Case Study 1

Summaries of Tasks

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Sales trend and performance in all regions

Based off the historical data given by the Eagle Industrial supplies (EIS) which starts in 2016 after the company established itself in China, it can be overserved the first pivot table and cluster column charts that their total sales of mowers have remain stagnant in across all regions and their total average sales with North America is the most out of all the regions with China buying the least. However, it can be observed in the second pivot table and chart that their total sales of tractors are steadily increasing, with sales increasing in North America, South America, and China. But also, their sales in Europe and the pacific rim decreasing, even though their total sum has been steadily increasing since 2016. The company aimed to significantly increase its market share or bother mower and tractor markets and was going to partly achieve this by opening into the Chinese market. However, even though it has succeeded in increasing its market share of tractors and has achieved this part of the goal. It did not however the mower sales are not in within in the company’s goals, with their sum for all regions being stagnant and barely selling any mowers in China. If the company wants to meet their goal of increasing their market share of mowers, they will need to find a way to appeal foreign markets and especially in China. However, they should maintain their current strategy for tractors for they met their goal.

Customer satisfaction measures

Based off the historical data given by the Eagle Industrial supplies (EIS) which starts in 2016 after the company established itself in China, it can be observed in the pivot table and chart that company has achieved high customer rating, except in the category of price and in China in the service category. The company has always focus on quality which can be shown in its average quality rating 4.4 the highest of all the ratings, with the lowest rated region being China, however that rating is still high at average 3.8. It Can be noted that all the regions except China overall have high average scores in all categories ranging from high 3’s to low 4’s. This is however a problem because it can be noted in the previous analysis, China compared to other regions buys very few tractors or mowers with little signs of future increase. But there might be an explanation because if you look at China’s satisfactions scores, they are not like other regions, they gave a good score for Quality and Ease of Use however gave poor scores for price (3) and average service (2.6). This might explain the poor sales, because if a Chinese competitor can offer a better price and better service, the customer will be more likely to go to them. So even though the company has done a good job at satisfying other regions, the company should look at a new strategy on how to satisfy the Chinese region if the company wants to increase its market share there.

Engine production process

Based off the historical data given by the Eagle Industrial supplies (EIS) which starts in 2016 after the company established itself in China, its average product time is 50 minutes plus/minus 2.5 minutes, with significant variations of the production time indication something wrong with the process, and the manager for engine production is interested in the capability of the times given. According to the normal distribution formula and probability chart, 76% of the time falls under 52.5 minutes or less, with 10% of engines being finished in 47.5 minutes or less, and 99% being finished in 57.5 minutes or less. To start off with it might be of concern 10% of engines are being finished that quickly, however if the manager is interested in the capabilities of the production this number might be a good thing. However, 24% of production times are taking longer than 52.5 minutes, so it might be an issue concerning if production is under control, because the production time should be 50 minutes with 2.5 minutes more or less. So the production almost 25% of the time is taking longer than that, so it might be an issue, but it will come down to the manager if they consider 74% of their production falling underneath the goal a success or not. So, if the manager wants the production line more under control and the average probability moving towards 50 minutes then they will need to decrease the time taken, however the data showing 10% of engines complete in 47.5 minutes or less indicates there are production capabilities

Mower blade production

Based off the historical data given by the Eagle Industrial supplies (EIS) which starts in 2016 after the company established itself in China, the average lawn mower blade had a weight of 5lb with a 95% confidence interval. According to two tailed t-test and new sample size formula, you would need a sample size of 816 if you wanted a margin of error of .0075 and the two-tail test failed to reject the null hypothesis because its p score was bigger than the deviation so there’s no evidence that the weight is more or less than 5lbs. So, it is determined that the enhance blade production for mowers does not need its production process to produce more mower blades to the specification because it already meets that specification. And if the data set were to require a margin of error of .0075 so we have more accurate data on the blades we would need to increase the sample size from 350 to 816. So, with the purpose of this to be to benchmark the new blades and see if they come within 5lb, then the company succeed because the two-tail test failed to reject the hypothesis. So, the company doesn’t have to change its production because it is already meeting its goal.