Company Overview: 365 Business Bank – Bank Transactions Analytics Project

365 Business Bank is a forward-thinking financial institution dedicated to fostering innovation and customer-centric decision-making. With a commitment to excellence, we leverage data-driven insights to enhance operational efficiency, optimize product offerings, and maintain robust security measures. Our comprehensive approach to analytics ensures that every facet of our operations aligns with our strategic goals and market demands.

Objective

The objective of this project is to harness the power of our integrated dataset—which encompasses MCC Data, Cards Data, Users Data, and Transactions Data—to extract actionable insights. By developing a robust analytics framework in Power BI, we aim to:

- Enhance customer segmentation and personalization.
- Optimize resource allocation and operational efficiency.
- Identify and mitigate potential risks and fraud.
- Drive strategic initiatives that foster growth and competitive advantage.

Possible Insights:

Below are 15 detailed possible insights that can be analyzed through this dataset, it is designed to support strategic decision making at 365 Business Bank (If some requirements can't be accomplished, feel free to leave that and explore something new from your side)

1. **Customer Demographic Segmentation**
    - **What to Analyze:** Age, gender, income (yearly and per capita), credit score, total debt, and number of credit cards from the user's data.
    - **Why Ask:** To understand distinct customer segments, such as young professionals, retirees, or high net-worth individuals, and identify their specific financial needs.
    - **How It Helps:** Enables tailored product development, targeted marketing strategies, and refined risk management processes.
2. **Transaction Volume and Temporal Analysis**

- **What to Analyze:** Transaction counts, total amounts, and time-based patterns using transaction dates and times.
- **Why Ask:** To identify peak periods, seasonal trends, and anomalies in transaction behavior.
- **How It Helps:** Facilitates optimal resource allocation, improved system load management, and early detection of irregular activities indicative of potential fraud or operational issues.

3. **MCC Category Spending Analysis**
    - **What to Analyze:** Linking transactions to MCC codes (e.g., Eating Places and Restaurants, Service Stations) to evaluate spending patterns by category.
    - **Why Ask:** To determine which spending categories, drive the highest revenue and customer engagement.
    - **How It Helps:** Supports strategic decisions regarding partnerships, promotional initiatives, and risk assessments within specific sectors.
4. **Geographical Transaction Distribution**
    - **What to Analyze:** Distribution of transactions using merchant city, state, zip code, and user location data (latitude and longitude).
    - **Why Ask:** To map transaction concentrations and identify regional trends or underserved markets.
    - **How It Helps:** Informs decisions related to branch expansion, localized marketing campaigns, and regional risk management strategies.
5. **Card Usage and Performance Analysis**
    - **What to Analyze:** Card attributes such as type, brand, credit limits, expiry dates, and chip usage, alongside transaction performance.
    - **Why Ask:** To discern usage patterns and assess the effectiveness of different card products.
    - **How It Helps:** Optimizes product offerings, enhances security features, and ensures that customer payment options are both secure and effective.
6. **Chip Transaction Effectiveness**

- **What to Analyze:** Comparative performance of chip-enabled transactions versus non-chip transactions, with a focus on success rates and error occurrences.
- **Why Ask:** To evaluate the reliability and security of chip technology in everyday transactions.
- **How It Helps:** Drives improvements in technology investments and user training programs, thereby reducing errors and the risk of fraud.

7. **Error and Anomaly Investigation**
   - **What to Analyze:** Frequency and patterns of transactions marked with errors (e.g., "Bad PIN").
   - **Why Ask:** To identify potential technical issues, user errors, or fraudulent activities.
   - **How It Helps:** Enables targeted interventions in system security and customer support, ultimately reducing financial losses and enhancing trust.
8. **Income vs. Spending Behavior Analysis**
   - **What to Analyze:** Correlation between users' income data (yearly and per capita) and their transaction amounts.
   - **Why Ask:** To assess whether spending behavior aligns with income levels, which can indicate financial stability or distress.
   - **How It Helps:** Informs credit risk models and personalized financial advice, ensuring that credit products and limits are appropriately calibrated.
9. **Credit Score and Transaction Relationship**
   - **What to Analyze:** Interaction between credit scores and transaction patterns, including error incidences and overall spending behavior.
   - **Why Ask:** To understand the impact of credit health on transactional behavior and risk propensity.
   - **How It Helps:** Supports risk profiling, leading to more accurate underwriting and the development of targeted financial support programs.
10. **Debt Burden and Spending Patterns**
    - **What to Analyze:** The relationship between users' total debt and their transaction volumes.

- **Why Ask:** To identify spending behaviors that might signal financial stress among customers with high debt levels.
- **How It Helps:** Enables the design of debt management programs and proactive financial counseling to mitigate risks of default.

11. **Card Lifecycle and Renewal Trends**
    - **What to Analyze:** Account open dates, card expiry dates, and renewal frequencies.
    - **Why Ask:** To monitor product lifecycles and predict periods of increased customer engagement or product renewal needs.
    - **How It Helps:** Supports proactive customer communication and retention strategies, ensuring a seamless transition during card renewals or replacements.
12. **Multi-Card Ownership and Loyalty Analysis**
    - **What to Analyze:** The correlation between the number of cards issued per customer and their transaction frequency.
    - **Why Ask:** To determine whether multi-card ownership is indicative of higher engagement and loyalty.
    - **How It Helps:** Informs the development of loyalty programs and bundling strategies, enhancing overall customer lifetime value.
13. **Merchant Performance and Partner Evaluation**
    - **What to Analyze:** Performance metrics of merchant partners using transaction values and volume data linked to merchant identifiers.
    - **Why Ask:** To identify high-performing merchant partnerships and areas that may require additional support or renegotiation of terms.
    - **How It Helps:** Strengthens merchant relations, optimizes partner performance, and drives revenue growth through strategic collaborations.
14. **Fraud and Security Risk Modeling**
    - **What to Analyze:** Integration of transaction errors, chip usage patterns, user credit profiles, and spending behaviors to develop predictive risk models.
    - **Why Ask:** To proactively identify potential fraud or security breaches before they escalate.
    - **How It Helps:** Enhances the bank's security infrastructure with early warning systems, reduces fraudulent activities, and protects customer assets.

15. **Real-Time Integrated Analytics Dashboard**
    - **What to Analyze:** Creation of a comprehensive Power BI dashboard that consolidates key metrics from all data sources in real-time.
    - **Why Ask:** To provide senior management with a dynamic tool for continuous monitoring and rapid decision-making.
    - **How It Helps:** Facilitates immediate response to emerging trends, supports operational efficiency, and strengthens strategic planning capabilities.

Note: The above Insights ideas are intended to jump-start your Analysis. You're encouraged to dig deeper and broaden the scope of your analysis to discover even more valuable findings.

Submission Criteria:

1. We recommend you create a video presentation of ideally 15 minutes or less for the business stakeholders or submit a PDF of the Presentation of your work. Additionally, make a LinkedIn post that includes relevant links, your video presentation, and a reflection on your experience while working on this project.

2. You can check out this example presentation to gain some inspiration:

- https://www.linkedin.com/posts/akshayraj44_powerbi-dataanalytics-businessintelligence-activity-7301126817208270848-5pQz
- https://www.linkedin.com/posts/sumitnandi-it_powerbi-dataanalytics-businessintelligence-ugcPost-7290055433879179264-hkut

3. Submit your File and LinkedIn Post link before the deadline, if you face any difficulties in submission then you can also submit via email: info@analytixcamp.com (mention course name and project name in subject line) - Tag Muhammad Abbas and Analytix Camp in your post.

Best Regards,

Muhammad Abbas

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