Theory of constraints

Business, Management

Theory of constraint Theory of constraint A constraint is anything that prevents the process or the system from maximizing its potential to achieve its set objectives. In our case, the process is encountering an internal type of constraint where the number of employees in this process does not match the number of customers that should be attended to. If there are only two servers to attend to twelve customers at a time then it means that it will take exactly twenty four minutes to attend to all the twelve customers (Jacobs, Chase & Lummus, 2011). That can be demonstrated as shown below:

If 1 customer = 4 minutes

Therefore 6 customers = ?

= 6 x 4 = 24minutes

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So with a difference of four minutes, it means that the first customer to be served will leave when the last customer is left with 24 minutes to leave because the total time that is being lost before the servers finish with their last customer in the first round of 12 is 24 minutes. And suppose there is an increment in the number of servers then there will be decrease in time lost with increase in the number of customers served which is directly proportional to increase in general income of the process(Jacobs, Chase & Lummus, 2011).

If the average cost per meal is 10$ then it means that in the first 50 minutes the process shall have generated 120$ and in the first 1 hour it shall have generated 144$. For a better understanding of that calculation the figures are tabulated as shown bellow

Customers as attended to by the servers

1st

2nd

3rd

4th

5th

6th

Total

Cost per meal ($)

10

10

10

10

10

10

60

Server (A) time/customer (minutes)

30

+4minutes

+4minutes

+4minutes

+4minutes

+4minutes

50minutes

Server (B) time/customer

(minutes)

30

+4minutes

+4minutes

+4minutes

+4minutes

+4minutes

50minutes

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And since they are two servers who we assume are working at an averagely relative speed, we multiply the 60$ by two to get the total cost made in the first fifty minutes.

Therefore the maximum throughput of the diner per hour is 144$ because

If 50min = 120 $

Therefore 60 = ?

If the equation is solved then the answer becomes 144$.

Increment in the number of customers can comfortably accommodate by increment in the number of employees by a positive figure of one and at the same time the current employees must adjust their level of performance for the general success of the process(Jacobs, Chase & Lummus, 2011).

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Reference

Jacobs, F. R., Chase, R. B., & Lummus, R. R. (2011). Operations and supply chain management. New York: McGraw-Hill Irwin.