

User Story

Mixed-Method Analysis for Chatbot Satisfaction in SMEs Using Survey and Interview Data

As a researcher studying chatbot satisfaction in SMEs using both qualitative and quantitative methods

We want to analyze data from surveys (quantitative) and interviews (qualitative) to evaluate how key factors: information quality, system design, conversation type, and data security affect user satisfaction.

So We can evaluate the influence of these factors on chatbot satisfaction and provide recommendations backed by both statistical data and in-depth user feedback for SME chatbot interactions.

1. Survey Data Analysis:

- The CSV files should include variables corresponding to the 4 key factors.
- Correlation analysis should be performed to identify relationships between factors and satisfaction levels.

2. Qualitative Data Analysis:

- Interview transcripts should be categorized based on themes related to the key factors.
- The analysis should identify themes and specific user experiences to provide context for the quantitative findings.

3. Mixed-Method Analysis:

- Quantitative survey results should be linked with qualitative results to verify the trends from interviews.
- Analysis should focus on identifying areas of agreement or discrepancies between survey scores and qualitative themes to deepen understanding.

4. Factor Analysis:

- The analysis should focus on each factor individually:
 - **Information Quality:** Assess dimensions such as accuracy, relevance, completeness, and timeliness of chatbot responses.
 - **System Design:** Evaluate usability, layout, visual appeal, and responsiveness.
 - **Conversation Type:** Analyze the chatbot's tone, human-likeness, and personalization capabilities.
 - **Data Security:** Review user trust, data confidentiality, and transparency of data handling.

5. Data Visualization:

- Visualizations should be created to illustrate the relationships between the factors and satisfaction.
- Qualitative insights should be presented using words.

6. Recommendations Report:

- A report should be generated summarizing key findings from both quantitative and qualitative analysis.
- The report should include actionable recommendations for improving chatbot satisfaction based on the four key areas.

Scenarios:

- **Scenario 1: Importing and Cleaning Survey Data**
 - **Given** I have collected survey data on chatbot satisfaction in a CSV file
 - **When** I load the CSV into python
 - **Then** I should be able to see a clean dataset with variables correctly formatted and categorized by the four key factors.
- **Scenario 2: Conducting Descriptive Analysis of Survey Data**
 - **Given** I want to understand general satisfaction trends
 - **When** I run descriptive statistics on survey data
 - **Then** I should see the satisfaction scores for each factor, helping me identify which areas are performing well or poorly.

- **Scenario 3: Coding and Analyzing Qualitative Data**
 - **Given** I have interview transcripts
 - **When** I analyze the transcripts
 - **Then** I should see coded themes and patterns, showing specific experiences related to each key factor.
- **Scenario 4: Combining Qualitative and Quantitative Data**
 - **Given** I want to link qualitative insights with quantitative scores
 - **When** I compare survey satisfaction scores with corresponding interview themes
 - **Then** I should see where numerical trends align with qualitative feedback, providing a deeper understanding of satisfaction drivers.
- **Scenario 5: Visualizing Key Findings**
 - **Given** I want to present my findings to stakeholders
 - **When** I create visualizations of the data
 - **Then** I should see clear, easily interpretable charts and thematic maps that highlight key relationships between factors and user satisfaction.