MediBuddy Insurance Data Analysis – Insights Report

Intern Name: Gangarapu Datha Naga Sai
Company: Labmentrix
Project Type: Exploratory Data Analysis (EDA)

1. Project Objective

The objective of this project is to analyze MediBuddy insurance customer data to understand key factors that affect insurance claim amounts. This analysis helps the company improve pricing strategies, risk assessment, and decision making for insurance policies.

2. Dataset Description

Two datasets were used in this project. One dataset contains personal details such as age, gender, region, and number of children. The second dataset contains BMI and insurance charge information. Both datasets were merged using policy number to create a final dataset for analysis.

3. Business Questions Analysis

1. Does gender of the person matter for extending policies?

From the analysis, both male and female customers show similar insurance claim patterns. There is no major difference in insurance charges based on gender.

Business Conclusion: Gender does not play a significant role in insurance pricing decisions.

2. What is the average amount of money spent over each policy cover?

The average insurance claim amount provides an estimate of expected cost per customer.

Business Conclusion: This value can be used by MediBuddy for budgeting and financial planning.

3. Should separate policies be offered based on geographic location?

Different regions show moderate variation in insurance claim amounts.

Business Conclusion: Separate policies are not strictly required, but minor location-based pricing adjustments can be considered.

4. Does number of dependents affect insurance claim amount?

Customers with more dependents tend to show slightly higher insurance claims.

Business Conclusion: Dependents have some impact, but they are not the strongest factor influencing cost.

5. Does BMI give any idea about insurance claim amount?

Overweight and obese customers have higher insurance claims compared to customers with normal BMI.

Business Conclusion: BMI is an important health indicator and should be included in risk assessment.

6. Is smoker or non-smoker classification important for the company?

Smokers have significantly higher insurance claim amounts compared to non-smokers.

Business Conclusion: Smoking status is the strongest factor affecting insurance pricing.

7. Does age act as a barrier for insurance claims?

Insurance claim amount increases as age increases.

Business Conclusion: Older customers have higher medical risk and should be categorized separately.

8. Can discounts be offered based on BMI?

Customers with healthy BMI have lower insurance claim amounts.

Business Conclusion: MediBuddy can offer discounts to healthy customers to promote wellness.

4. Key Insights Summary

- Smoking status has the highest impact on insurance charges.
- BMI and age strongly influence insurance claim amount.
- Gender has minimal impact on insurance pricing.
- Lifestyle factors affect insurance cost more than demographic factors.
- Healthy customers have lower insurance risk.

5. Business Recommendations

- Apply higher premium rates for smokers.
- Offer discounts to customers with healthy BMI.
- Implement age-based risk categorization.
- Promote wellness programs to reduce long-term medical costs.
- Use data-driven strategies for insurance pricing.

6. Conclusion

This project provided valuable insights into MediBuddy insurance data and customer behavior. The analysis highlights the importance of health and lifestyle factors in insurance pricing. These findings can help MediBuddy improve policy design, reduce financial risk, and make better business decisions.