Problem Definition – Marketing Analytics Project

Project Focus: Analytical CRM for Restaurants and Cafes in Armenia

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Problem Area
Customer Retention & Engagement in the hospitality industry (restaurants/cafes).

Preliminary Research Insight
Many restaurants in Armenia lack the tools to systematically understand customer behavior, predict churn, or personalize marketing efforts. Most existing systems focus on operational tasks such as order-taking and billing, not on using data analytics to build long-term customer relationships. This leads to low loyalty, inefficient marketing, and missed revenue opportunities.

Specific Problem Statement
Restaurants in Armenia lack analytical tools to identify, understand, and retain high-value customers, resulting in missed revenue opportunities and weak customer loyalty.

Proposed Solution
We propose developing an analytical CRM platform tailored for restaurants and cafes in Armenia. The system will leverage:

- **NFC chips on tables** to collect customer interaction data (Wi-Fi access, menu views, review submissions)
- **POS system data** to analyze transactions, frequency, and customer value
- **Machine Learning techniques** to deliver insights, give data driven solutions, suggest retention strategies

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Methodology

Data Collection

- NFC interaction data (Wi-Fi logins, online menu access, review engagement)
- POS data: customer transactions, frequency, spend
- Optional: Feedback forms or loyalty check-ins

Analytical Techniques

- **RFM (Recency, Frequency, Monetary) Segmentation** – to identify high-value vs. low-engagement customer groups
- **Churn Prediction Models** – such as Logistic Regression or Survival Analysis to estimate the risk of customer loss
- **Customer Clustering** – using methods like K-Means or DBSCAN to group customers based on behavioral patterns
- **Uplift Modeling** – to assess the causal impact of marketing interventions (requires rich campaign and response data)
- **Menu Recommendation System** – suggesting items to waiters based on individual customer preferences, order history, or segment behavior to increase upsell and personalization

Note: Due to potential limitations in access to detailed customer-level data during development, some models may be built on sample or simulated data and demonstrated as proof-of-concept.

Implementation Plan

- Designing a centralized CRM dashboard for restaurants to monitor customer behavior and performance metrics
- Integrating data sources such as NFC chips and POS systems
- Applying data analysis and machine learning techniques to extract insights
- Translating insights into actionable tools, such as customer segmentation, churn alerts, targeted marketing, and personalized recommendations
- Ensuring ease of use for restaurant staff through an intuitive interface and contextual suggestions

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Expected Outcomes

- Increased customer retention and visit frequency
- More effective, targeted marketing campaigns
- Higher customer lifetime value (CLV)
- Improved menu and promotion strategies based on data insights

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Evaluation Metrics

- Improvement in retention rate
- Increase in customer lifetime value (CLV)
- Marketing campaign response rates
- ROI on loyalty and retention strategies