat also point out some of the benefits to the customers as well and why they believe that many players will want to convert to the EZ Baccarat game. The equivalent commission percentage in EZ Baccarat is 4.94% versus the traditional 5% which even though small it is still more advantageous to the customer. Correspondingly, the overall house odds goes from 1.058 % to 1.018% which is also, albeit, a very small reduction in favor of the customer. In addition, the player will now enjoy a hassle free, commission free game along with a chance to cash in on the new Dragon Seven bet which pays 40 to 1.

#### What it is:

The EZ Baccarat table game solves the principle problem of Baccarat, which is how to make the commission disappear without changing the game. The solution which took over five years of research to develop uses advanced mathematics to solve its key problem.

It is quite innovative because the solution enhances revenue from existing customers. It does not change the drawing rules of the game, yet it can deliver between 40% to 60% MORE revenue per game.

#### How it works:

The EZ Baccarat method replaces the taking of commission on every winning Bank hand by “barring” (When a winning result on a wager is not paid and not taken, such as the “Don’t Pass” in a Craps game.) on a specific winning Bank hand – a three card total of seven.

The appearance of this hand is the “Dragon”. Customers can make an insurance bet called the Dragon 7 bet that pays 40 to 1 when the three card winning Bank hand occurs.

The solution is simple, easy and fast. EZ Baccarat is therefore quite innovative because:

- no changes in drawing rules
- table decals on existing table layouts
- game is much easier to deal
- player game experience is less stressful
- new table layouts are also available
- the game is much faster than regular Baccarat
- requires no electronics. Can integrate with EZTRAK hand tracking system

### Mathematical Methodology:

Here is a closer look at the mathematical methodology which allows EZ Baccarat to replace Baccarat commission with a barred hand.

#### **CURRENT BACCARAT RULES FOR COMMISSION**

Under current Baccarat rules, which include the 5% commission on all Bank wins, the expected outcome for a Bank wager is:

$E(\text{Bank Wager}) = 0.4585974(+0.95) + 0.4462466(-1) + 0.0951560(0) = -0.0105791$ , or roughly -1.06%.  
Similar calculations for the Player and Tie wagers yield expectations of -1.24% and -14.36%, respectively.

#### **PROPOSED REPLACEMENT OF COMMISSION**

If the 5% commission is eliminated and, instead, the Bank is “barred” from winning on a Bank total of X, the expected outcome for the Bank Wager becomes:

$E(\text{Bank wager if Bank is barred from winning on a total of } X) = (0.4585974 - p)(+1) + 0.4462466(-1) + (0.0951560 + p)(0)$ , where X represents the barred Bank total and p the contribution to the overall Bank winning percentage for X (i.e.,  $p = \text{Prob. \{Bank total} = X \text{ and Bank wins}\}$ ).

Barring the winning 3-card totals of 7: 1.018% house edge 4.914%, which is equivalent to the 5% commission. The odds of this happening are 43.4 to 1.

The odds stated in connection with the above specific barred situation represent the odds of the bank obtaining the given total **and** this total exceeding that of the Player. For example, on any given hand, the odds against the Bank obtaining a 3-card total of seven and winning (under current unrevised rules) are 43.4 to 1.

**Expected Outcomes for the Bank Bet under Barred Totals**

<b><u>Barred Bank Total</u></b>	<b><u>% win</u></b>	<b><u>E(Bank Bet)</u></b>	<b><u>House %</u></b>	<b><u>Equivalent Commission</u></b>	<b><u>Odds</u></b>
3 card total = 7	0.022534	-0.010183	1.02%	4.91%	43.4

  

<b><u>Barred Totals</u></b>	<b><u>Probability (Total &amp; Win)</u></b>	<b><u>Equivalent Commission</u></b>	<b><u>TRUE Odds</u></b>	<b><u>Insurance Payoff</u></b>	<b><u>Edge on Payoff</u></b>
3 card BT = 7	0.0225	4.91%	43.40%	40	7.61%

Casino innovation for table games is fairly rare today. RFID Chips is another innovative new product. There may be others as well on the horizon so stay vigilant and be prepared to capitalize on innovative new products for both your casino and your players. EZ Baccarat is off to a great start and is beginning to appear in casinos in Las Vegas, Macau and many Native American casinos. Initial response from players appears to be very positive. Players tend to now track the shoe trying to forecast the Dragon 7 winning hands which adds additional excitement to the game whenever anyone wins the new 40:1 bet. If anyone would like additional information, please feel free to contact the author.

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