TTWC

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AtliQ Hardware

AtliQ Hardware Overview

AtliQ Hardware is a subsidiary of AtliQ Technologies and is one of the leading computer hardware producers in India. AtliQ is focused on providing a positive experience to the customer before as well as after sales to drive repeat business and enhance loyalty, thus improving the business.

AtliQ Sales Insights - Business Problem

This year, AtliQ Hardware has asked TTWC to conduct a big audit of their sales and help them automate their existing data. Arnold Cohen, the current Sales Development Manager, knows how competitive the Technology field is and wants to increase AtliQ's competitiveness and expand their market and customer base.

As a Junior Analyst with TTWC, I will take part in an analysis of their database to better understand how their data is performing and to find ways to better automate that data for AtliQ Hardware's in-house analytical team.

An in depth analysis will provide the marketing team with accurate outcomes about product performance, customer metrics and company sales for AtliQ to then make the necessary business decisions.

AtliQ Hardware has provided us with a backup of their database in the SQLite format. In order to get the necessary information, TTWC may only use connections to the database itself—no CSV files will be provided, and AtliQ has also restricted the ability to load the whole database to CSV.

The clients are particularly interested in three business areas:

1. **Financial Analysis:** How has the Revenue/Profits/Margins changed over the database's time frame? Is there a noticeable shift in the market? What categories are profitable and which ones could possibly be discontinued.

2. **Product Analysis:** Which items are the bestsellers? How can the company improve its sales? How has product popularity changed over time and across markets?

3. **Customer Analysis:** Segmentation of customers; who are they and what do they buy? How can we improve business with them?

AtliQ Project Analysis Plan

The TTWC team assigned to AtliQ will conduct the necessary research, and create informative dashboards that AtliQ will be able to use later. Certain sections of the TTWC team will select one of the three above areas to focus on. My team is responsible for Customer Analysis.

During the Customer Analysis, customer segmentation will be used to understand the purchasers and gain an understanding on more effective sales, marketing, and personalization strategies. Each segment can answer a myriad of questions that the company may have. To further help with the segmentation, we will connect the customers to the products and sales data to give a better overview of the customer focused analysis.

The goal is to segment the customer data on various metrics and create an actionable dashboard. This will allow AtliQ to gain a better understanding of their customers' habits and possibly give insight on new, potential markets.

AtliQ Project Action Plan

Each segment will be analyzed separately to identify unique trends and preferences. Before the Customer Analysis team can begin work on the segmentation of customer data, preliminary work has to be done on the data received. The preliminary work is considered a working standard when starting a data analysis project.

Preliminary Analysis/Data Preparation

1. **Obtaining and loading the data**
    a. Team will be using the Jupyter notebook platform for coding.
    b. No CSV file provided so the database will use the connection function to load.
    c. Understanding table relationships
2. **Install required libraries**
    a. Plotting and Scikit Learn libraries will be added also in case data modeling will be incorporated in the analysis.

3. **Exploratory Data Analysis**
    a. Data cleaning will be done under this section

Customer Analysis/Segmentation

Geographic/Customer Segmentation

1. What areas have the most customers?
2. What regions have higher customer orders/sales?
    a. This will be shown as a visualization within Tableau
3. Is there a region that is showing consistent customer growth?
4. Are there any customer trends?

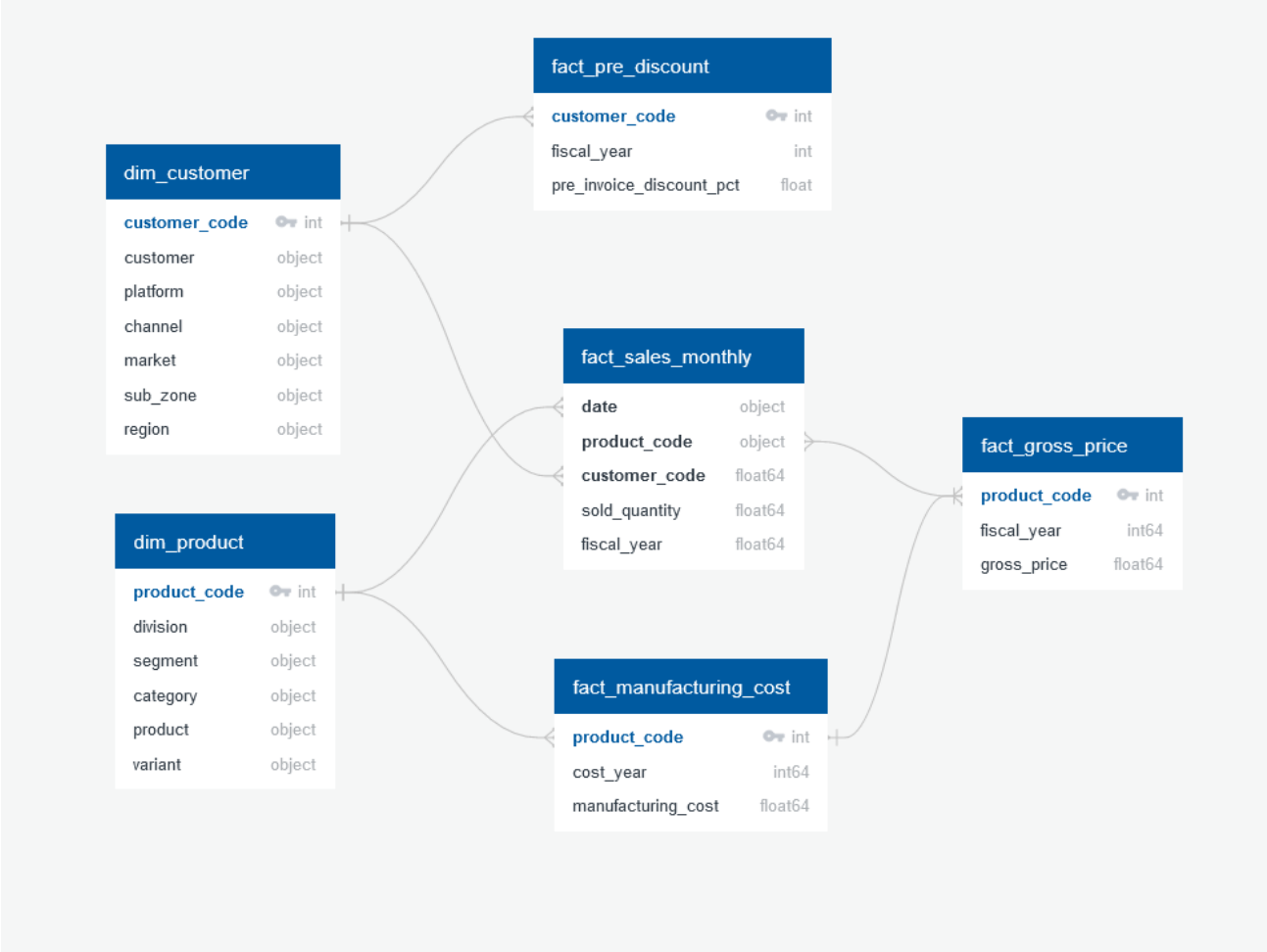
Customer Behavior Analysis

1. What products or services are most popular among your customers?,
2. Time frame customers tend to make purchases?
3. Customers with most purchases?
    a. How often do they make purchases?

This information can serve as valuable input for product recommendations and marketing timing strategies.

Charts, graphs and visualizations of our segmentation findings will be displayed within the dashboard. Preliminary charts will be done within the Jupyter environment to give the teams insights as we work through the data.

Research/In-depth Analysis



Database table overview and related connections. With a customer centered focus, some of the tables may not be used in our analysis.

After starting the initial analysis of the data, there may be other metrics that come up in the process that were not initially thought of. Feedback from team members will aid in this and give ideas on working with the data. Decomposition plan will be updated as required.

The majority of research will be breaking down or combining the database tables to aid in statistics and analysis. We have created a Database table overview to clearly see the main table relationships.

Since the team is focusing on Customer Analysis, a detailed customer data frame will be created then exported to a JSON file to use with Tableau.

Hypothesis Concerning the Data

Cohort Analysis is a very useful and relatively simple technique that helps in getting valuable insights about the behavior of any business' customers/users. We will research if this is possible with the structure of the data we have.

1. New vs Existing Customers
2. Incorporate Cohort Analysis to analyze user behavior.
3. Will determining Customer Lifetime Value (CLV) provide a good insight and is that possible with the data we have access to?
4. What customer KPIs/Analysis can we derive from the supplied data?

The Jupyter environment will be used to code the project with the majority of the code done using SQL queries as requested by the company. Python will be used when necessary. Visualizations will be created using Tableau; encompassing grids, charts, and month-to-month perspectives. Preliminary visuals may be done within Jupyter to give an example of what the end graphic result should resemble.

Additionally, Tableau's interactive dashboard features will be incorporated, enabling users to explore insights through dynamic filters across multiple parameters. Furthermore, we will explore the possible integration of machine learning and A/B testing, to enhance the presentation of insights and draw conclusions if possible for the customer base.