



TUNIS BUSINESS SCHOOL
UNIVERSITY OF TUNIS

Business Intelligence Mini-project

Team Members

Dhaker Messaoud

Raafat Taktak

Rania Adouni

Academic year 2023-2024

*Style
In Every
Click*



Threads of Insight

Unraveling the Tapestry of Online Fashion Business

Introduction:

In the busy world of online fashion, every click and scroll on our website tells a story about what our customers like and what's trending. "Threads of Insight" isn't just a project; it's like taking a deep dive into how our online store works. Think of it as a journey where we use data like a tool and analytics as a guide to understand our online world better. Just as the name suggests, "Threads" signifies the exploration and integration of diverse components, creating a complete and meaningful story of our online presence.

In this digital space where fashion and technology meet, our online clothing store wants to go beyond the usual ways of selling things. Standing out in the digital marketplace needs more than just having a good sense of style – it requires knowing how our customers interact with what we offer.

Our website is like a fashion runway. Each purchase isn't just a simple transaction; it's like turning a page in the ongoing story of our brand. Every time someone buys something, it's like a plot twist that we can discover through the data we collect.

Goals and Deliverables:

1. Customer Segmentation:

Identify distinct customer segments based on demographics, purchasing patterns, and preferences.

2. Sales Enhancement:

Implement strategies to boost sales through personalized campaigns, discount optimizations, and cross-sell/up-sell opportunities.

3. Inventory and Production Planning:

Utilize predictive analytics to optimize inventory levels and production schedules based on anticipated demand.

4. Customer Retention:

Enhance customer loyalty through targeted strategies, including subscription program optimizations and post-purchase engagement.

Potential business questions and insights to explore:

1. Customer Segmentation:

To achieve the goal of customer segmentation, where the objective is to identify distinct customer segments based on demographics, purchasing patterns, and preferences, we tried to answer these specific questions that delve into different aspects of customer behavior.

1. Demographic-Based Questions:

- Age and Gender:

- What is the distribution of customers by age and gender?
- Are there any significant differences in purchasing patterns between age groups? Are there any age or gender groups that show a higher frequency of purchases?
- How do purchasing preferences vary between different genders?

- Location:

- What are the primary locations or regions of our customers?
- Are there regional preferences in terms of product categories or purchasing frequency?

- Subscription Status:

- How does subscription status vary across different demographics?
- Are there specific age groups or regions more inclined to subscribe to our services?

2. Purchasing Patterns:

- Frequency of Purchases:

- How often do customers make purchases, and is there a pattern or trend?
- Are there distinct segments based on the frequency of purchases?

- Purchase Amounts:

- What is the distribution of purchase amounts across customer segments?
- Are there high-value customers within specific demographics?

- Previous Purchases:

- Do certain customer segments exhibit consistent preferences in terms of previous purchases?
- Are there correlations between the types of items purchased and the frequency of purchases?

3. Preferences and Interests:

- Category Preferences:

- Can we identify customer segments with preferences for specific product categories?
- Do certain age groups or regions show a higher affinity for certain product categories?

- Size, Color, and Seasonal Preferences:

- Are there patterns in size and color preferences within different customer segments?
- How do seasonal preferences vary across demographic groups?

- Review Ratings and Feedback:

- Do customer segments differ in terms of the average review ratings they give?
- Are there specific preferences or concerns expressed in customer feedback?

4. Subscription Program and Loyalty:

- Subscription Status and Loyalty:

- What proportion of customers have a subscription?
- How does the subscription status relate to customer loyalty?
- Are subscribers more likely to make repeat purchases?

- Promo Code Usage:

- Do certain customer segments use promo codes more frequently?
- How does the usage of promo codes relate to purchasing behavior and loyalty?

By asking these questions and conducting analyses based on the responses, The store owner can uncover patterns and characteristics that allow him to define distinct customer segments. The insights gained can then inform personalized marketing strategies, product recommendations, and other initiatives tailored to the unique needs and preferences of each segment.

2. Sales enhancement:

1. Branch stores' sales:

- How are purchases distributed across different locations?

2. Customer Feedback Utilization:

- How can customer feedback be utilized to enhance sales strategies and address pain points?
- Which location has the highest average review ratings for purchases?

3. Promo Code Effectiveness:

- What is the impact of promo codes on customer behavior, and how can we optimize their usage?

3. Inventory and Production Planning:

- Which items are most frequently purchased?
- Are there distinct seasonal variations in the demand for certain products?

4. Customer Retention:

- What insights can we gain from customer feedback to enhance retention strategies?
- Is there a correlation between review ratings and purchase amounts?
- How does the frequency of purchases relate to previous purchase history?

- Are there patterns in previous purchases for customers who use promo codes?

Main Implemented Phases:

Phase 1: Data Gathering

In the initial phase of our project, known as Data Gathering, our focus was on assembling the building blocks of our analysis. We diligently collected datasets of various types, each containing valuable information crucial for understanding the intricacies of our online fashion business. These datasets, neatly organized within the Online Fashion Business Zip.file, encapsulate a diverse range of details, from customer demographics and purchasing behaviors to inventory records and sales transactions. This foundational step lays the groundwork for the comprehensive insights we aim to uncover, allowing us to paint a detailed picture of our online business landscape.

Details and results of our work provided in the Online Fashion zip.file under the “Data gathering-Phase1” folder.

Phase 2: Data Preparation\ ETL or ELT process

In the second phase of our project, we employed the robust capabilities of Talend as our chosen tool for implementing the ETL (Extract, Transform, Load) process. Through this ETL process, we extracted relevant information from various sources within the online fashion business zip file. The tool's transformative prowess allowed us to clean and standardize the data, ensuring a uniform structure that harmonized the disparate datasets. Talend played a pivotal role in seamlessly blending these varied data elements, creating a coherent and organized dataset ready for the subsequent stages of our analysis. Details and results of our work provided in the Online Fashion zip.file under the “ETL process-Phase2” folder.

Phase 3: Data Storage \ Modeling and DWH creation

In Phase 3, we set up a place to store and organize our data for analysis. We identified the main tables for our analysis, the Fact table and Dimension tables, which helped us organize data in a way that's easy to understand. We also decided on how our data should be connected, using a Star schema. Finally, we mapped out how our analysis process will work using ROLAP.

Details and results of our work provided in the Online Fashion zip.file under the “Data storage and modeling-Phase3” folder.

Phase 4: Data Analysis

In this phase, we used Power BI to dig into our organized data. With Power BI, we created interactive dashboards – kind of like a control center where we can explore and understand our data better. Power BI made it easy for us to visualize our data and discover key information that guides our decisions and strategies for the online fashion business.

Details and results of our work provided in the Online Fashion zip.file under the “Dashboard-Phase4” folder.

Conclusion (Challenges and Improvements):

During our project, we faced challenges like some missing pieces in our data, unusual patterns (outliers), and the tricky task of making predictions. Just like in fashion, where styles and trends change, we need to keep adjusting our methods. Think of it like continuously improving our 'runway show.' To make it even better, we could try using data in real-time and adding more external information to make our story richer.

Project Code:

Provided in the **Online Fashion Business Zip.file**

