Story: Understanding Customer Support Satisfaction Customer support data from a tech company contains 8,469 tickets with details about customers, products, ticket types, priorities, channels, and satisfaction ratings for many closed tickets. The goal of this analysis is to understand what customers are asking for, how they contact support, and how satisfied they are with the help they receive.

The dataset includes information such as customer age and gender, product purchased, date of purchase, ticket subject and description, ticket status, priority, channel (email, phone, chat, social media), and a satisfaction rating from 1 to 5 for resolved tickets. This allows analysis of both the operational side of support (volumes, types, channels) and the customer experience side (ratings and patterns).

First, the data is loaded into Python using pandas, and basic checks are done for data types and missing values. The “Date of Purchase” column is converted into a real date, and a Year-Month field is created to see how ticket volume changes over time. Customer age is grouped into age bands such as 21–30, 31–40, and so on, to understand which age groups contact support most.

Next, the focus moves to exploring ticket patterns. The top 10 ticket subjects show the most common issues, such as refund requests, software bugs, product compatibility problems, delivery issues, and payment problems. Ticket trends by Year-Month show how the number of tickets changes over time, helping to identify busy periods when the support team may be under higher load. Distributions of ticket type, ticket status, ticket priority, and ticket channel reveal how work is spread across different kinds of issues and communication channels.

Customer-related views show how support usage varies by age group and gender. Age distribution and “tickets by age group” charts highlight which age segments contact support the most often. Gender distribution and ticket counts give a quick view of how male, female, and other customers use the support system. Product-level views, such as the top 10 products by ticket count and top products by gender, show which products generate the most support demand.

Customer satisfaction is then analyzed using only tickets that have a satisfaction rating. The rating distribution (1 to 5) shows how often customers are very dissatisfied, neutral, or very satisfied. Average satisfaction is compared across different dimensions: ticket type, ticket channel, ticket priority, customer gender, and age group. These comparisons make it possible to see, for example, if certain channels or ticket types tend to receive lower ratings, or if certain customer groups consistently report different satisfaction levels.

From this analysis, several practical insights emerge. Common issues such as refund requests and software bugs can be targeted with better documentation, self-service options, or product improvements. Channels or ticket types with lower average satisfaction can be reviewed for process changes, training, or clearer communication. Ticket trends over time and distributions by priority can guide staffing and escalation rules, especially during peak periods. Overall, the project turns raw ticket data into a clear view of where customers struggle, how they interact with support, and where improvements can have the most impact