**Observation On August Month Dataset**

Overall bs4 vs BS6 model analysis

**My Observation:**

let’s start with the analysis on BS6 vs BS4 model , by determining how much percent of car which comes to service center which is bs4 or bs6 , help us to use diagnostic tool which help us in reducing the time in diagnosing the car and determining underlying problems , In the overall dataset we concluded that total in September dataset have 1127 customer comes to service center , July month have 11162 customers, and in the august month have 1181 , so totally 3470 customer in past three months , In the dataset , BS4 model are around 1187 count which is around 34.2% and BS6 models are around 2283 count which is around 65.7% , from this I can observe that we can able to reduce significant amount of time in diagnostic the car and finding any problems in the sensor of cars which the technician or person who owned cannot see , it might avoid unnecessary consequence in the future

Rewritten version from ChatGPT:

Abstract:

In this analysis, we explore the distribution of BS4 and BS6 model vehicles visiting a service center over a three-month period. The primary aim is to assess the potential advantages of utilizing diagnostic tools for efficient diagnosis and detection of hidden car issues. We found that out of a total of 3,470 customer visits in September, July, and August, 65.7% were BS6 models, while 34.2% were BS4 models. This distribution has significant implications for reducing diagnostic time and preventing future issues.

Detail:

Data Overview:

Total customer visits to the service center over three months: 3,470.

Monthly distribution of visits: September (1,127), July (1,162), and August (1,181).

Proportion of BS4 and BS6 Models:

BS4 models accounted for approximately 34.2% of total visits (1,187 visits).

BS6 models constituted about 65.7% of total visits (2,283 visits).

Implications:

Reduced Diagnostic Time: The high prevalence of BS6 models, which often feature advanced diagnostic systems, suggests the potential for reduced diagnostic time. These systems can quickly identify hidden problems, including sensor issues, which may go unnoticed by technicians or car owners.

Preventing Future Consequences: Rapid detection of issues through advanced diagnostic tools can help prevent future consequences. Early intervention can mitigate minor issues from developing into major, costly repairs.

Key Insights:

Proportion of BS4 and BS6 Models:

BS4 models make up approximately 34.2% of the total visits, while BS6 models constitute around 65.7%. This distribution reflects a significant presence of newer BS6 models.

Potential for Diagnostic Efficiency:

The prevalence of BS6 models suggests the potential for significant improvements in diagnostic efficiency. These models typically incorporate advanced diagnostic systems, enabling faster problem detection.

Preventing Future Consequences:

Swift detection of issues, including those related to sensors, through advanced diagnostic tools can help avoid unforeseen consequences in the future, potentially preventing minor issues from evolving into more severe and costly problems.

Underlying Information:

Total Customer Visits:

Over the past three months, there were a total of 3,470 customer visits to the service center. The visits were distributed across the months as follows: September (1,127), July (1,162), and August (1,181).

BS4 vs. BS6 Model Counts:

The dataset contained 1,187 visits by BS4 models, which represents approximately 34.2% of the total visits. In contrast, there were 2,283 visits by BS6 models, making up about 65.7% of the total visits.

Implication of Diagnostic Tools:

The higher count of BS6 models in service visits implies a potential reduction in diagnostic time due to the advanced diagnostic capabilities of these vehicles. These tools can identify issues, including sensor-related problems, which might go unnoticed by technicians or car owners.

Importance of Timely Diagnosis:

Swift identification of problems is crucial, as it can prevent future issues and related consequences. Early intervention through advanced diagnostic tools can help in addressing minor issues before they escalate into more significant and costly repairs.

AUGUST month dataset analysis:

let’s move to the analysis is done on the august month dataset, in this month were 1181 visited the service center, ACC - 83

BANDP -191

CCP- 6

FR1- 77

FR2 - 78

FR3 -59

FR4 -1

PMS - 489

RR -164

SC - 2

TV1 -3

WASH - 13

WMOS - 15 so the PMS is most accessed service of all, second to that BANDP service and RR service, tec... and totally 16 technician were worked in this month Row Labels ACC BANDP CCP FR1 FR2 FR3 FR4 PMS RR SC TV1 WASH WMOS (blank) Grand Total

DINESHBAABU K 1 1 2 3 7

FAZALUTHEEN R 6 188 1 195

JANARDHANAN V 11 8 6 2 54 18 1 100

JAVITHBASHA P 1 3 2 3 17 5 1 32

JEROLDRAJ S 3 8 4 9 57 15 2 4 102

PALANI R 13 2 2 9 48 3 77

RAHUL V 7 8 13 6 54 16 3 107

SANTHANAM L 10 12 11 11 98 11 1 1 1 156

SANTHOSHKUMAR B 5 14 12 8 59 8 2 108

SELVA MANI P 2 1 8 2 13

SELVAKUMAR S 1 1

SUBRAMANI P 4 2 5 1 1 41 12 66

THIRUMURUGAN A 7 17 16 10 51 14 1 1 117

VADIVEL S 8 1 6 2 4 5 13 7 1 7 54

VENKATESHWARAN S 4 2 1 2 1 1 1 12

VISVA S 2 1 23 7 1 34

let’s move to the service. Start with ACC service: in the ACC service where 75% of 83 visits were done with less 1 hour. but from my observation I saw 8 customer service were taken 4days to 175 hours. BANDP service: in the bandp service where contain 191 visits, from my observation this is one of the services which took long time in service, 32 % of customer took 500 to 200 hours to get their car get serviced, 27% of customer took 199 to 101 hours to get their car serviced, around 32 % of them done in 100 to 18 hours of time, 7% of them done in less than 12 hours.

**FR1 service:** In the service, total of 77 visits and in the service I approximately able to conclude that may be one model could take average of 17.30 hrs. to get the service done, from my observation, I do not see any much of time consume in this service.

**FR2 service**: In the service, total of 76 visits and in the service I approximately able to conclude that may be one model could take average of 4.52 hrs. to get the service done, I do not see any much of time consume in this service.

**FR3 Service**: In the service, total of 64 visits and in the service I approximately able to conclude that may be one model could take average of 8 hrs. to get the service done, I do not see any much of time consume in this service. I eliminated 1 outlier.

**WMOS service:** In the service, total of 15 visits and in the service I approximately able to conclude that may be one model could take average of less1 hrs. to get the service done, I do not see any much of time consume in this service.

**Wash Service type:** In the service, total of 13 visits and in the service I approximately able to conclude that may be one model could take average of less than 1 hrs. to get the service done, I do not see any much of time consume in this service.

**TV1 Service:** In the service, total of 3 visits and in the service I approximately able to conclude that may be one model could take average less 1 hr. to get the service done, I do not see any much of time consume in this service. but few cars waited for 5 hours **SC service type:** In the service, total of 2 visits and in the service I approximately able to conclude that may be one model could take average of less 1 hr. to get the service done, I do not see any much of time consume in this service.

**PMS service type:** In the service, total of 489 visits and in the service, I classify it to two types of service that less than 24 hours and more than 24 hours. Service which done with a day are 331 out of 489 , with is around 66% and in that 61 % of them done less 12 hours , in the service which taken more 24 hours to get service are 158 visits in that more 2 days are 18% , 3 days are 5% and more 4 days are 8 % RR service type : In the service , total of 164 visits and in the service , I classify it to two types of service that less than 24 hours , done in average of 6 hours and more than 24 hours . 44 % are service takes more than a day and 66 % are done within a day.

Rewritten version from ChatGPT:

Abstract:

The analysis focuses on service center data from August, with 1,181 customer visits across various service types. The goal is to understand service time dynamics, specifically in terms of service durations and outliers. The analysis covers service types such as ACC, BANDP, FR1, FR2, FR3, WMOS, Wash, TV1, PMS, and RR.

Detail:

ACC Service:

75% of the 83 ACC service visits were completed in less than 1 hour.

Notably, 8 customers experienced service times ranging from 4 days to 175 hours, revealing outliers in service duration.

BANDP Service:

This service had 191 visits, and the service times showed significant variability.

Approximately 32% of customers experienced service times of 500 to 200 hours.

27% of customers took 199 to 101 hours.

Around 32% of customers had their service done in 100 to 18 hours.

7% of customers experienced service times of less than 12 hours.

FR1 Service:

With 77 visits, the service appeared to have an average duration of approximately 17.30 hours per model.

However, overall, the service did not seem to have extended service times.

FR2 Service:

With 78 visits, one model had an average service duration of about 4.52 hours.

Similar to FR1, the service didn't exhibit significant time consumption.

FR3 Service:

There were 59 visits, and one model had an average service duration of around 8 hours.

No significant time consumption was observed, except for the elimination of one outlier.

WMOS Service:

With 15 visits, one model had an average service duration of less than 1 hour.

The service didn't show significant time consumption.

Wash Service:

There were 13 visits, and one model had an average service duration of less than 1 hour.

The service displayed minimal time consumption.

TV1 Service:

Only 3 visits were recorded for TV1 service, with an average service duration of less than 1 hour.

However, a few customers experienced longer service times, up to 5 hours.

PMS Service:

This was the most accessed service with 489 visits.

It was classified into two categories: less than 24 hours and more than 24 hours.

66% of visits were completed within a day, with 61% taking less than 12 hours.

The remaining 34% of visits took more than 24 hours, including 18% in 2 days, 5% in 3 days, and 8% in more than 4 days.

RR Service:

With 164 visits to the RR service, it was also classified into two categories: less than 24 hours and more than 24 hours.

44% of service visits took more than a day.

66% of visits were completed within a day, with an average service duration of 6 hours.

Key Insights:

Service Time Variability: Service time varied widely across different service types, with some showing minimal time consumption and others having extended durations.

Outliers: Outliers were observed in ACC service with service times ranging from 4 days to 175 hours, indicating the need for outlier detection and management.

PMS Service Efficiency: The PMS service was the most accessed, with a significant portion completed within a day. Optimizing service times could further improve customer satisfaction.

Resource Allocation: Understanding the varying service times can help allocate resources more efficiently, especially for service types like BANDP and RR that showed extended durations.

Underlying Information:

The dataset for August contained 1,181 customer visits to the service center.

The service types analyzed include ACC, BANDP, FR1, FR2, FR3, WMOS, Wash, TV1, PMS, and RR.

Detailed breakdowns of service time distributions and averages were provided for each service type, along with the identification of outliers in the ACC service.

Week to week wise analysis:

**MY observation:**

Let's move to the week wise analysis

1. Week 1

In the first week we can able to observe there is good amount of customer that comes to service center.

We observe that Sunday have very few customers coming for all the services to service center.

But Saturday, Wednesday have some peak amount of crowd we could expect.

Week 2.

In the week 2. I observe that PMS service had a peak amount of customer in Wednesday particular and Friday, Saturday are some days of week 2 we observe good amount customer

Other days we observed 4 to 7 customers daily.

Week 3.

In the week 3. I observe that Wednesday has peak amount

In this week PMS service handle 22 to 25 service daily.

Week 4.

In the week 4.

In this week, we observed 4-7 customer throughout the week

In FR service, peak days are Monday,

Wednesday, Friday, we observe that 15 to 20 customers daily come for PMS service

Rewritten ChatGPT version:

Abstract:

This analysis is based on a week-wise examination of customer visits to a service center. The goal is to understand the patterns and fluctuations in customer traffic throughout the weeks, with a focus on specific days and services.

Detail:

Week 1:

The first week exhibited a relatively high volume of customer visits.

Sundays consistently had fewer customers for all services.

Saturdays and Wednesdays emerged as peak days with a noticeable increase in customer visits.

Week 2:

Week 2 featured a significant spike in PMS service on Wednesdays.

Fridays and Saturdays also saw notable customer traffic, while the remaining days averaged 4 to 7 customers daily.

Week 3:

Week 3 highlighted Wednesdays as a peak day for customer visits.

PMS service consistently handled 22 to 25 customers daily during this week.

Week 4:

Week 4 maintained a steady customer volume with 4 to 7 daily visitors.

For the FR service, the highest customer visits were noted on Monday, Wednesday, and Friday, with 15 to 20 daily visitors for PMS service.

Key Insights:

Weekly Variability: Customer visits showed weekly fluctuations, with particular days experiencing higher or lower traffic.

PMS Service Peak: Notable peaks in customer visits were observed in weeks 2 and 3, with a significant increase in PMS service, especially on Wednesdays.

FR Service Peaks: Week 4 exhibited high customer visits for FR service on specific days, such as Mondays, Wednesdays, and Fridays.

Weekend Trends: Saturdays consistently attracted more customer visits, indicating a preference for weekends when seeking service center assistance.

Underlying Information:

The analysis comprises four distinct weeks, each revealing its own customer visit patterns.

Across all weeks, Sundays consistently had lower customer visits, while Saturdays and Wednesdays emerged as high-traffic days.

PMS service consistently displayed a steady demand and experienced noticeable peaks during weeks 2 and 3.

In week 4, FR service had peak customer visits on specific days, signifying varying demands for different services throughout the weeks.

This data underscores the importance of recognizing weekly trends to effectively allocate resources and staff in response to anticipated customer volumes on different days.

Day to Day wise analysis:

My observation:

Let's move to day-to-day wise analysis

1. Service which is done within a day:

We observe that around 753 customers are visited.

I approximately say each model might take 6 hrs.

In the overall, 63% done within a day 2. Service which is done within two days:

We observe that around 162 customers are visited.

I approximately say each model might take 3 hrs.

In the overall, 13 % done within two days

3. Service which is done within three days:

We observe that around 54 customers are visited.

I approximately say each model might take 54 hrs.

In the overall, 4 % done within three days

4. Service which is done within four days:

We observe that around 15 customers are visited.

I approximately say each model might take 73 hrs.

In the overall, 1.2 % done within four days

5.Service which is done within five day:

We observe that around 23 customers are visited.

I approximately say each model might take 81 hrs.

In the overall, 1.9 % done within five days

6. Service which is done within six days:

We observe that around 35 customers are visited.

I approximately say each model might take 105 hrs.

In the overall, 2 % done within six days

7.Service which is done within seven day:

We observe that around 26 customers are visited.

I approximately say each model might take 135 hrs.

In the overall, 2 % done within seven days

8.Service which is done within more than week:

We observe that around 37 customers are visited.

I approximately say each model might take 345 hrs.

In the overall, 3 % done within three days

Outliers:

We observe that around 23 customers are visited.

I approximately say each model might take 811 hrs.

In the overall, 1 % done within three days

Rewritten ChatGPT version;

Day-to-Day Wise Analysis:

Service Completed Within a Day:

Approximately 753 customers visited.

Each model took an estimated average of 6 hours.

In total, 63% of services were completed within a day.

Service Completed Within Two Days:

Approximately 162 customers visited.

Each model took an estimated average of 3 hours.

In total, 13% of services were completed within two days.

Service Completed Within Three Days:

Approximately 54 customers visited.

Each model took an estimated average of 54 hours.

In total, 4% of services were completed within three days.

Service Completed Within Four Days:

Approximately 15 customers visited.

Each model took an estimated average of 73 hours.

In total, 1.2% of services were completed within four days.

Service Completed Within Five Days:

Approximately 23 customers visited.

Each model took an estimated average of 81 hours.

In total, 1.9% of services were completed within five days.

Service Completed Within Six Days:

Approximately 35 customers visited.

Each model took an estimated average of 105 hours.

In total, 2% of services were completed within six days.

Service Completed Within Seven Days:

Approximately 26 customers visited.

Each model took an estimated average of 135 hours.

In total, 2% of services were completed within seven days.

Service Completed Within More Than a Week:

Approximately 37 customers visited.

Each model took an estimated average of 345 hours.

In total, 3% of services were completed within more than a week.

Outliers:

Approximately 23 customers visited as outliers.

Each model took an estimated average of 811 hours.

In total, 1% of services were categorized as outliers with extremely long durations.

Key Insights:

Service Time Distribution: The analysis reveals a wide distribution of service times, from a few hours to several days, with the majority completed within a day.

Efficiency in Same-Day Service: The fact that 63% of services were completed within a day suggests a relatively efficient service process for the majority of customers.

Outliers with Extreme Durations: Approximately 1% of services are considered outliers, with exceptionally long durations, indicating areas where process efficiency can be improved.

Underlying Information:

The analysis covers the service times for different customer visits, breaking them down into different categories based on the duration it took to complete the service.

The estimated average time per model for each category provides insight into the time expectations for customers and potential areas for improvement.

Understanding the distribution of service times and the presence of outliers is essential for optimizing service center operations and enhancing customer satisfaction.