**Country Beverage Drive-Thru Simulation Analysis – A Comparative Study**

Case A: One Channel, One Clerk

As per our simulation study in the above scenario, following inferences are captured:

1. 53.6% of Customers will have an average wait time of over 6 minutes
2. 36.3% of Customers will have an average wait time of over 10 minutes

One Random Simulation run suggests 111 customers will be lost as a result of exceeding the bare minimum expected level of service from Country Beverage stores

Case B: One Channel, Two Clerks

As per our simulation study in the above scenario, following inferences are captured:

1. 24.8% of Customers will have an average wait time of over 6 minutes
2. 11.8% of Customers will have an average wait time of over 10 minutes

One Random Simulation run suggests 209 customers will be lost as a result of exceeding the bare minimum expected level of service from Country Beverage stores

Case C: Two Channel, Two Clerks

As per our simulation study in the above scenario, following inferences are captured:

1. 12.8% of Customers will have an average wait time of over 6 minutes
2. 7.2% of Customers will have an average wait time of over 10 minutes

One Random Simulation run suggests 50customers will be lost as a result of exceeding the bare minimum expected level of service from Country Beverage stores

**Inferences & Observations:**

*Detailed results available in the attached .xlsx file as well*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Loss of Customers from Case A to Case B** | | | | |
|  |  |  | Diff in customers | |
| Wait Time > 6 Min |  |  | 86 |  |
| Wait Time > 10 Min |  |  | 25 |  |
|  |  |  |  |  |
| **Loss of Customers from Case A to Case C** | | | | |
|  |  |  | Diff in customers | |
| Wait Time > 6 Min |  |  | 122 |  |
| Wait Time > 10 Min |  |  | 87 |  |
|  |  |  |  |  |
| **Loss of Customers from Case B to Case C** | | | | |
|  |  |  | Diff in customers | |
| Wait Time > 6 Min |  |  | 36 |  |
| Wait Time > 10 Min |  |  | 14 |  |

As with Case A there’s higher waiting times associated

Also there’s a greater loss of customers from Case A compared to either Case B or Case C

This is comparatively lower with Case B 🡨🡪 Case C

**Contenders for Selection:**

* Case B

OR

* Case C

**Results & Findings:**

1. Case C has the least average waiting times and the loss of customers is also on slightly lower side but with an additional burden of $10000

Case C can be chosen in the subjective case of the loss of customers being a high net value loss which can’t be compensated otherwise and $10000 is a viable trade-off to not incur those losses which in case of a drive-thru beverage chain seems highly unlikely

1. **Case B** (One Channel, Two Clerks) should be the ideal candidate for the scenario chosen as average waiting times are slightly higher than Case C but with only 7 - 8% loss of customers between them serves the purpose better