AYODEJI DARE's

BUSINESS INTELLIGENCE REPORT

Introduction

In the ever-evolving landscape of business operations, understanding user behavior, product performance, and acquisition strategies is pivotal for informed decision-making. This Business Intelligence report delves into three key areas, each offering unique insights crucial to growth and strategy.

Question 1 directs focus on the users dataset, calling for the creation of a comprehensive dashboard. This dashboard will unravel intricate details surrounding user behavior and the acquisition process. Insights extracted will shed light on the user journey, acquisition efficacy, and potential avenues for optimization.

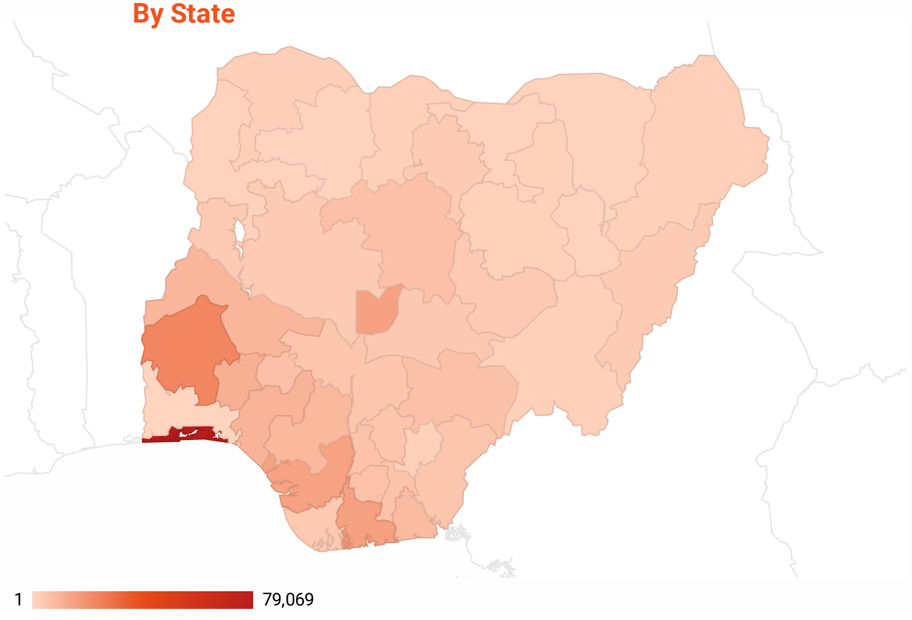
Question 2 broadens perspective by integrating both datasets. This section aims to illuminate the current status of various products, dissecting their lifecycle from user engagement to loan performance. Through a comparative analysis, I will uncover conversion rates, loan performance indicators, and discern positive and negative trends shaping our products.

Lastly, Question 3 navigates a cohort analysis of users acquired in January, segmented by Origin. This division into Group A and Group B facilitates a detailed examination of cohort evolution concerning product usage. By tracking and comparing these cohorts, we gain nuanced insights into product adoption trends and behavioral patterns.

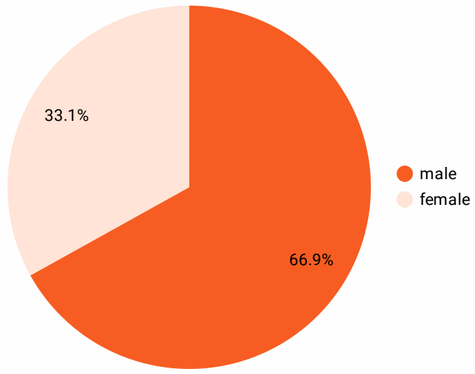
Each question propels towards a deeper understanding of the user base, product performance, and strategic opportunities. The subsequent sections of this report delve into these critical areas, aiming to unearth actionable insights driving business forward.

USERS REPORT DASHBOARD

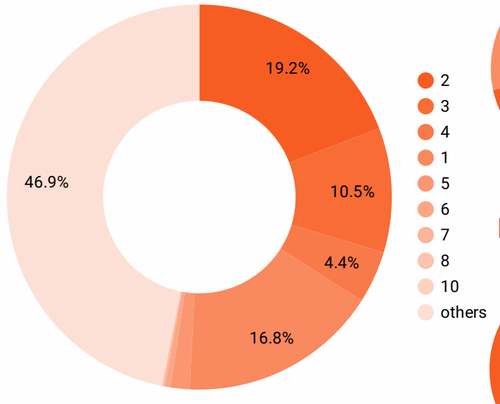
By State



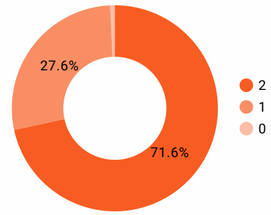
By Gender



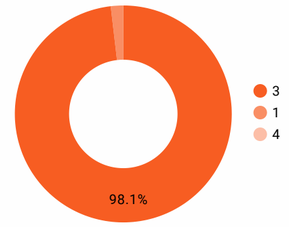
By No. of Children



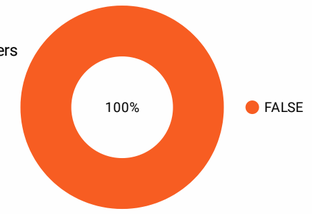
By Education



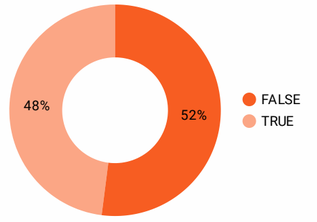
By Payment



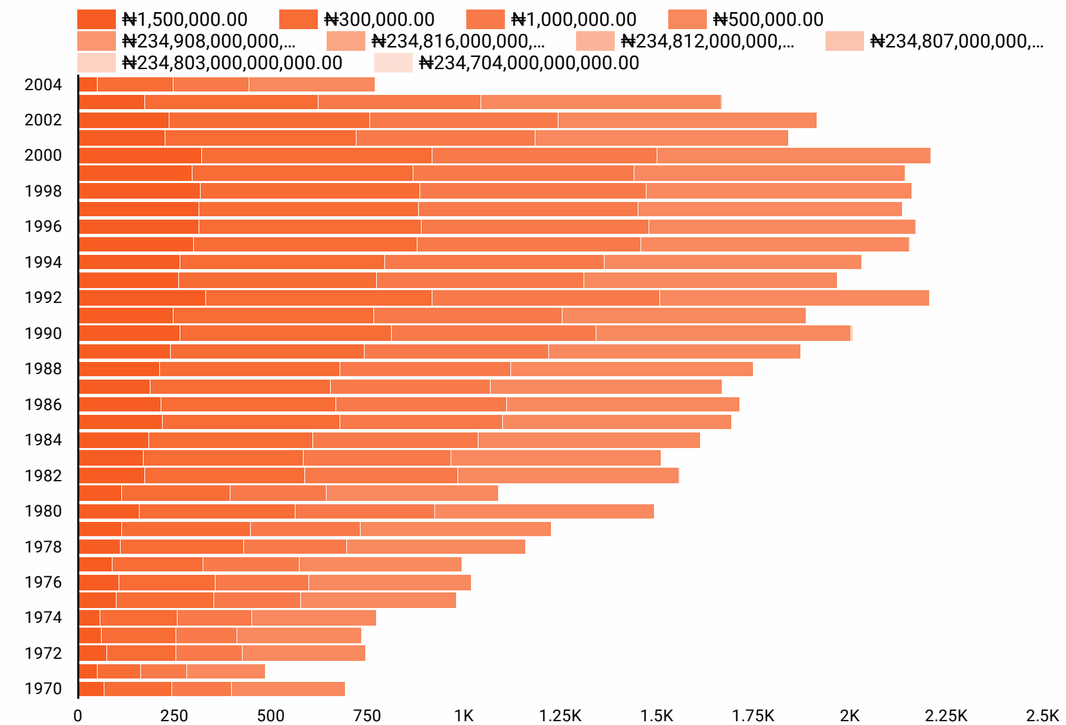
By Car Owners



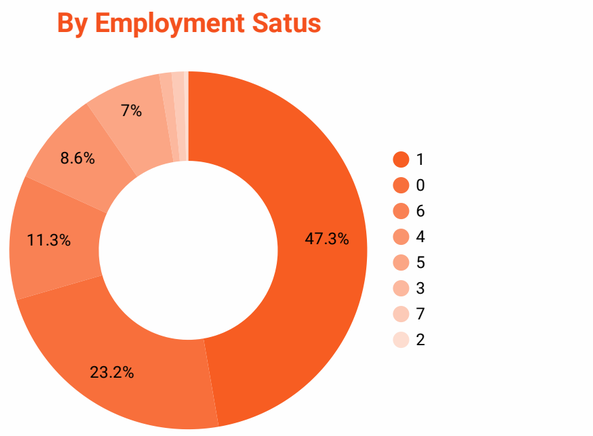
By Email Verification



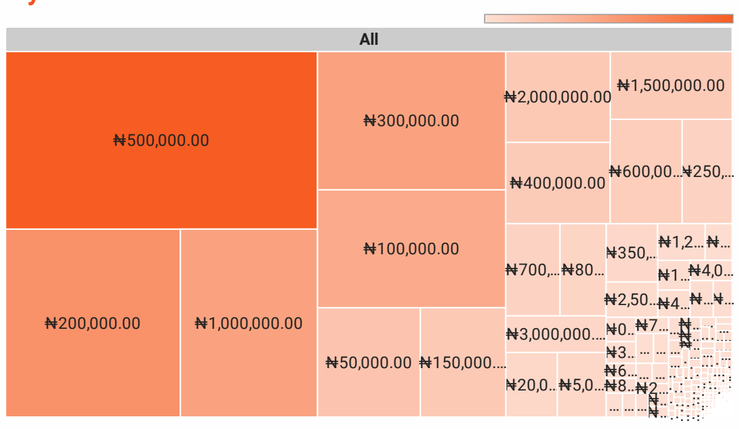
By Airtime Purchase Based on Age Group



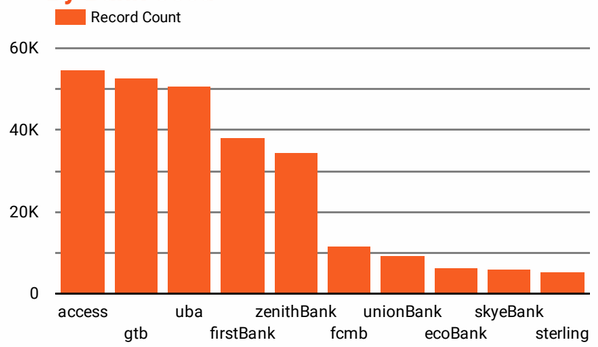
By Employment Satus



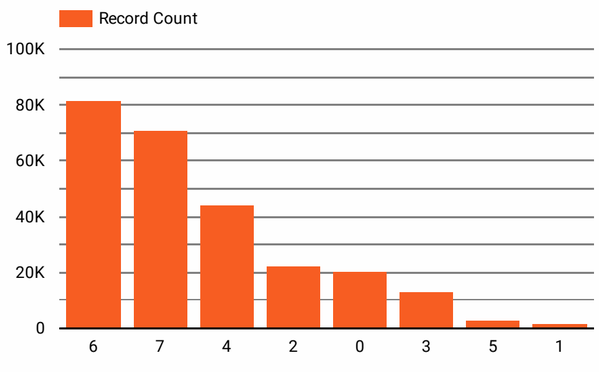
By Income



By Bank Used



By Profession



Question 1
Create a dashboard using only the users dataset and provide a written summary explaining any relevant finding regarding the users or the process of acquisition.

Answer:
Key findings on Demographics and Acquisition Process:

By Location
-With more than 79,000 users, Lagos has the most users. This is perhaps because Lagos, the most populous city in Nigeria, serves as a significant hub for the country's economy and culture.
-The southern region of Nigeria is home to the top 5 states with the highest user counts. This implies that the south of the nation has a greater user concentration.
-The northern regions of Nigeria are home to all of the states with the fewest users. Numerous reasons, including lower population density, less established infrastructure, and security concerns, are probably to blame for this.
-A state's population and average monthly income are positively correlated; for example, Lagos, which has the largest population, also has the highest average monthly income.

By date of birth
-Generation Z, Millennials, Generation X, and Baby Boomers are the groups that spend the most on airtime.
-The amount of airtime spent by Baby Boomers and Generation Z differs by more than 50%.
-This implies that younger generations are more likely to use their phones for airtime-consuming activities like communication.

By Gender
According to the dataset, men make up the bulk of users (69%). This implies that men might find the good or service more enticing.

By the Payment Method
99% of consumers make use of payment system 3. This implies that there is good integration between the product or service and this payment method.

By employment Status
According to the dataset, students make up the second largest group of users (69,405), after employed people (141,181). This implies that users who are employed are more fond of the good or service.

By Category of Professionals
6 (81,488 users) is the most popular professional category, followed by 7 (71,093 people) and 4 (44,319 users). This implies that people in these professional categories are more fond of the product or service.

By Bank Used
The top 5 banks used by users are:
Access Bank
GTBank
UBA
FirstBank
Zenith Bank
These banks users faignsor over 70% of all users. This suggests that the product or service could partner with these banks to reach a wider audience.

Email Validity
51% of users have verified their email addresses. This implies that by focusing on consumers with verified email addresses, the good or service could enhance its email marketing operations.

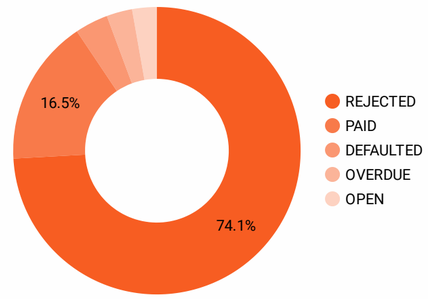
PRODUCTS REPORT DASHBOARD

Principal
₦185,001,203.00

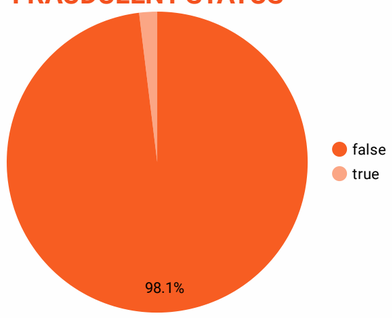
Interest Received
₦42,101,944.00

Repaid Loan
₦226,095,677.00

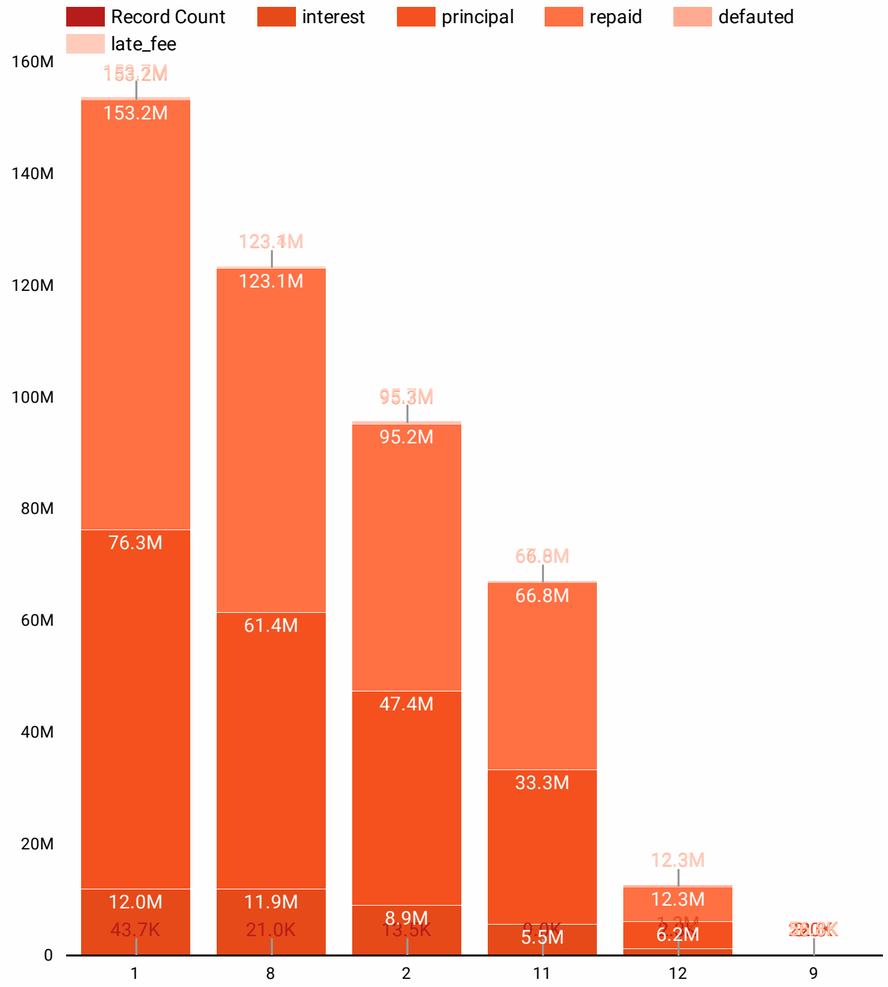
LOAN STATUS



FRAUDULENT STATUS



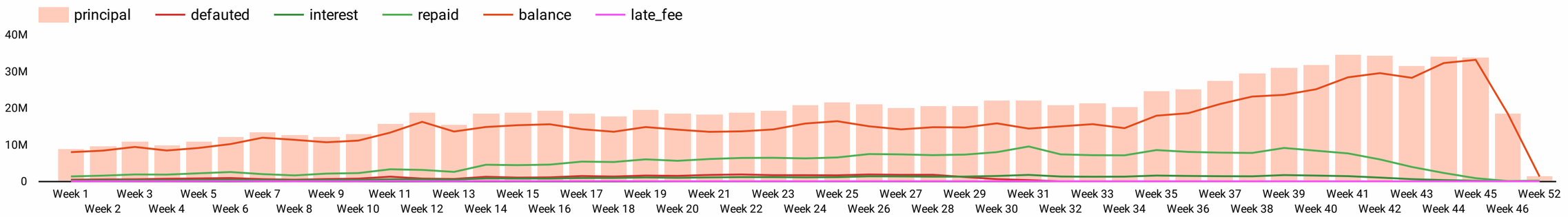
PRODUCTS STATUS



TOP 25 USERS BY INTEREST RECEIVED

	Users	interest	Recor...
1.	2482438		
2.	2572372		
3.	2318622		
4.	2355064		
5.	2460648		
6.	2321523		
7.	2313961		
8.	2334314		
9.	2315021		
10.	2312884		
11.	2460110		
12.	2653619		
13.	2348927		
14.	2444574		
15.	2604295		
16.	2315304		
17.	2510152		
18.	2516358		
19.	2561606		
20.	2503607		
21.	2353499		
22.	2318104		
23.	2374510		
24.	2367951		
25.	2327788		
		0 20K	0 50 100
	Grand total	42,101,944	543,448

APPLICATION SEASONALITY



Question 2

Using both datasets, provide a current status of the different products (can be separated by product_id on applications.csv). The report should cover all stages of the product from conversion rates (users to loans) to loans performance (repayment rate) providing comparative analysis and a written summary explaining any positive or negative finding.

Answer:

Analysis of Product Performance

Overall Conversion Rate is 90.03% (267986 applications / 298625 registered users)

Comparative Analysis:

Repayment Rates:

- Repayment rates for all goods are more than 100%, indicating that borrowers have paid back more than they originally borrowed. This is probably because the payback amount includes interest and late fees.
- With their respective repayment rates of 124.56% and 120.78%, Product 8 and Product 11 have the highest rates. This implies that the borrowers can repay their loans with interest and late fees and that these products are well-designed.
- Repayment rates for Products 1 and 12 are good, exceeding 120%. At 124.67%, Product 2's repayment rate is marginally lower.
- At 115.02%, Product 9 has the lowest repayment rate; nevertheless, it should be noted that this product is based on just two loans.

Default Rates:

- Product 8, Product 11, and Product 12 have a default rate of 0%, which suggests that borrowers of these products are very likely to repay their loans.
- Product 1 has a default rate of 0.15%, while Product 2 has a default rate of 0.55%. These default rates are relatively low, but they are higher than the default rates of Product 8, Product 11, and Product 12.

Product Performance by Record Count:

- Product 1 has the highest record count, followed by Product 2 and Product 8.This suggests that these products are the most popular with borrowers.
- Product 9 has the lowest record count, but it is important to note that this product is a business loan, and it may not be as well-known as the personal loans.

Positive Findings:
- All products have a repayment rate above 100%, which suggests that borrowers are able to repay their loans.
- Product 8 and Product 11 have the highest repayment rates, at 124.56% and 120.78%, respectively. This suggests that these products are well-designed and that borrowers are able to repay their loans with interest and late fees.
- Product 8, Product 11, and Product 12 have a default rate of 0%, which suggests that borrowers of these products are very likely to repay their loans.
-The overall conversion rate is high at 90.03%, which suggests that there is a strong demand for these products.

Negative Findings:
- Product 2 has a slightly lower repayment rate of 124.67% than Product 8 and Product 11.
- Product 1 and Product 2 have default rates of 0.15% and 0.55%, respectively, which are higher than the default rates of Product 8, Product 11, and Product 12.

Other Fundings:
- The highest interest rates are for business loans, followed by holiday loans and medical fees loans.
- The highest number of loans are for business, followed by holiday and medical fees.
- The highest default rates are for medical fees loans, followed by emergency loans and education loans.
- The highest number of loans in the OVERDUE status are for business loans, followed by holiday loans and medical fees loans.
- The highest number of loans in the PAID status are for business loans, followed by holiday loans and personal/confidential loans.
- There are no loans in the REJECTED status for the loan reasons "Mortgage/House," "Wedding Expenses," "Need Phone," or "Other."

With the greatest default and lowest payback rates, medical costs loans appear to be the riskiest category of loans overall, according to the research. With the highest payback rate and the lowest default rate, business loans are the least dangerous category of loans.

COHORT REPORT DASHBOARD

Users joined in JAN with Origin <> 2 is Group A

	origin	product_id	Usre Sum ▾
1.	1	1	10,775
2.	1	8	5,304
3.	1	2	610
4.	6	9	2
5.	1	9	1
	Grand total		**16,692**

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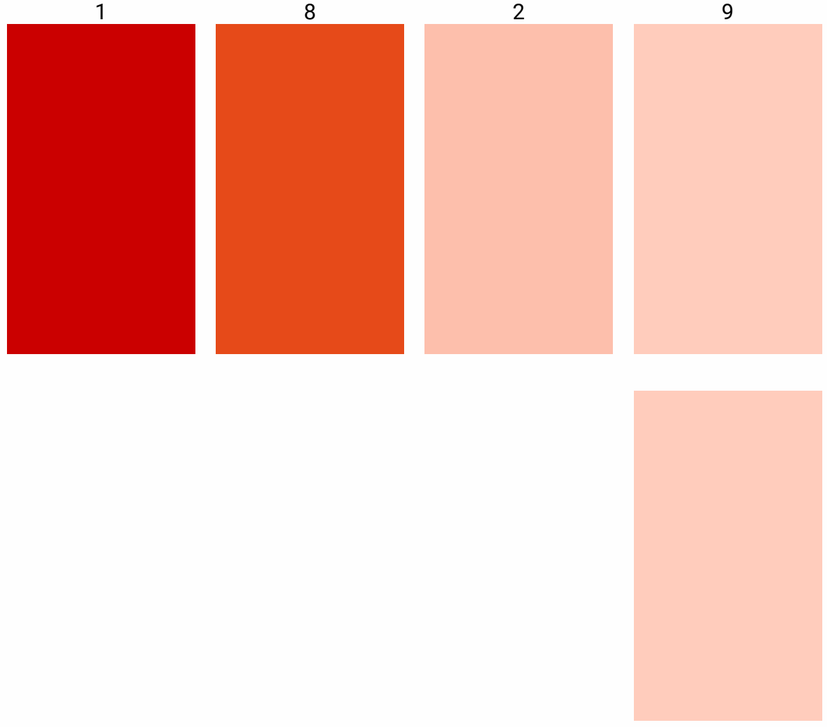
Group A's HeatMap

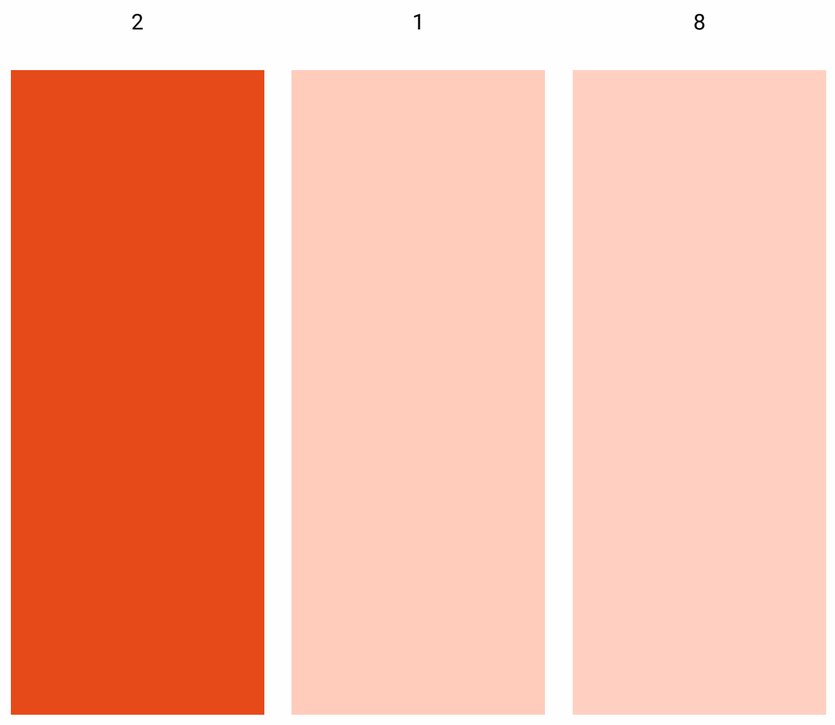


Users joined in JAN with Origin = 2 is Group B

	origin	product_id	Usre Sum ▾
1.	2	2	7,572
2.	2	1	260
3.	2	8	27
	Grand total		**7,859**

1 - 3 / 3

Group Bs HeatMap



Question 3

Prepare a cohort analysis of the users acquired in Jan split by Origin (from users.csv). This is:
Users joined in JAN with Origin <> 2 is Group A
Users joined in JAN with Origin = 2 is Group B
Using Group A and Group B track the evolution of the cohort in terms of product and provide insights on the findings.

Answer:

Key Findings on Cohort Analysis:

1. Group A (Users joined in JAN with Origin <> 2):

- **Diverse Preferences:**In this group, users exhibit a variety of preferences. The majority lean towards Product 1, but there's also a notable presence of users opting for product 8.
- **Varied Choices:** The heatmap indicates a spread of choices, suggesting that users in this category explore different products.

2. Group B (Users joined in JAN with Origin = 2):

- **Clear Preference:** Users in this group overwhelmingly choose Product 2. The heatmap reveals a consistent pattern with minimal diversification in product selection.
- **Homogeneous Behavior:** Unlike Group A, where preferences are distributed, Group B displays a more homogeneous behavior, with a strong inclination towards Product 2.

Overall Analysis:

- **Recognizing Diversity:** Group A is a diverse user base that exhibits a propensity to investigate various options due to their varying product preferences. Personalized advice and tailored marketing strategies could benefit from this variability.
- **Targeting Homogeneous Preferences:** A more focused strategy is indicated by Group B's strong preference for Product 2. To optimize engagement and conversions, marketing campaigns and product suggestions can be reduced to concentrate on this particular product.
- **Strategic Insights:** These insights provide a detailed comprehension of the actions of users within each category. Strategic decisions ranging from inventory management to customized user experiences can be informed by taking advantage of the diversity present in Group A and the evident preference in Group B.

Question 4

Data Management Case Study

An e-commerce company collects a vast amount of customer and product data from various sources, including online transactions, customer interactions, and third-party data feeds. The company wants to ensure the accuracy, completeness, and reliability of its data to make informed business decisions and provide a seamless customer experience.

As the Data Management Analyst, your task is to conduct a data quality assessment to identify data issues, evaluate data accuracy and completeness, and provide recommendations for improving data quality.

Answer:

As a Data Management Analyst at an e-commerce company. My job is to ensure that our data is accurate, complete, and reliable. This is important because we use data to make informed business decisions and provide a seamless customer experience.

If I was asked to conduct a data quality assessment, to know if there are any issues with our data and how we can improve it.

To start, I must first comprehend the types of data we are gathering and how we are using it. I will have meetings with various teams inside the organization to find out more about their data requirements. I'll go over our methods for gathering and processing data as well.

I will apply multiple techniques to detect inaccuracies in our dataset. For instance, search for erroneous product prices and duplicate customer information. To find anomalies in the data, statistical analysis will also be used by me.

I plan to compare data from several sources in order to look for discrepancies in our data. Compare, for instance, the customer addresses in our shipping system and CRM system. Additionally, I'll evaluate if product descriptions on various platforms like our website and mobile app are similar.

I can then, search our database tables for blank fields to find missing values, or I may apply statistical analysis to find missing data points.

I will evaluate our data's completeness by contrasting it with information from a reliable source. For instance, I'll contrast client email addresses from our database with those from our email marketing system, and I'll contrast product pricing from our database with those found on our website.

I'll observe how frequently the data is updated in order to evaluate how current it is. For instance, I'll monitor how frequently our CRM system updates its database of client purchases. Additionally, I can observe how frequently our database's product inventory levels are updated.

After I've finished my assessment, I'll note any problems with the data and assess how accurate and comprehensive it is. Lastly, I'll offer suggestions for raising the caliber of our data.

The following are some suggestions I could make:
- Put in place a procedure for data validation to identify mistakes and inconsistencies in the data before it is added to the database.
- Create a data matching procedure to find and combine redundant records.
- To cut down on human error, automate data entering and processing processes.
- Put in place a procedure for checking data quality so that problems with it can be found and fixed continuously.

I will enhance the precision, comprehensiveness, and dependability of its data by carrying out routine evaluations of data quality.