

Institute of
Computer
Technology



Internship Project Presentation

By

Dhyan Patel (20162101009)

Institute of Computer Technology, Ganpat University

Date:12/05/2024

About Company



Company Name: Edulyt India

Location: 1D-160, Sector-8, Dwarka, New Delhi- 110077

- Edulyt India, established in 2015, is an early-stage startup focusing on closing the gap between education and employment. Specializing in Analytics, particularly Data Analytics for BFSI, we use basic AI tools to train and prepare fresh graduates for industry readiness.

Tools & Technology

Throughout my internship I was required to know the use and implementation of a number of software and tools like:

- Microsoft Excel
- MySQL Workbench
- Jupyter Notebook / Google Colab
- And Python Programming
- PowerBI

Week 1-Week 3

Week 1: Over the course of a week, I delved into MySQL basics, from understanding its role in relational databases to installing and configuring MySQL for optimal performance. I then progressed to creating databases and tables, learning about data types and constraints, and mastering essential commands like SELECT, INSERT, UPDATE, and DELETE for data manipulation. Finally, I focused on mastering the SELECT statement, honing skills in data filtering, sorting, and analysis using WHERE clauses, ORDER BY, and aggregate functions, thus enhancing my ability to extract insights from databases.

Week 2: I covered MySQL basics, including its role in relational databases, installation, and configuration for optimal performance. I learned about data types, constraints, and mastered commands like SELECT, INSERT, UPDATE, and DELETE for data manipulation. Lastly, I focused on refining my skills in data filtering, sorting, and analysis using WHERE clauses, ORDER BY, and aggregate functions to extract insights from databases.

Week 3: I focused on Data Cleaning and Processing with MySQL. I learned strategies to ensure data accuracy and reliability through cleaning techniques, then mastered data processing using MySQL's capabilities. Hands-on exercises with real-world datasets solidified my skills, preparing me to confidently tackle various data challenge.

Week 4

PROJECT-1: CREDIT CARD DATA ANALYSIS

PURPOSE:

- The purpose of the Credit Card Data Analysis project is to conduct an in-depth analysis of credit card transaction data, aiming to extract meaningful insights related to spending patterns and financial trends. The primary objectives include the extraction, transformation, and loading (ETL) of the credit card data and subsequent Exploratory Data Analysis (EDA) to uncover valuable information.

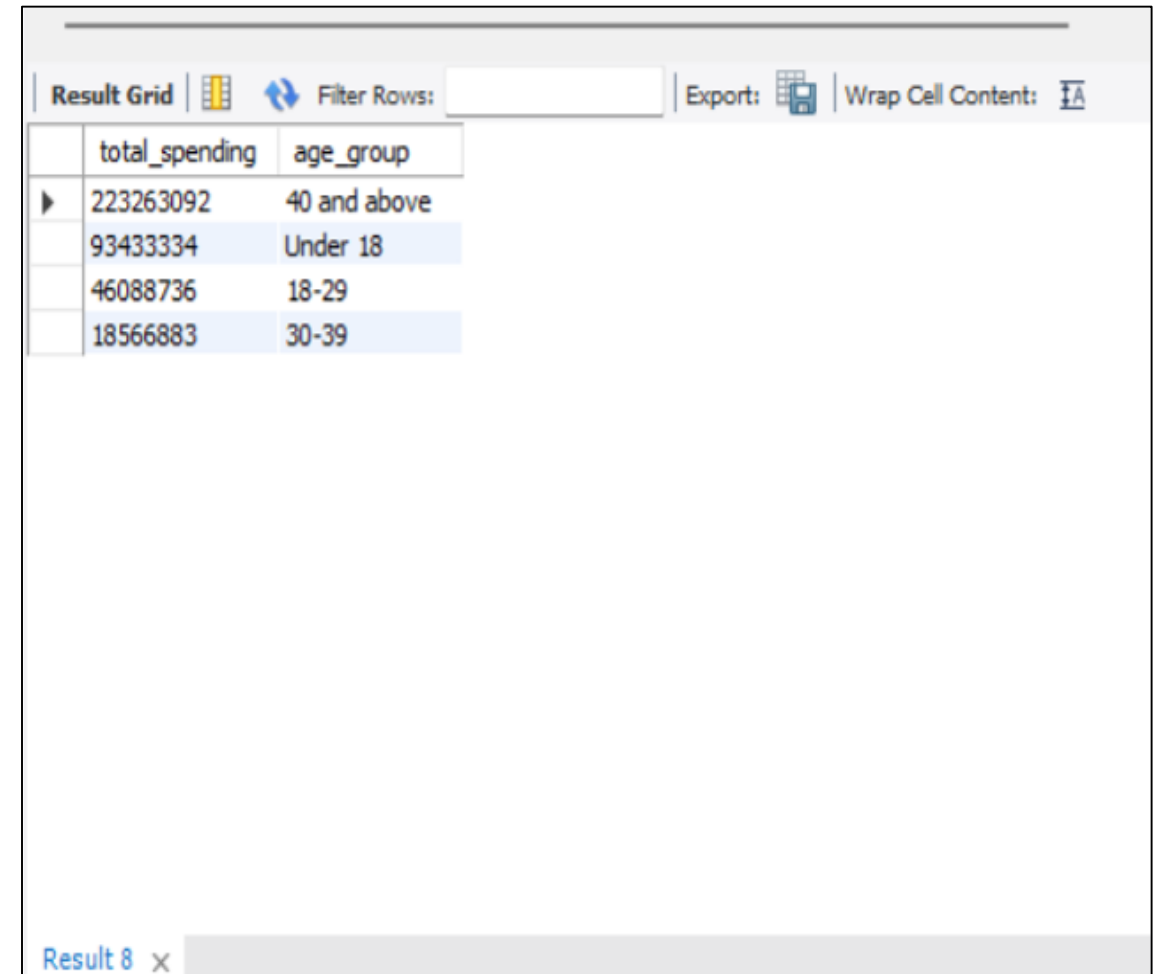
SCOPE :

- This project is centered around understanding the patterns and behaviors within credit card transactions, emphasizing factors such as transaction volumes, spending categories, and anomalies. The focus extends to identifying trends and insights that can inform strategic decision-making related to credit card usage.

Snippet Of the Solution

Which age group is spending more money?

```
SELECT SUM(Amount) AS total_spending ,  
CASE  
  WHEN Age < 18 THEN 'Under 18'  
  WHEN Age >= 18 AND Age < 30 THEN '18-29'  
  WHEN Age >= 30 AND Age < 40 THEN '30-39'  
  ELSE '40 and above'  
END AS age_group  
from cb  
join spend on cb.customer = spend.costomer  
GROUP BY age_group  
ORDER BY total_spending DESC;
```



The screenshot shows a database query result grid with two columns: 'total_spending' and 'age_group'. The results are ordered by total spending in descending order. The first row shows a total spending of 223263092 for the '40 and above' age group. The second row shows 93433334 for 'Under 18'. The third row shows 46088736 for '18-29'. The fourth row shows 18566883 for '30-39'. The interface includes a 'Result Grid' tab, a 'Filter Rows' input field, and buttons for 'Export' and 'Wrap Cell Content'.

total_spending	age_group
223263092	40 and above
93433334	Under 18
46088736	18-29
18566883	30-39

PROJECT-2: INDIAN CREDIT CARD SPENDING ANALYSIS

PURPOSE:

- The Indian Credit Card Spending Analysis project aims to delve into a dataset offering insights into credit card transactions conducted across various cities in India. The primary goal is to gain a comprehensive understanding of spending habits, utilizing data on transaction dates, card types, expense categories, gender, and transaction amounts. The project involves employing SQL queries to extract meaningful patterns and trends from the dataset.

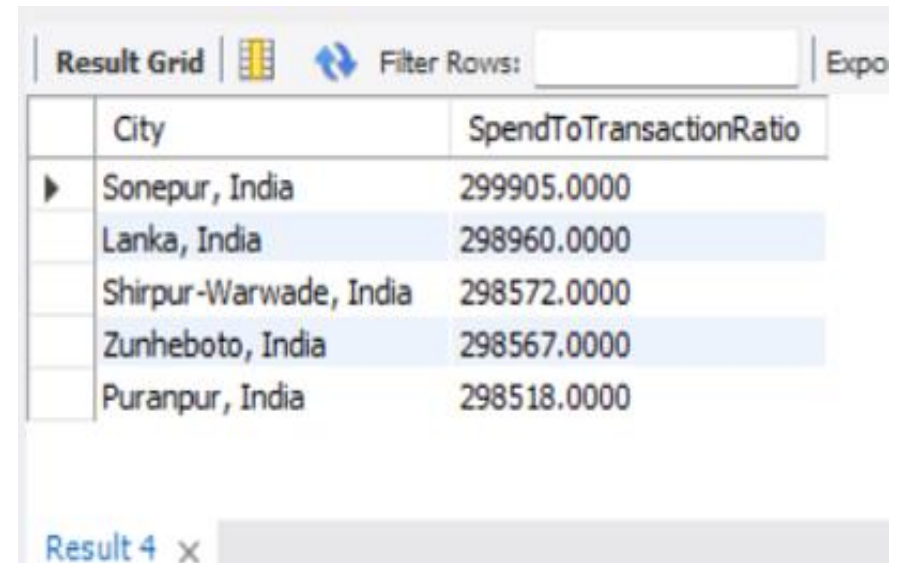
SCOPE :

- This project's scope encompasses an exploration of spending behaviors within Indian credit card transactions, with a focus on cities, card types, expense categories, and gender-related insights. The objective is to identify trends, anomalies, and key contributors to credit card spending, facilitating strategic decision-making for various stakeholders.

Snippet Of the Solution

During weekends which city has highest total spend to total no of transaction's ratio?

```
SELECT
    City,
    SUM(Amount) / COUNT(*) AS SpendToTransactionRatio
FROM (
    SELECT
        City,
        STR_TO_DATE(Date, '%d-%b-%y') AS TransactionDate,
        Amount
    FROM
        credit_card_transaction -- Replace with yur actual table name
) AS converted_data
WHERE
    DAYOFWEEK(TransactionDate) IN (1, 7) -- Assuming 1 is Sunday and 7 is Saturday
GROUP BY
    City
ORDER BY
    SpendToTransactionRatio DESC
LIMIT 5;
```



The screenshot shows a 'Result Grid' interface with a table containing 5 rows. The columns are 'City' and 'SpendToTransactionRatio'. The rows are sorted in descending order of the ratio. The first row is 'Sonepur, India' with a ratio of 299905.0000. The second row is 'Lanka, India' with a ratio of 298960.0000. The third row is 'Shirpur-Warwade, India' with a ratio of 298572.0000. The fourth row is 'Zunheboto, India' with a ratio of 298567.0000. The fifth row is 'Puranpur, India' with a ratio of 298518.0000. The interface includes a 'Filter Rows' input field and an 'Expo' button.

	City	SpendToTransactionRatio
▶	Sonepur, India	299905.0000
	Lanka, India	298960.0000
	Shirpur-Warwade, India	298572.0000
	Zunheboto, India	298567.0000
	Puranpur, India	298518.0000

Result 4 x

Week 5

Week-5: Power-BI Learning

- Introduction to Power BI and its components.
- Connecting to various data sources and importing data.
- Basics of data modeling and creating relationships.
- Visualization techniques and dashboard creation..
- Advanced data modeling with DAX language.
- Complex visualization techniques and interactivity.
- Data governance, security, and compliance.

Week 6

Week-6: Power-BI Learning

Course PL-300T00--A: Microsoft Power BI Data Analyst

Outcome Of the Course:

- Proficiency in Microsoft Power BI
- Data Analysis Skills
- Data Modelling
- Report Creation and Visualization
- Collaboration and Sharing
- Data Connectivity
- Power BI Desktop and Power BI Service

Week 7

Project 1 - Analyze the E-commerce platform sales

Focus: The project aims to analyze their online sales across India.

Goal: Develop an interactive Power BI dashboard for actionable insights.

Objective: owner of this store wants to track and analyze their online sales across India.

Week 7 - Data Gathering and Preparation

- **Data collection:** imported the data from online resources.
- **Data cleaning:** Conducted data pre-processing tasks, including cleaning, formatting, and transforming the data to make it suitable for analysis.
- **Data manipulation:** through this one extra column average order value added in data report by dax in power bi.
- Implemented the data model in Power BI for analysis.

Week 8

Week 8 - Dashboard Development and Analysis

- Developed an interactive Power BI dashboard.
- Developed an interactive dashboard in Power BI, created bar column chart ,donut chart, pie chart, line chart, slicer, card etc for visualization.
- Implemented navigation features for user exploration.
- Add interactivity to the dashboard elements, such as filters, and drill-down functionalities, to allow users to explore the data dynamically.



ECOMMERCE SALES DASHBOARD

438K

Sum of Amount

37K

Sum of Profit

5615

Sum of Quantity

121K

Sum of AOV

Quarter

Qtr 1

Qtr 2

Qtr 3

Qtr 4

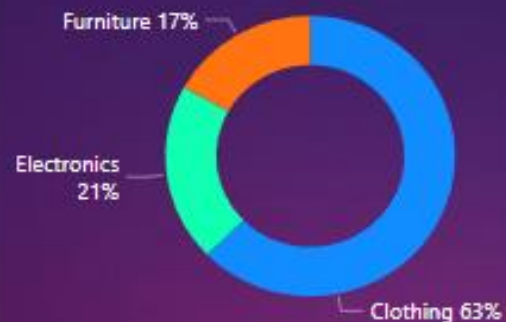
State

All

Sum of Amount by State



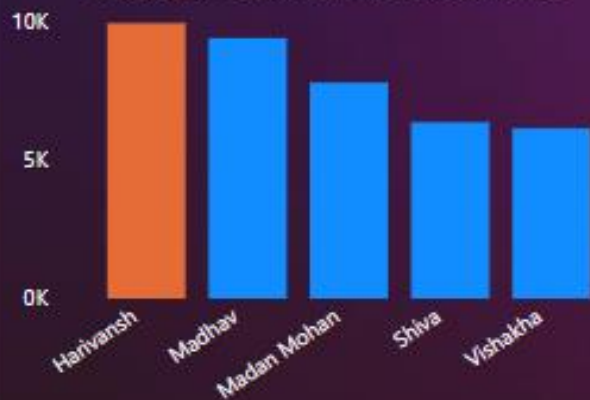
Sum of Quantity by Category



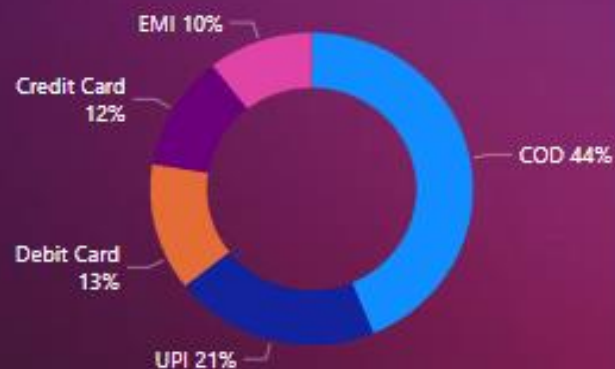
Profit by month



Sum of Amount by CustomerName



Sum of Quantity by PaymentMode



Sum of Profit by Sub-Category



Week 9

Week 9 - Week 12: Project 2 : Analytics Dashboard to Improve Employee Performance and Retention

Objective: The purpose of this project is to help an organization to improve employee performance and reduce attrition by creating an HR analytics dashboard. The dashboard provides valuable insights into employee data, which can be used to make data-driven decisions and improve employee satisfaction and retention.

Week 9 - Data Gathering and Pre-processing

- **Data Source :** The raw data for this project was obtained in the form of a CSV file with 38 columns and approximately 1.5k rows. The data contained information about employee demographics, job roles, salaries, and tenure, among others.
- **Data Cleaning and Processing:** Several steps were taken to prepare the data for analysis. Null values were removed and duplicate values were eliminated.
- **Key Performance Indicators (KPIs):** To start the analysis, I have identified the key performance indicators (KPIs) to track and monitor employee performance and attrition.

Week 10

Week 10 - Dashboard Planning and Development

- Planned and designed interactive dashboards in Power BI to visualize used several charts and visualizations.
- Developed Demographics dashboards with appropriate visualizations, including charts, graphs, and matrix table, to showcase key insights effectively.



HR ATTRITION DASHBOARD



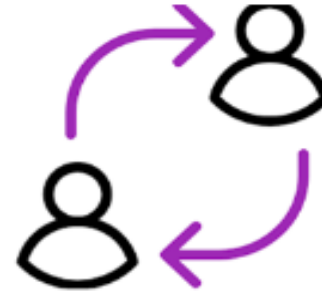
DEMOGRAPHICS

A demographic report summarizes employee statistics, including age groups, gender, distance from home, and marital status, providing insights into workforce diversity and commuting patterns for informed decision-making.



TURNOVER ANALYSIS I

The Turnover Analysis I report provides insights into employee attrition, including departures by department, job roles affected, business travel impact, and total years in the current role, aiding in workforce management and retention strategies.



TURNOVER ANALYSIS II

A turnover analysis report consolidates employee data, featuring attrition by job level, overtime performance ratings, monthly income, and attrition increases levels, offerings critical insights for effective HR strategies and decision-making.



EMPLOYEE WELLNESS

A turnover analysis report consolidates employee data, featuring attrition by job level, overtime performance ratings, monthly income, and attrition increases levels, offerings critical insights for effective HR strategies and decision-making.



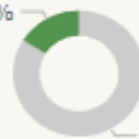
DEMOGRAPHICS



Total Employees

1470

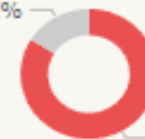
16.12%



83.88% **237**



16.12%



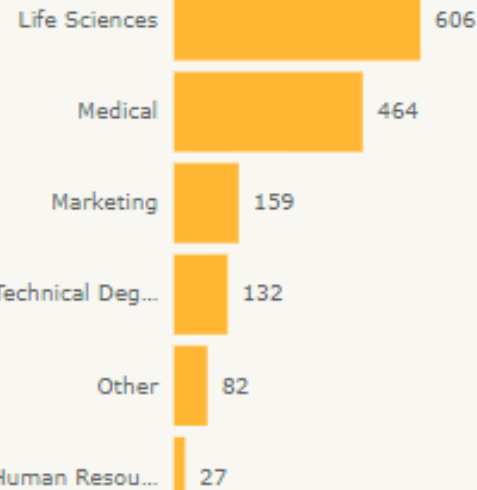
83.88% **1233**



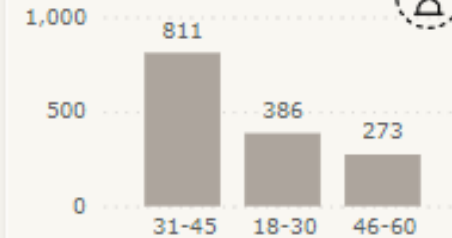
Female Employee Attrition



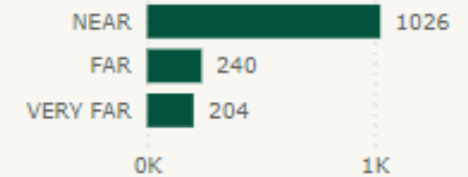
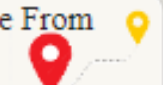
Total Attrition by Education Field



Total Attrition by Age



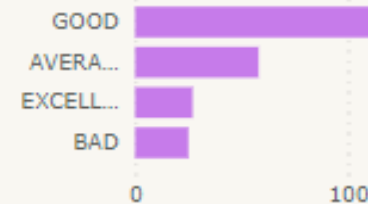
Total Attrition by Distance From Home



Male Employee Attrition



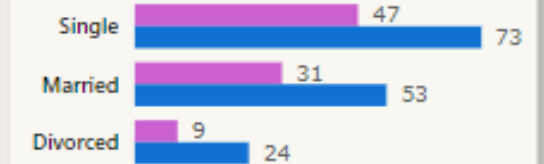
Total Attrition by Work Life Balance



Total Attrition by Marital



Gender ● Female ● Male



Week 11

Week-11:

- Created Turnover Analysis 1 report provides insights into employee attrition including departures by department, job roles affected , business travel impact and retention strategies.
- Created a turnover analysis 2 report consolidates employee data, featuring attrition by job level, overtime performance ratings, monthly income, and attrition increases levels, offerings critical insights for effective HR strategies and decision-making.



TURNOVER ANALYSIS I

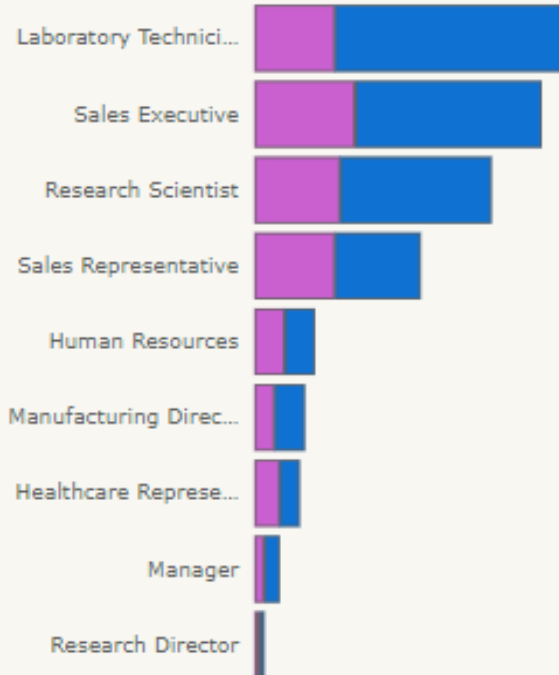
JOB ROLE
COUNT

1470

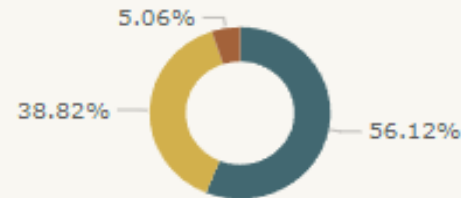


Total Attrition by Job Role

Gender ■ Female ■ Male



Total Attrition by Department

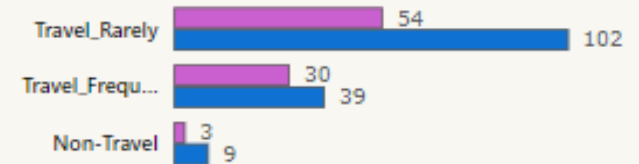


Department ■ Research & Develop... ■ Sales ■ Human Resou...

JobRole	Sum of Attrition
Laboratory Technician	
Sales Executive	
Research Scientist	
Sales Representative	
Human Resources	
Manufacturing Director	
Healthcare Representative	
Manager	
Research Director	
Total	

Total Attrition by Business Travel

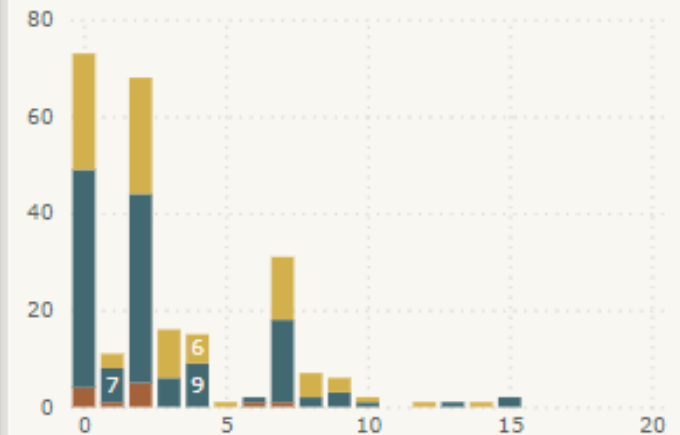
Gender ■ Female ■ Male



Total Attrition by Years In Current Role



Department ■ Human Resou... ■ Research ... ■ Sales





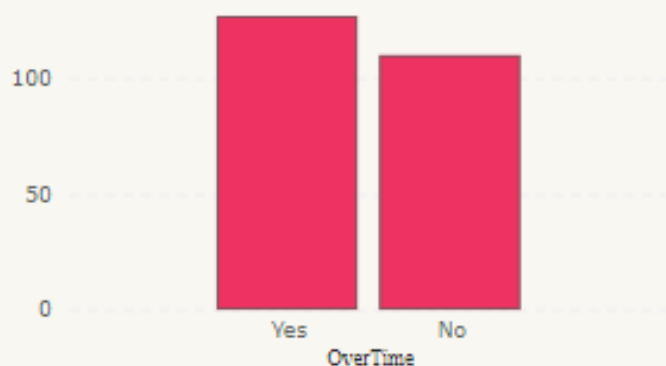
TURNOVER ANALYSIS II

Monthly Income and Attrition by Job Role

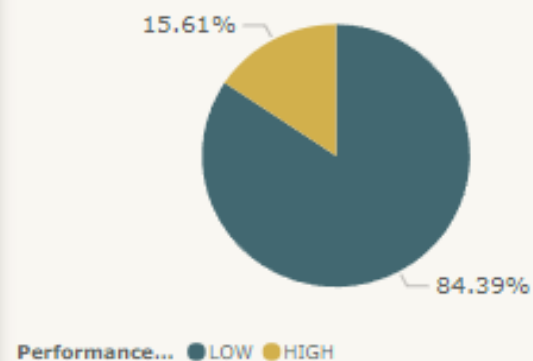
● Average of MonthlyIncome ● Sum of Attrition Count



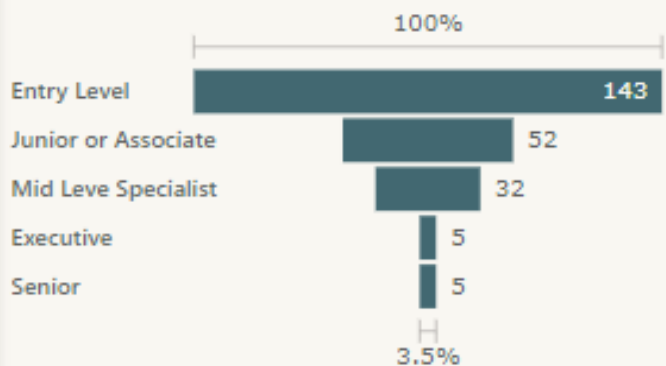
Total Attrition by Over Time



Total Attrition by Performance Rating

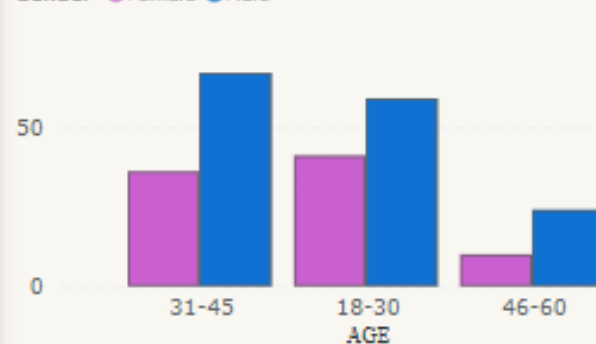


Total Attrition by Job Level



Total Attrition by Age and Gender

Gender ● Female ● Male



Week 12

Week-12: created a Employee wellness report

Conclusion:

- This HR analytics dashboard showed important information about employees that can help make better decisions and keep employees happy and working for the organization. By taking actions to address the issues that employees face and creating a positive work environment, the HR department can help employees perform better and stay in their jobs longer. This can help the organization make more money and be more successful



Average
Monthly...
6.50K



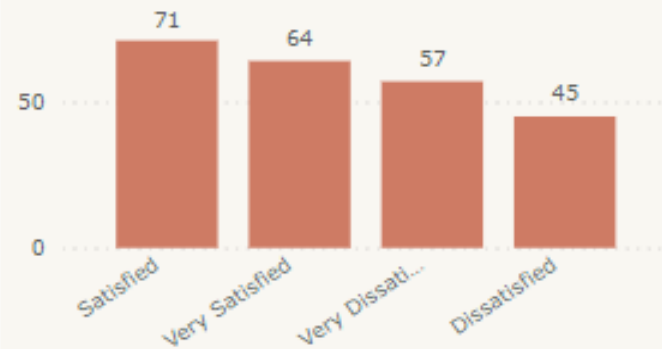
EMPLOYEE WELLNESS

Average
Hourly Rate
65.89

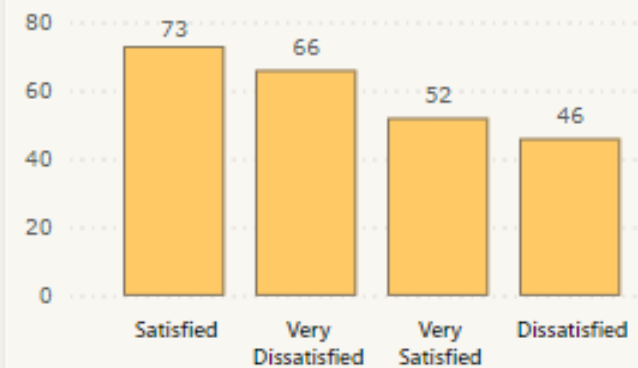
Total Attrition by Environment Satisfaction



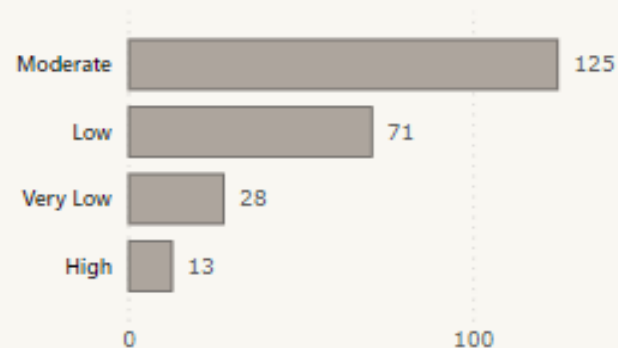
Relationship Satisfaction



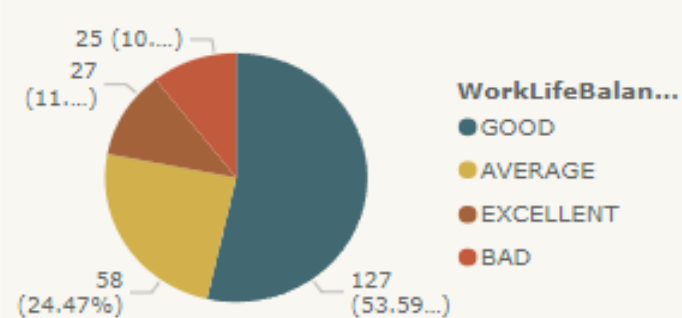
Total Attrition by Job Satisfaction



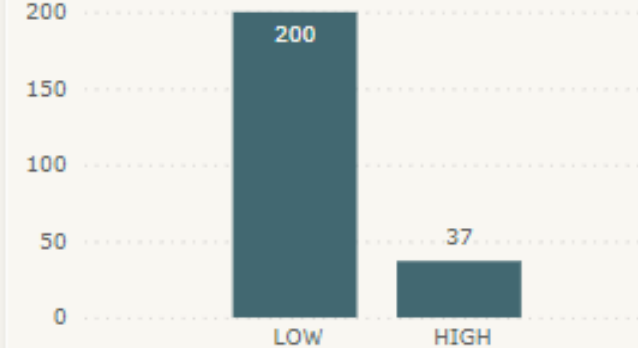
Total Attrition by Job Involvement



Total Attrition by Work Life Balance



Total Attrition by Performance Rating



Week 13

Week 13 – Week 15: Project 3: Sales Analysis Dashboard

Overview: The Sales Analysis Dashboard project aims to provide comprehensive insights into sales performance, customer behavior, and product trends through interactive visualization using Power BI. By integrating sales overview, customer details, and product details, this dashboard empowers stakeholders to make informed decisions, optimize strategies, and enhance business outcomes.

Week 13: Data Collection and Preparation.

- Get data from Kaggle
- Load CSV to Power BI
- Clean data eliminating null/blank
- Identify metrics to extract from the report
- Present the data visually with key metrics

Week 14

Week-14: worked on sales overview report

- Visualizations depicting sales metrics such as revenue, units sold, profit margins, and sales growth over time.
- Comparative analysis of sales performance across regions, products, and time periods.
- Key performance indicators (KPIs) highlighting targets versus actual performance.

Week-14: Worked on Customer Details

- Customer segmentation based on demographics, purchasing frequency, and buying preferences.
- Customer lifetime value (CLV) analysis to identify high-value customers.
- Visualization of customer churn rates and retention strategies.

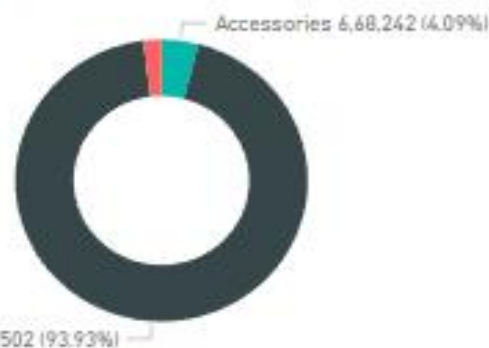
Sales vs Budget

16,351,550

15,300,000.00

1,051,550 ↑

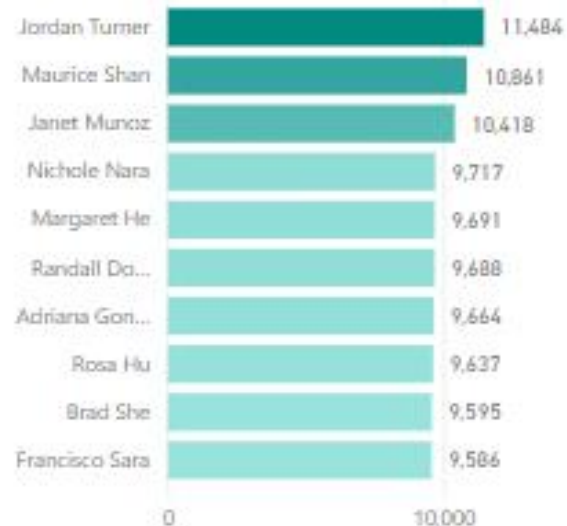
Sales by Product Category



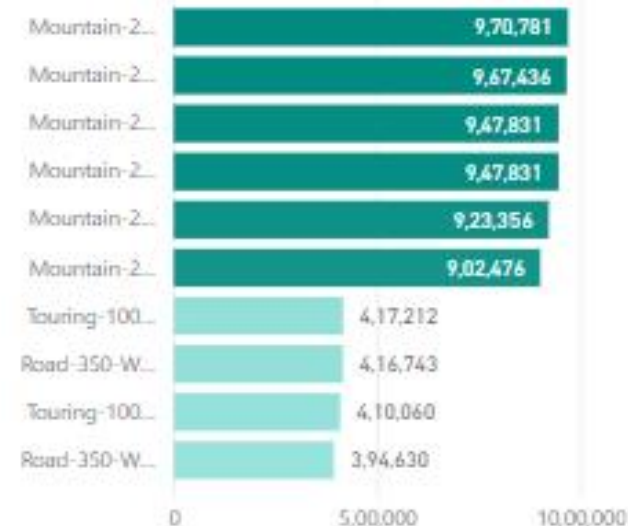
Sales and Budget by Month



Sales by Top 10 Customers



Sales by Top 10 Products



Sales by Customer City



Customer Details

Year

2019

2020

2021

Month

Jan

Feb

Mar

Apr

May

Jun

Jul

Aug

Sep

Oct

Nov

Dec

Customer City

All

Sub Category

All

Category

All

Product Name

All

1,63,51,550

Sales

1,53,00,000

Budget

Sales and Budget by Month

● Sales ● Budget

20,00,000

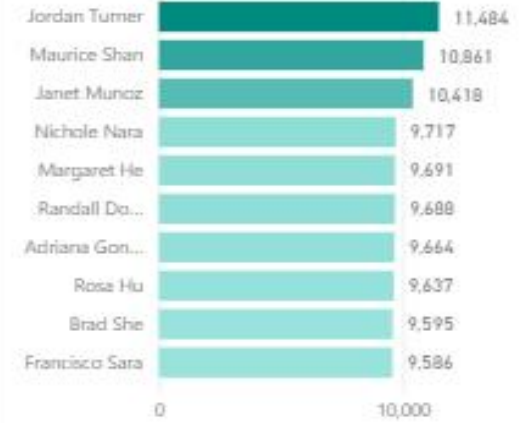
10,00,000

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Sales by Customer City



Sales by Top 10 Customers



Customer	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Jordan Turner	2,377				2,355		540	2,433	540		3,239		11,484
Maurice Shan	4,885		2,322				1,269		2,384				10,861
Janet Munoz	4,676		3,122							2,419			10,418
Nichole Nara	2,482			2,494	2,322						2,419		9,717
Margaret He	2,500			2,423	2,340						2,428		9,691
Randall Dominguez	4,864			2,355						2,469			9,688
Adriana Gonzalez	2,498		2,393		2,320					2,453			9,664
Rosa Hu			2,492		4,747						2,398		9,637
Brad She	2,443			2,423	2,345						2,384		9,595
Francisco Sara	2,451		2,433		2,295					2,407			9,586
Lacey Zheng	2,462					594	549	2,419			756	2,419	9,199
Larry Munoz	2,320				575	540		2,384			781	2,419	9,019
Ariana Gray		2,502					575		2,413		570	2,419	8,480
Franklin Xu									2,334	1,274	2,419	2,377	8,404
Marco Lopez		2,330							2,433			3,634	8,397
Willie Xu			777				2,375			2,295	2,393		7,840
Total	8,57,690	7,71,349	10,49,907	10,46,023	12,84,593	16,43,178	13,71,676	15,51,066	14,47,496	16,73,293	17,80,920	18,74,360	1,63,51,550

Week 15

Week-15: Worked on product Details report

- Product sales distribution by category, brand, or SKU.
- Analysis of product profitability, including gross margin and contribution to overall revenue.
- Product performance trends, highlighting top-selling items, slow movers, and seasonality effects.

Conclusion:

The Sales Analysis Dashboard serves as a powerful tool for driving sales performance, understanding customer dynamics, and optimizing product strategies. By leveraging the capabilities of Power BI, this project empowers organizations to harness the full potential of their sales data and gain a competitive edge in today's dynamic market landscape.

Product Details

Year

201920202021

Month

JanFebMarAprMayJunJulAugSepOctNovDec

Customer City

All

Sub Category

All

Category

All

Product Name

All

1,63,51,550

Sales

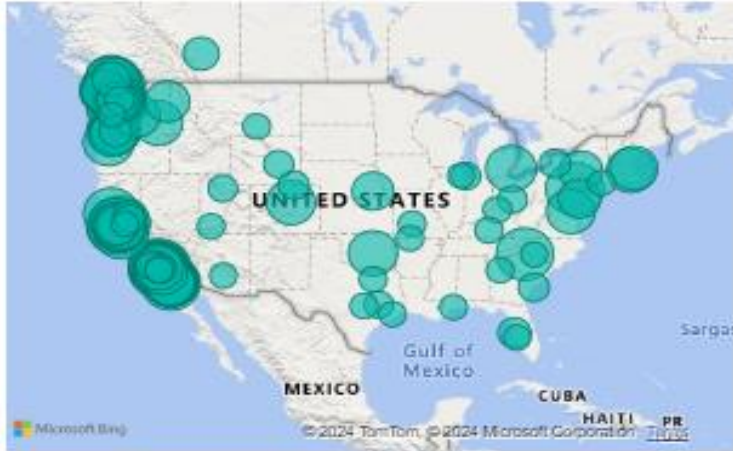
1,53,00,000

Budget

Sales and Budget by Month



Sales by Customer City



Sales by Top 10 Product



Category	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Bikes	8,29,911	7,03,797	9,67,773	9,68,904	12,00,153	15,51,225	12,84,187	14,61,493	13,61,345	15,73,443	16,83,498	17,73,772	1,53,59,502
Mountain-200 Black, 42	41,310	45,900	64,260	55,080	89,505	98,685	59,670	94,095	1,00,980	94,095	1,00,980	1,20,738	9,70,781
Mountain-200 Silver, 38	76,560	41,760	55,680	64,960	74,240	64,960	71,920	83,520	78,880	1,06,720	1,09,040	1,38,196	9,67,436
Mountain-200 Black, 38	61,965	34,425	64,260	41,310	64,260	94,095	94,095	1,00,980	71,440	98,685	1,18,339	1,00,980	9,47,831
Mountain-200 Black, 46	61,965	61,965	59,670	66,555	73,440	98,685	82,620	78,030	75,735	80,325	1,10,160	98,685	9,47,831
Mountain-200 Silver, 46	34,800	30,160	55,680	58,000	71,920	92,800	99,760	99,760	78,880	76,560	1,29,919	95,120	9,23,356
Mountain-200 Silver, 42	51,040	34,800	76,560	60,320	58,000	88,160	69,600	83,520	76,560	83,520	99,760	1,20,636	9,02,476
Touring-1000 Blue, 46	11,920	4,768	16,688	26,225	30,993	42,913	42,913	54,834	47,681	61,986	42,913	33,377	4,17,212
Road-350-W Yellow, 40	15,309	20,412	20,412	20,412	40,824	35,721	32,319	42,525	40,824	40,824	42,525	64,638	4,16,743
Touring-1000 Yellow, 46	14,304	14,304	19,073	21,457	28,609	40,529	38,145	40,529	33,377	45,297	57,218	57,218	4,10,060
Road-350-W Yellow, 42	10,206	10,206	18,711	15,309	37,422	40,824	27,216	47,628	42,525	52,731	34,020	57,834	3,94,630
Road-350-W Yellow, 48	8,505	17,010	17,010	18,711	30,618	40,824	34,020	37,422	28,917	57,834	57,834	44,226	3,92,929
Touring-1000 Blue, 54	11,920	28,609	4,768	16,688	23,841	40,529	35,761	40,529	38,145	38,145	45,297	57,218	3,81,451
Road-250 Black, 48	43,980	39,094	34,207	39,094	26,877	41,537	14,660	36,630	26,877	31,764	19,547	26,877	3,81,163
Touring-1000 Yellow, 54	4,768	11,920	9,536	28,609	33,377	47,681	21,457	40,529	40,529	47,681	42,913	47,681	3,76,683
Road-350-W Yellow, 44	15,309	8,505	17,010	13,608	23,814	42,525	17,010	42,525	39,123	34,020	61,236	52,731	3,67,414
Touring-1000 Blue, 50	41,000	33,000	33,377	33,377	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	3,55,336
Total	8,57,690	7,71,349	10,49,907	10,46,023	12,84,593	16,43,178	13,71,676	15,51,066	14,47,496	16,73,293	17,80,920	18,74,360	1,63,51,550

Thank You !!