INTRODUCTION

FIRST DATA

Data Overview

User Sign-Up Rate Over Time:

A. Visualization with Line Chart:

- **Line Chart Structure:** A line chart was used to track the user sign-up rate over time.
- **Time on the X-Axis:** The X-axis represents the time intervals, which was monthly.
- **Number of Sign-Ups on the Y-Axis:** The Y-axis shows the number of new user sign-ups during each time interval.
- **Line Connecting Data Points:** The line connects the data points for each time period, showing the trend in user sign-ups over time.

Analysis with Line Chart:

- **Identifying Trends:** The line chart allows for easy identification of periods of growth or decline in user sign-ups. If the line is consistently rising, it indicates a growing interest in opportunities over time. If it dips, it may point to periods where fewer users were signing up.
- **Seasonal or Cyclical Patterns:** The chart helps to identify any seasonal or cyclical patterns in user sign-ups, such as increases during the start of a new academic year or decreases during holidays.
- **Insights for Strategy:** By understanding the trends we can understand that they were a huge spike in signups in the lower half of the year 2023 with 2023-06 being our top signup month.

Gender Distribution Over Time:

A. Visualization with Line Chart:

- **Line Chart Structure:** A line chart was used to visualize how the gender distribution among users has changed over time.
- **Time on the X-Axis:** The X-axis represents the time intervals (monthly).
- **Gender Distribution on the Y-Axis:** The Y-axis represents the count of users in each gender category (male, female, other).
- **Separate Lines for Each Gender:** Each gender category is represented by a separate line, allowing you to see how each group's proportion changes over time.

B. Analysis with Line Chart:

- **Trend Identification:** The line chart helps identify changes in the gender distribution over time.
- **Comparative Analysis:** By comparing the lines, you can see the gender balance is shifting over time, and how they were a huge Spike in Male Signups in the Month of 2023-06.
- **Informed Decision-Making:** This analysis helps us to understand the gender dynamics on the platform.

Student Status Over Time:

A. Visualization with Line Chart:

- **Line Chart Structure:** A line chart was used to analyze how the distribution of student status (e.g., undergraduate Program, graduate Program, not in Education) has evolved over time.
- **Time on the X-Axis:** The X-axis represents the time monthly intervals.
- **Student Status Distribution on the Y-Axis:** The Y-axis shows the number of users within each student status category.
- **Separate Lines for Each Status:** Each student status category is represented by a separate line, providing a clear view of how each group's presence changes over time.

B. Analysis with Line Chart:

- **Tracking Changes:** The line chart helps us to track how the proportion of users in each student status category changes.
- **Identifying Trends:** The chart highlighted trends showing increase in signups by Undergraduates over time.

Social Media Sign-Up Distribution:

A. Visualization with Pie Chart:

- **Pie Chart Structure:** A pie chart was used to represent the distribution of users who signed up through social media versus those who did not.
- **Pie Segments:** The chart is divided into two segments:
    - **"Sign-Up from Social Media":** This segment shows the proportion of users who signed up through social media platforms.
    - **"Sign-Up Not from Social Media":** This segment shows the proportion of users who signed up through other means.

B. Analysis with Pie Chart:

- **Visualizing Distribution:** The pie chart clearly shows the proportion of users signing up through social media which is 57.1% compared to other channels 42.9%. The relative sizes of the segments provide a quick visual comparison.
- **Understanding Channel Effectiveness:** Since the "Sign-Up from Social Media" segment is large, it indicates that social media is an effective channel for user acquisition. And the "Sign-Up Not from Social Media" is relatively smaller, it might suggest a need to enhance social media outreach.
- **Strategic Insights:** This analysis helps in understanding the effectiveness of different sign-up channels, guiding marketing strategies and resource allocation.

Top 5 Countries Analysis:

A. Visualization with Horizontal Bar Chart:

- **Horizontal Bar Chart Structure:** The Horizontal Bar Chart is used to display the number of users from the top 5 countries. Each bar represents a country, and the length of the bar corresponds to the number of users from that country.
- **Country on the Y-Axis:** The Y-axis lists the top 5 countries based on user count.

- **User Count on the X-Axis:** The X-axis shows the number of users from each country.

B. Analysis with Horizontal Bar Chart:

- **Ranking of Countries:** The Horizontal Bar Chart makes it easy to see which countries have the highest user counts. The country with the longest bar is the top contributor, followed by the others in descending order.
- **Comparative Insights:** By comparing the lengths of the bars, you can quickly determine that India, United States, Nigeria, Pakistan and Ghana are the top 5 countries from which our users' signup from.

Gender Distribution Analysis:

A. Visualization with Horizontal Bar Chart:

- **Horizontal Bar Chart Structure:** The Horizontal Bar Chart represents the distribution of users across different gender categories. Each bar corresponds to a gender category (e.g., male, female, other).
- **Gender on the Y-Axis:** The Y-axis lists the different gender categories.
- **User Count on the X-Axis:** The X-axis shows the number of users within each gender category.

B. Analysis with Horizontal Bar Chart:

- **Understanding Gender Distribution:** The Horizontal Bar Chart provides a clear view of the gender distribution among users. Since male Gender is significantly taller, it indicates that they are more prevalent on the platform.
- **Highlighting Disparities:** The chart allows for easy comparison of the different gender groups. This can highlight any significant disparities or imbalances, guiding strategies to improve diversity and inclusion.

Student Status Analysis:

A. Visualization with Horizontal Bar Chart:

- **Horizontal Bar Chart Structure:** The Horizontal Bar Chart is used to show the distribution of users across different student statuses (e.g., current student, graduate, not enrolled).
- **Student Status on the Y-Axis:** The Y-axis lists the different student status categories.
- **User Count on the X-Axis:** The X-axis shows the number of users within each status category.

B. Analysis with Horizontal Bar Chart:

- **Identifying Dominant Statuses:** The Horizontal Bar Chart helps us to quickly identify which student status group has the highest representation on the platform. Which is the Graduate Program with the tallest bar indicates the most common status.

- **Comparison of Statuses:** The bar lengths provide a straightforward comparison between the different student statuses, making it easy to see how they stack up against each other

Line Chart for Top 5 Sign-Up Months:

- **Plotting the Data:** The line chart displays the number of user sign-ups for the top 5 months with the highest sign-up numbers.
- **Months on the X-Axis:** The X-axis represents the top 5 months, ordered chronologically or by rank.
- **Number of Sign-Ups on the Y-Axis:** The Y-axis shows the number of sign-ups for each month.
- **Line Connecting Data Points:** The line connects the data points for each month, showing the trend in sign-ups across these months.

Line Chart for Bottom 5 Sign-Up Months:

- **Plotting the Data:** Similarly, a line chart is used to plot the number of user sign-ups for the bottom 5 months with the lowest sign-up numbers.
- **Months on the X-Axis:** The X-axis represents the bottom 5 months, ordered chronologically or by rank.
- **Number of Sign-Ups on the Y-Axis:** The Y-axis shows the number of sign-ups for each of these months.
- **Line Connecting Data Points:** The line in this chart also connects the data points for each month, highlighting the trend in lower sign-up activity.

B. Analysis with Line Charts:

1. Top 5 Sign-Up Months:

- **Identifying Peak Months:** The line chart helps us to easily identify which months had the highest sign-up numbers. The points on the chart where the line peaks represent the months which was 2023 - 06 with the most user sign-ups.
- **Trend Analysis:** By observing the slope of the line, you can analyse how sign-ups changed across these months.

2. Bottom 5 Sign-Up Months:

- **Identifying Slow Months:** The line chart for the bottom 5 months allows you to identify periods of low user acquisition. The lowest points on the chart indicate the months with the fewest sign-ups which was 2022 – 05 with just 2 signups.
- **Understanding Declines:** By analysing the line's slope in this chart, you can observe that there was a steady decline in signup from the month 2022-07 to 2022-11.
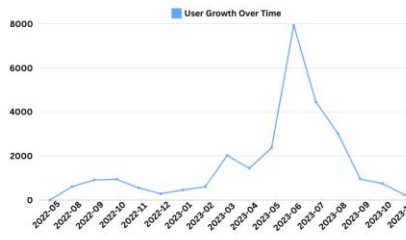
User Metrics Dashboard

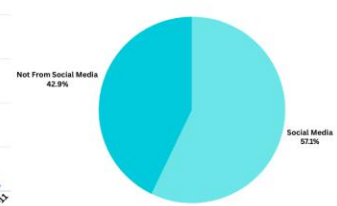**Total Number of User SignUps: 27562**

Table of Missing Values

Column Name	Missing Values	Percentages
Gender	9535	34.6%
Degree	10812	39.2%
City	9534	34.6%
Zip	9544	34.6%

User Growth Over Time

Social Media Distribution
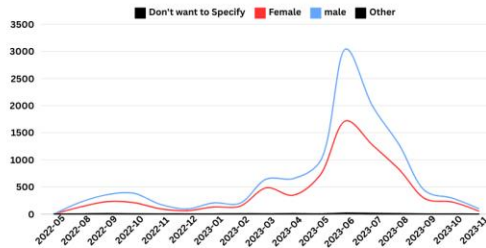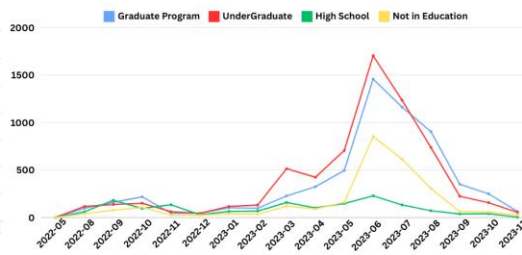
Not From Social Media 42.9%

Social Media 57.1%

Gender Distribution over Time

Don't want to Specify · Female · male · Other

Student Status Distribution over Time

Graduate Program · UnderGraduate · High School · Not in Education

Top 5 Countries

India, United States, Pakistan, Nigeria, Ghana

Student Status

Undergraduate Student, Graduate Student, Not in Education, High School

Top 5 Sign Up months

2023-06, 2023-07, 2023-08, 2023-05, 2023-03

Bottom 5 Sign Up months

2022-11, 2023-01, 2022-12, 2023-11, 2022-05

Gender Distribution

Male, Female, Don't want to specify, Other
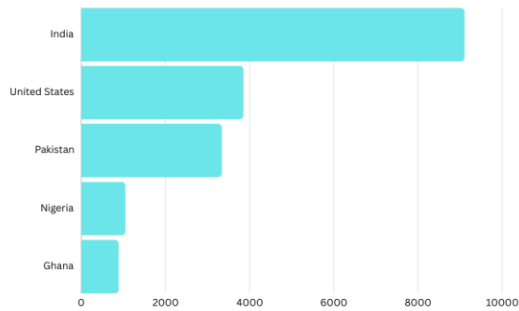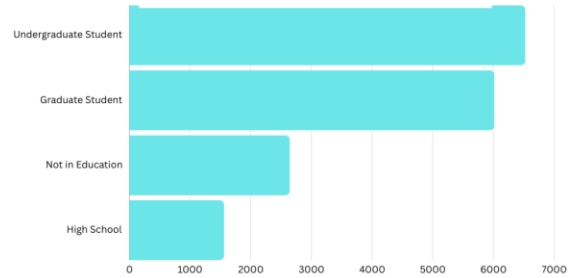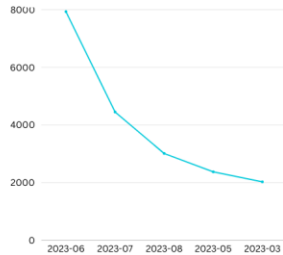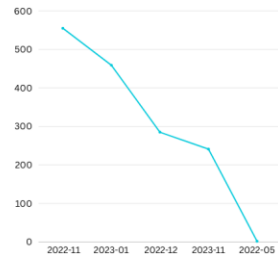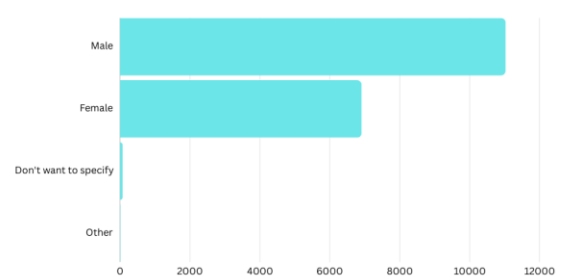
SECOND DATA

Data Overview

User Growth Over Time

A. Visualization with Line Chart:

- **Line Chart Structure:** A line chart is used to display the growth of users over time.

- **Time on the X-Axis:** Represents the time intervals in months.

- **Number of Users on the Y-Axis:** Shows the number of users at each time interval.

- **Line Connecting Data Points**: The line illustrates the trend in user growth, making it easy to see periods of increase or decrease.

Analysis with Line Chart:

- **Identifying Trends:** The line chart allows for easy identification of periods of growth or decline in user sign-ups. If the line is consistently rising, it indicates a growing interest in opportunities over time. If it dips, it may point to periods where fewer users were signing up.
- **Seasonal or Cyclical Patterns:** The chart helps to identify any seasonal or cyclical patterns in user sign-ups, such as increases during the start of a new academic year or decreases during holidays.
- **Insights for Strategy:** By understanding the trends we can understand that they were a huge spike in signups in the lower half of the year 2023 with 2023-06 being our top signup month.

Opportunity Distribution Over Time (Top 5 Opportunities)

A. Visualization with Bar Chart:

- Bar Chart Structure: A bar chart shows the distribution of the top 5 opportunities which were: over time.

- **Opportunity Names on the X-Axis:** Data Visualization, Digital Marketing, Project Management, Health Care Management, Innovation and Entrepreneurship.

- **Counts on the Y-Axis:** Represents the number of occurrences or the percentage of each opportunity over time.

- **Bars for Each Opportunity:** Each bar represents a specific opportunity, showing how it is distributed across different time periods.

B. Analysis with Bar Chart:

- **Comparison of Opportunities:** The bar chart allows you to compare the distribution of the top 5 opportunities (Project Management, Digital Marketing, Health Care Management, and Innovation and Entrepreneurship) over time. By examining the length of each bar, you can see which opportunities are more prevalent during different time intervals.
- **Identifying Popular Opportunities:** Highlights which of these opportunities are most popular or frequently available. If one bar is significantly longer than the others, it indicates that particular opportunity is more common or sought after during the given time periods.

3. Application Timing (Apply Date to Start Date)

A. Visualization with Bar Chart:

- **Bar Chart Structure:** A bar chart shows the timing between application dates and Opportunity start dates.

- **Time Intervals on the Y-Axis:** Represents different time intervals or categories (e.g., days between apply date and start date).

- **Number of Applications on the X-Axis:** Shows how many applications fall into each time interval.

- **Bars Representing Timing:** Each bar indicates the number of applications that fit within a specific time range.

Here's how you can revise the analysis to include insights on the timing from application to start date:

B. Analysis with Bar Chart:

- **Understanding Timing:** The bar chart helps you understand how long it typically takes from application to start date. By looking at the length of the bars for each time interval, you can see the distribution of application timings. "Started within a Month" has the highest bar, it indicates that most applications have a short turnaround time from application to start date.

  Identify Delays: The chart reveals common delays or short turnaround times. "Started within a Year" has a significantly lower bar compared to "Started within a Month," it suggests that there are fewer applications with a long delay.

Top 5 Opportunities with High Completion Rates

A. Visualization with Bar Chart:

- **Bar Chart Structure:** A bar chart displays the top 5 opportunities with the highest completion rates.

- **Opportunity Names on the Y-Axis:** Lists the names of the top 5 opportunities.

- **Completion Rates on the X-Axis:** Shows the completion rate for each opportunity.

- **Bars for Each Opportunity:** Each bar represents the completion rate of a specific opportunity.

B. Analysis with Bar Chart:

- **Highlighting Successful Opportunities:** The bar chart identified which opportunities have the highest completion rates.

Gender Distribution for Sign-Ups and Completed Opportunities

A. Visualization with Bar Chart:

- **Bar Chart Structure:** A bar chart displays gender distribution for both sign-ups and completed opportunities.

- **Gender Categories on the Y-Axis:** Lists gender categories (e.g., male, female, other).

- **Number of Sign-Ups and Completions on the X-Axis:** Represents the number of sign-ups and completions for each gender category.

B. Analysis with Bar Chart:

- **Comparing Sign-Ups and Completions:** By comparing the Bars' we can show how gender distribution varies between sign-ups and completed opportunities.

- Identifying Discrepancies: There is not much Discrepancies between the genders.

6. Student Status for Sign-Ups and Completed Opportunities

A. Visualization with Bar Chart:

- **Bar Chart Structure**: A bar chart shows the distribution of student status for sign-ups and completed opportunities.

- **Student Status Categories on the Y-Axis**: Lists categories (e.g., undergraduate, graduate, not in education).

- **Number of Sign-Ups and Completions on the X-Axis:** Represents the number of sign-ups and completions for each student status category.

- **Grouped Bars**: Use grouped bars to compare sign-ups and completions for each student status.

B. Analysis with Bar Chart:

- **Comparing Status Distributions**: Highlights differences in student status between sign-ups and completed opportunities.

- **Understanding Trends:** Shows how student status affects the completion of opportunities.

Top 5 Countries

A. Visualization with Bar Chart:

- **Bar Chart Structure**: A bar chart displays the top 5 countries based on user numbers.

- **Country Names on the Y-Axis:** it lists the names of the top 5 countries.

- **Number of Users on the X-Axis:** Shows the number of users from each country.

- **Bars Representing Each Country:** Each bar represents the user count from a specific country.

B. Analysis with Bar Chart:

- **Identifying Major User Bases:** Shows which countries have the highest user numbers which are: India, United States, Nigeria, Pakistan and Ghana.

 Top 5 States

A. Visualization with Bar Chart:

- **Bar Chart Structure:** Similar to the country chart but focuses on the top 5 states.

- **State Names on the Y-Axis**: Lists the names of the top 5 states.

- **Number of Users on the X-Axis:** Represents the number of users from each state.

B. Analysis with Bar Chart:

- State-Level Insights: it provides a detailed view of user distribution at the state level with the highest states being: Missouri, Telangana, Andra Pradesh, Maharashtra and Lagos.

- Comparison of States: Highlights which states contribute most to the user base.

Top 5 Cities

A. Visualization with Bar Chart:

- **Bar Chart Structure:** Displays the top 5 cities based on user numbers.

- **City Names on the Y-Axis:** Lists the names of the top 5 cities.

- **Number of Users on the X-Axis:** Shows the number of users from each city.

B. Analysis with Bar Chart:

- **City-Level Insights**: Identifies which cities have the highest number of users which are: Saint Louis, Andra Pradesh, Lagos, Accra and Chennai.

- **Comparing Cities:** Allows comparison of user distribution across different cities.

Correlation Analysis Heat Map

A. Visualization with Heat Map:

- Heat Map Structure: A heat map displays the correlation between reward amount, graduation year, and skills earned.

- **Variables on Axes:** The axes represent the variables being correlated (e.g., reward amount, graduation year, skills earned).

- **Color Coding**: The heat map uses color gradients to represent the strength and direction of correlations, with darker colors indicating stronger correlations.

B. Analysis with Heat Map:

- **Identifying Relationships**: we helped to identify which variables are strongly correlated with each other.

- **Insight into Patterns:** it revealed patterns and relationships between reward amount, graduation year, and skills earned.
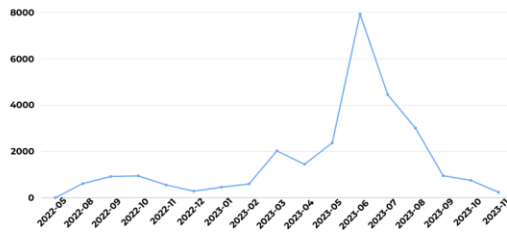
Opportunity Metrics Dashboard

Total Number of Participants: 20322
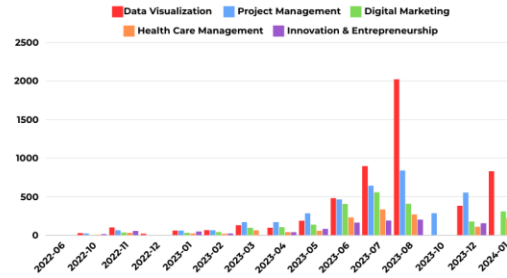
Total Sign-Ups 13023

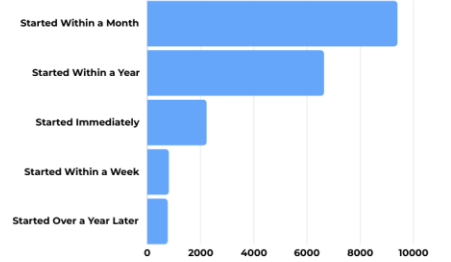**Total Number of Opportunities: 33**

Total Reward Amount awarded: $ 2,678,060
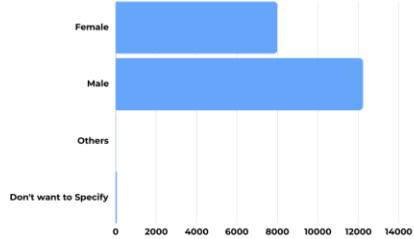
User Growth over Time

Application Timing from Apply date to Opportunity Start Date

- Started Within a Month
- Started Within a Year
- Started Immediately
- Started Within a Week
- Started Over a Year Later

Opportunity Distribution over Time

Legend: Data Visualization, Project Management, Digital Marketing, Health Care Management, Innovation & Entrepreneurship

Top 5 Opportunities with High Completion Rates

- Data Visualization
- Project Management
- Digital Marketing
- Health Care Management
- Getting Started with Your Professional Journey

Gender Distribution for Sign ups and completed Opportunites

- Female
- Male
- Others
- Don't want to Specify

Student Status for Sign ups and Completed Opportunites

- High School
- Undergraduate
- Graduate Program
- Not in Education

Top 5 Countries

- India
- United States
- Pakistan
- Nigeria
- Ghana

Top 5 Cities

- Saint Louis
- Hyderabad
- Lagos
- Accra
- Chennai

Top 5 States

- Missouri
- Telangana
- Andra Pradesh
- Maharashtra
- Lagos

Correlation Analysis

	Reward Amount	Graduation Year	Skills Earned Count
Reward Amount	1	0.053	0.49
Graduation Year	0.053	1	-0.015
Skills Earned Count	0.49	-0.015	1