

Background

Our client, a telemarketing firm, was looking to reward their best sales personnel. The organization did not have a very great system to monitor performance, therefore, wanted to implement a system that would keep track of performance. Each salesperson received a list of customers to call. Data was collected on the number of sales made per 100 calls (please reference the first tab of the file titled "Sales Data Record"). My task was to evaluate their data in order to decide what should be considered "exceptional" performance. The program which my organization would design followed my parameters.

Based on the client's data, I determined that the expected number of sales (per 100 calls) was approx. 22.20 calls, with a standard deviation of 4.60 sales per 100 calls.

In addition, I was tasked with evaluating the monthly sales data which our client had collected over the last 5 years. I determined the average monthly sales to be \$8,235.78 with a standard deviation of \$780.93 in monthly sales. Please reference the second tab of the file titled "Sales Data Record".

Given their performance record, I identified that the probability of having a month where monthly sales exceed \$9,000 was 0.1639 (or approx. 16%) and of having a month with less than \$7,000 in sales was 0.0568 (or approx. 6%).

In viewing the company's performance record as a representative sample of its overall sales performance, and considering what I knew about normal distributions, I determined that the dollar value for the 95th percentile to be \$9,520.30 and for the lowest 25th percentile \$7,709.05, respectively.

Given the company's performance record and based on the empirical rule of normal distribution (68%-95%-99.7% rule), I found that the lower bound of the range of sales values that contains 68% of the monthly sales was \$7,454.85 and the upper bound was \$9,016.71.