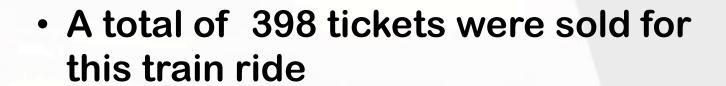
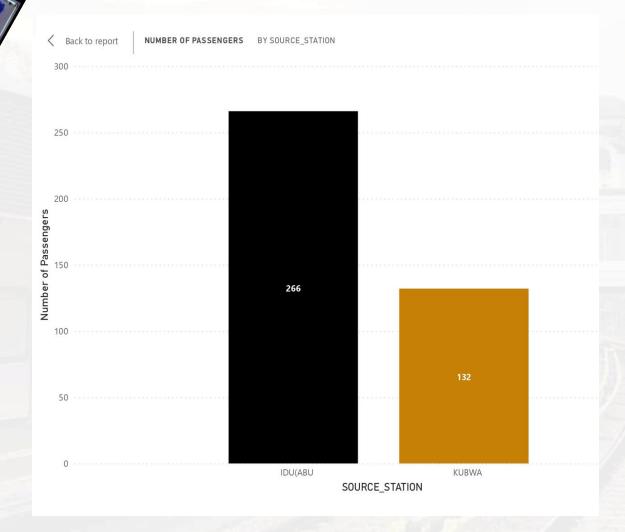


EXPLORATORY DATA ANALYSIS ON THE IDU-KUBWA-RIGASA TRAIN RIDE OF MARCH 28<sup>TH</sup>, 2022.

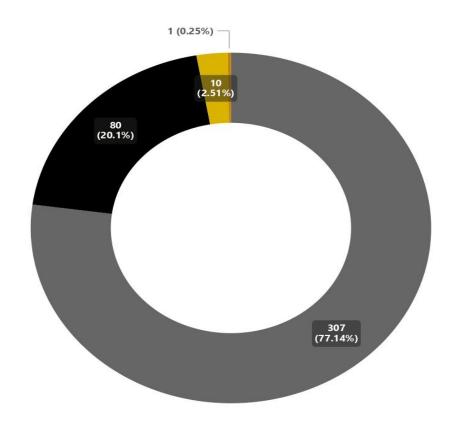




With 266
 passengers, the Idu Train Station accounts for 67% of all boarded passengers.



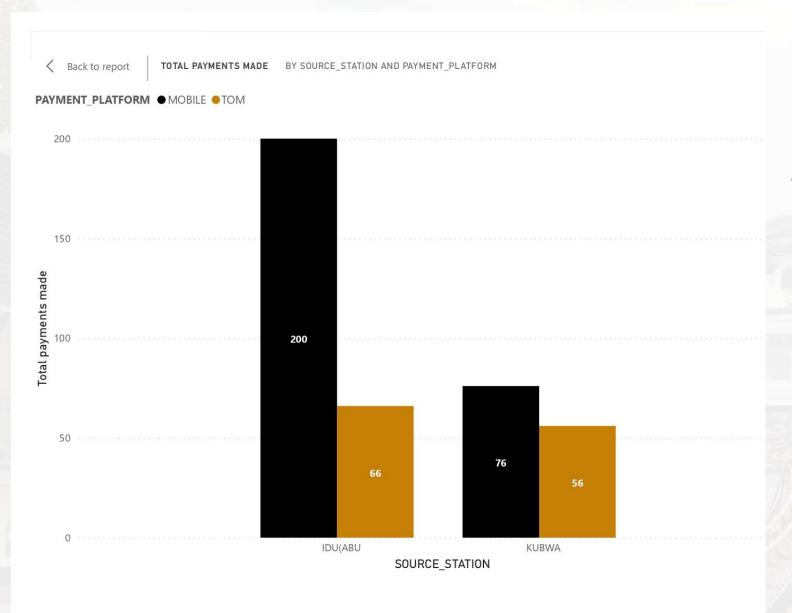
### TOTAL TICKETS IN CATEGORY BY TRANSACTION AMOUNT



**TRANSACTION\_AMOUNT** ● 3000 ● 5000 ● 2100 ● 1000

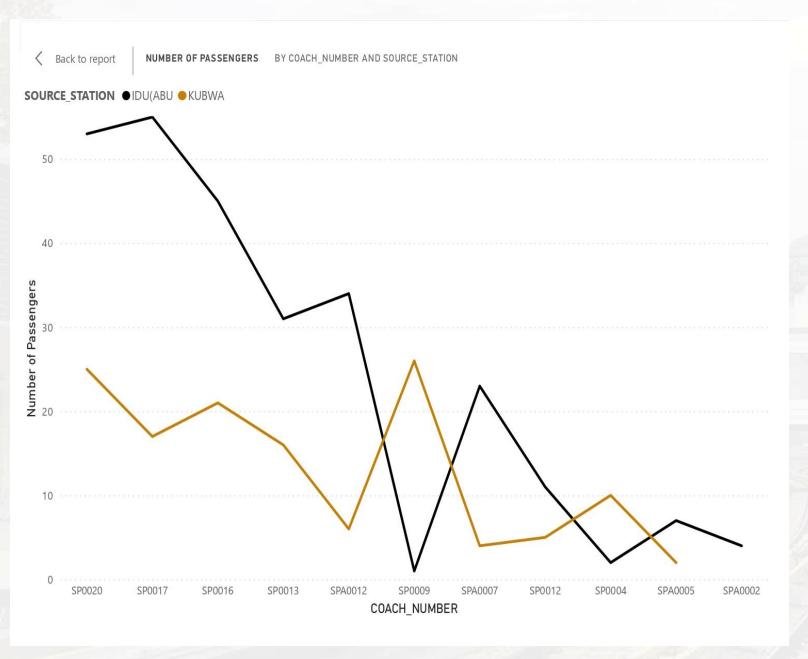
- The N3,000 tickets were most popular and they made up 77% of total tickets purchased.
- Only one #1,000 ticket was purchased.





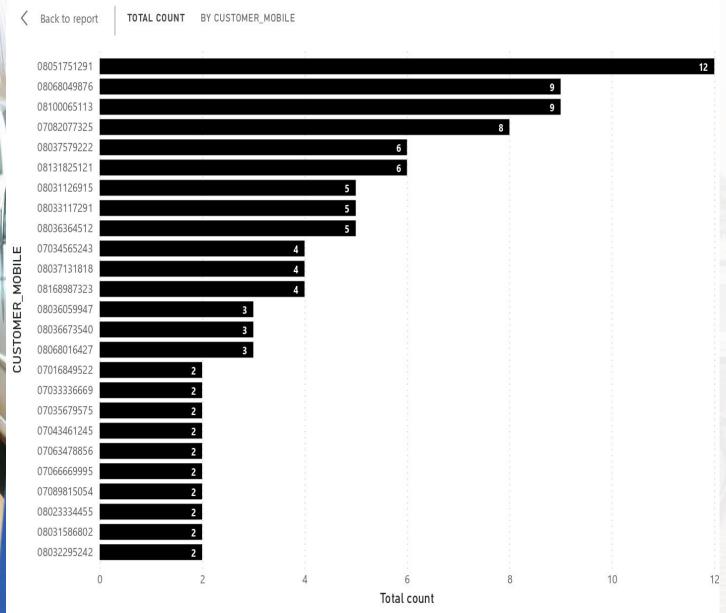
 Passengers favored mobile/online payments over buying tickets at the station. Mobile payments account for 69% of ticket purchases.





- The Kubwa station favors coaches 4 and 9. These are the only coaches where Kubwa had more passengers than Idu.
- For coach 9, the ticket purchases were predominantly offline.

# **SECURITY INSIGHTS:-**



- 44 phone numbers were used to make multiple bookings. One phone number was used to make 12 bookings. It was registered to 'Precious Ife' and used to purchase the Ione ticket to Kubwa under the name 'Ezra Jagaba'.
- Altogether, 145
   passengers had
   missing contact
   information.



## OTHER NOTABLE OBSERVATIONS:

- Only 1 passenger bought a ticket for Kubwa.
- 7 passenger names were repeated.
- We found 31 instances of single name entries. This is not an exhaustive list as there are still entries that contain abbreviated second names.
- 17 single name tickets were purchased with either irregular or repeated phone numbers.
- A total of 11 ticket purchases that were made with duplicated/replicated mobile numbers have single name entries.



- Counting irregular mobile numbers, 3 entries have more than 11 digits while 3 more contain less than 11 digits.
- It is possible to make a ticket purchase without providing a full name and phone number.
- There are a lot of incorrect mobile number entries and there are many ways that this can be a problem. For one, it makes it difficult to keep accurate data of train rides, difficulty with following up with user experiences, complaints and issue resolution. It is also a huge security risk. These are just a few of the issues that can come from such an irregularity.
- There seems to be no limit to the number of tickets that can be bought using a single mobile number even if the number provided is inaccurate.



# **RECOMMENDATIONS:**

The following recommendations are aimed at improving the quality of data capture which will in turn improve the quality of service provided:

- Include gender in the personal information data collection.
- Age of passengers should be included during purchase.
- Passengers must provide full names as captured by a valid means of identification.



- The mobile number fields should be restricted in such a way that incorrect numbers will not be accepted into the database.
- Authorities may consider a restriction on the number of tickets that can be purchased, especially when only a single mobile number is provided for multiple passengers. Exceptions can be made for minors or others who for some unavoidable reasons do not have access to a mobile device.
- Employ data analytics to produce periodic reports that will improve operations, processes and ultimately, profits.



