Project3

Applied Analytics and Data for Decision Making

Done by: Betool Hamad

- ***First*** of all, I will identify the best solutions to improve the performance of 'x' which is the problem of a recent drop in guest spending on food vendors at the property because of related to the distance to the food court and policy changes. ***Second***, I will use the design of experiments technique (DOE) to test the improvement solution. ***Finally***, I will integrate concepts from lean and six sigma to sustain my improvement.

1. The best solutions to improve the performance of 'x' is:

A. **Make the food courts near apart to the visitor gathering area.** By transmitting all the zone of restaurants to another place to make them near apart to the visitor gathering area to decrease the pathway and without being there are fences, in addition, to be near direct to the entry gate to attract them to the zone quickly.

2. Design of experiments technique (DOE):

1. **The distance to the food courts** is was a problem in the of a recent drop in guest spending on food vendors at the property and is form 45%.

2. **The experiment objective** is to collect data about how much the distance to the food court. To make it near to the visitor's zone so to be quicker to arrive it, and to remove the fences that affects distance and it causes delay.

3. **The output response(s)** is how much distance to the food court in meters, and no fences that obstruct the distance.

4. **The input factors are:**
   1. The distance was far.
   2. The fences

5. **The input factor levels are:**
   1. Number of meters
   2. length

3. Execution phase:

1. **The experiment design and sample size:** the experiment will require sample size consist of five employees to measure the distance and know the size of fences to be removed.

2. **The collect data:**
   A. The length of distance.
   B. The size of fences which is 500kg.

C. Analyze the data:

A. After the analysis 'turned out that length of distance was 600m with presence of fences and that take 7 min.
B. The size of fences before the food court was 500kg and with height of 2 meter long.

D. Draw statistical and practical conclusions

A. The conclusions drawn that is the distance is too long and take a time so may the visitors stopped and not complete the journey to the food court. In addition to, there is an available space to make the food court zone more near.

 B. The fences are obstructing the path and take more time to arrive. In addition to, the fence its can be dispensed without any effects on the amusement park.

E. Translate the conclusions into practical terms.

So, the practical steps to be taken from conclusions is

A. The distance must be shorter. By transfer the food stalls to the visitor zone which is in the beginning of the amusement park and provide golf car to transmit the older persons or who can't walk to the food court.

B. Remove the fences. By provide a big car with tools to remove it. And make it the huge fences around the food court to be safer.

Lean:
- Increase the return of the food court.
- Increase the customer satisfaction.

Six sigma:

The five-step process to accomplish a Six Sigma process capability value is called the DMAIC methodology.

- **Define:** A recent drop in guest spending on food vendors at the property.

- **Measure:** The distance problem and the presence of fences

- **Analyze:** The length of distance and size of fences.

- **Improve:** Make the food courts near apart to the visitor gathering area, after measuring the distance, and size of fences to know the distance to be close and build it in the available near space to gathering area and remove the fences which is factor that obstruct the distance to the food courts.

- **Control:** After test and validate the improvement solution by DOE, we implement the solution which was make the food courts near apart to the visitor gathering area, and we monitored the new results which was increase the return of the food court and customer satisfaction. Finally, make continuous improvement.