

In response to the casino losing over 1.5 million dollars this past month due to an increased loss percentage, specifically in Blackjack; my prioritized task is to figure out a good estimated percentage of blackjack(21) hits for the dealer, compared to the amount of blackjack hits for the player, per game. Doing so, we aim to figure out the best number of card decks to use each game to achieve a better hand prediction, primarily based on the goal of the dealer hitting more blackjack hands than the player. With the data already obtained, our goal is to achieve a consistent 17% win increase every month for each blackjack dealer over the next 6 months. We intend to achieve this goal by increasing the amount of card decks used per game to 10, rather than 8. We also suggest upgrading the headset equipment for the blackjack dealers, as well as, the software used by the support team so that they can both communicate instantaneously mid-game. With this goal being achieved, we predict the casino to gain approximately a 2.7 million dollar monthly revenue increase. A majority of the constraints are likely to be heard from: 1. The players in blackjack, regarding the increase in losses and 2. The casino owner, due to the 1.2 million dollar cost for the headset equipment and software needed to obtain this goal. Our main stakeholders involved are: the blackjack dealers- James Johnson, Jim Adams, Kelly Rice, Stacy Williams, John Kline, and William Sanders; the Casino Owner- Ralph Jones, and the Support team supervisor- Debra Jenkins. Our main sources of data in this project are: 1. The dataset for the casinos blackjack results titled 'Blackjack Dataset', 2. The instantaneous feedback and mid-game stats from the blackjack dealers.