FASHION
E-COMMERCE
ANALYSIS

Contents

Executive summary

Fashion E-commerce is a growing industry worldwide, including in Indonesia. In 2021, the global e-commerce fashion industry reached an overall market value of 668 billion U.S. dollars. The online clothing and apparel industry is expected to reach a value of 1.2 trillion U.S. dollars by 2025 (Statista report).

In this report, we analyse the fashion e-commerce dataset for the period from June 30, 2016, to July 31, 2022, to identify key trends and insights that can help the Indonesian company make informed business decisions, optimise its operations and increase profitability.

The top-selling product categories are Women's Clothing, Women's Shoes, and Men's Clothing, while the majority of the user base is between the ages of 20-32 years old, and females constitute more than 60% of the user base. Jakarta, Jawa Barat (Bandung), and Jawa Tengah (Semarang) are the top-performing cities, with an average purchase frequency of 9.2 times per year and an average order value of IDR 366,800. The popular payment methods on the platform are e-wallets like OVO and Gopay, and credit cards.

The RFM (Recency, Frequency, Monetary) analysis was conducted to identify high-value customers and develop effective marketing campaigns. Overall, the RFM analysis highlights the importance of personalization and customer retention for the company's growth and success. By targeting high-value customers, winning back at-risk customers, segmenting customers, and improving the overall customer experience, the company can increase revenue and build long-term customer loyalty.

Based on the analysis, the following recommendations are made to the Indonesian company:
- Expand Product Categories to attract a more diverse customer base and increase revenue.
- Personalise the shopping experience to enhance user engagement.
- Develop targeted marketing campaigns to attract new customers and retain existing ones, particularly in cities with high user density.
- Expand to other regions of Indonesia to tap into the potential for growth.
- By focusing on retaining high-value customers, incentivizing repeat purchases, and improving the overall customer experience, the company can increase revenue and achieve long-term success in the competitive fashion e-commerce market in Indonesia.
- By implementing these recommendations, the company can increase revenue, attract new customers, and retain existing ones, resulting in a more profitable and sustainable business.

Introduction

The Fashion E-commerce dataset comprises transaction data from a fashion e-commerce platform. The data includes product metadata, user metadata, and transactional data. The dataset contains over 40 thousand transactions, covering the period from June 30, 2016 to July 31, 2022. By analysing product categories, user demographics, geographical trends, purchase frequency, and popular payment methods, we aim to provide valuable insights that can help companies make informed decisions to drive growth and stay competitive in the Indonesian market.
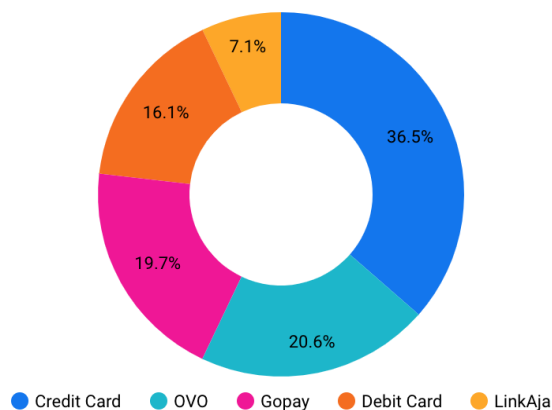
Sales analysis

- Overall, the retailer's sales increased by 55.5% in 2022 compared to the previous year.
- Product Categories: The top-selling product categories on the platform are Women's Clothing, Women's Shoes, and Men's Clothing, which collectively account for over 50% of total revenue. However, there is an opportunity for the company to explore other product categories to attract a more diverse customer base and increase revenue.

Pareto Chart of Product Categories
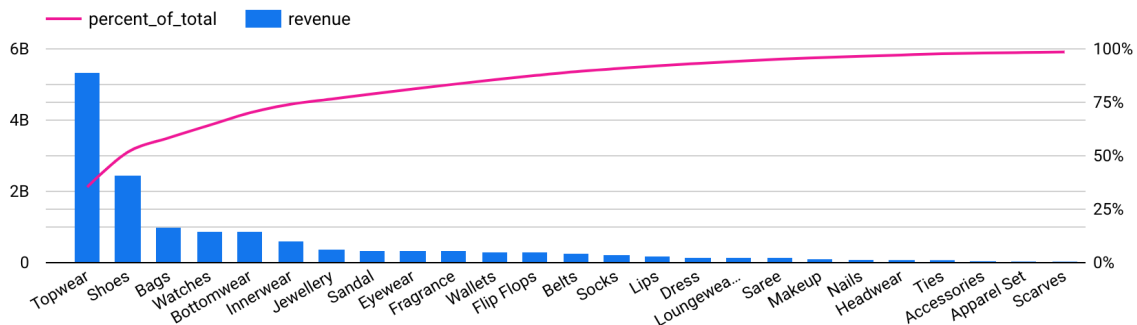
- Purchase Frequency: Users on the platform purchase on average 9.2 times per year, with an average order value of IDR 366,800.

- Popular Payment Methods: E-wallets like OVO and Gopay, and credit card are the most popular payment methods, accounting for 23.1% and 36.5% of transactions, respectively.
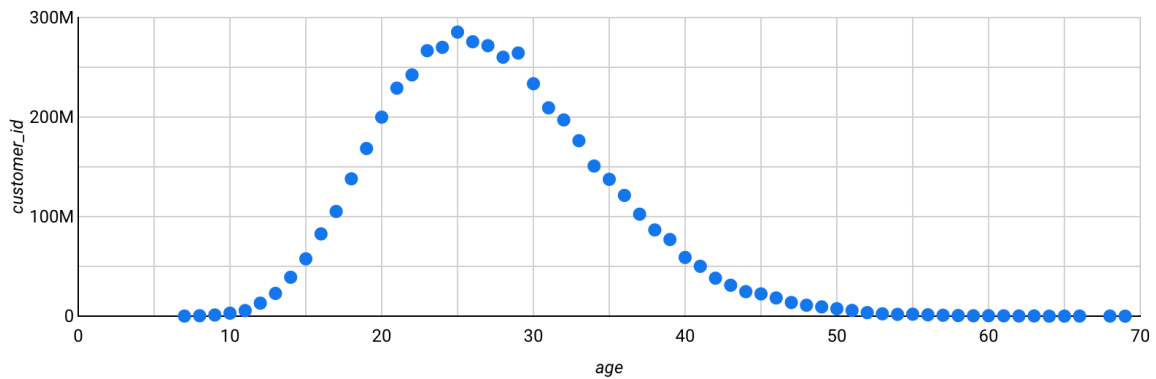
Share of Payment Method

Customer analysis

- User Demographics: The majority of the platform's users are between the ages of 20-32 years old, accounting for 45% of the total user base. Females constitute more than 60% of the user base.

Age Distribution

- Geographical Trends: The majority of the platform's users are located in Jakarta, Jawa Barat (Bandung), and Jawa Tengah (Semarang), accounting for 18.72%, 11.49%, and 10.96% of the total user base, respectively.

Number of Customers by Cities
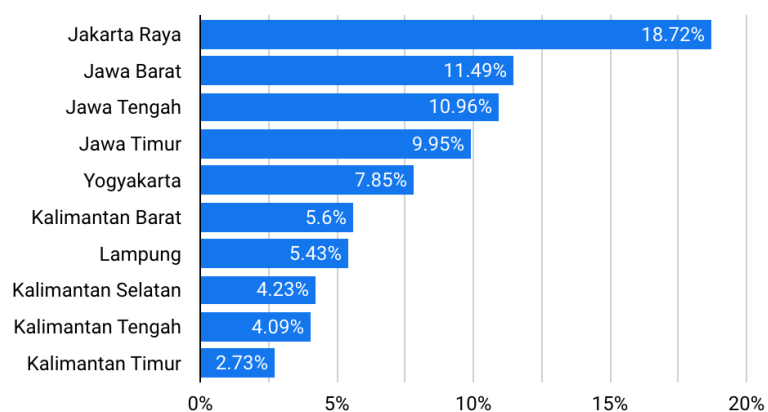
RFM analysis

RFM analysis is a technique used to segment customers based on their purchasing behaviour. RFM stands for Recency, Frequency, and Monetary, which are the three main factors used in this analysis.

Recency: It is the number of days since a customer's last purchase.
Frequency: It is the number of purchases made by the customer in a given period.
Monetary: It is the total amount of money spent by the customer in a given period.

Stages of analysis:

Step 1: Data Preparation

- Selected the timeframe for analysis: from 2021-08-01 to 2022-07-31.
- Calculated the total amount spent by each customer during this period.
- Calculated the number of purchases made by each customer during this period.
- Calculated the date of the last purchase made by each customer during this period.

Step 2: RFM Score Calculation

- Calculated the RFM scores for each customer based on their Recency, Frequency, and Monetary values.
- Assigned a score between 1 to 4 to each customer based on their Recency, Frequency, and Monetary values, with 4 being the highest score and 1 being the lowest score.
- Combined the three scores to create an overall RFM score for each customer.

Step 3: RFM Segmentation

- Segmented customers based on their RFM scores. Customers with high RFM scores are considered to be more valuable than those with lower scores.
- For example, customers with an RFM score of 4-4-4 (i.e., high recency, high frequency, and high monetary value) are considered to be the most valuable customers.

Segments:

1) **Best customers** are those who bought recently, buy often and spend the most.
   Customers with an RFM score of 4-4-4.
2) **Loyal customers** spend good money with us often.
   Customers with an RFM score of X4X.
3) **Whale segment** is customers who have generated the most money for this company.
   Customers who have not made a purchase in more than the last three months but were previously in the "Best Customers" segment.
   Customers with an RFM score of 1X3, 2X4, 2X3.
4) **Promising customers** who return often, but do not spend a lot.
   Customers with an RFM score of X4X, X3X, 22X, 212.
5) **Sleeping segment** is the best customers who haven't bought in awhile.
   Customers with an RFM score of 1XX, 211.
6) **Recent customers** are those who visit this site for the first time.
   Customers with an RFM score of 41X, 31X.
7) **Lost segment** is the customers who have the lowest recency, frequency and money.
   Customers with an RFM score of 111.

Step 4: Analysis and Insights

- Analysed the segments to understand the behaviour of different types of customers.
- Identified the most valuable segments
- Identified the least valuable segments and consider reducing marketing efforts to these customers.

RFM Segments

	RFM Segment	Total customers	Share of all customers	AVG Recency, days	AVG Frequency	AVG Money...
1.	Best Customers	254	14.41%	10.8	29.4	$11.11M
2.	Loyal Customers	375	21.27%	30.1	12.4	$4.89M
3.	Whales	142	8.05%	115.4	3.5	$2.31M
4.	Promising	550	31.2%	66.1	5.3	$1.32M
5.	Sleeping	144	8.17%	175.5	1.6	$632.95K
6.	Recent Customers	16	0.91%	44.9	1.5	$612.07K
7.	Lost	282	16%	226.8	1.3	$261K
	Grand total	**1,763**	**100%**	**88.9**	**9.2**	**$3.34M**

BEST CUSTOMERS
- Best customers - 14,41% of all users and 47.98% of all money.
- Best customers should be retained and engaged through loyalty programs, personalised offers, and excellent customer service to encourage repeat purchases.

LOYAL CUSTOMERS
- The second big segment is loyal customers - 21.27% of all users and 31.13% of all money. They spend good money with us often.
- For loyal customers, the company can improve loyalty programs.

WHALES CUSTOMERS
- Whale segment - 8.05% of all users and 5.57% of all money.
- Customers who have not made a purchase in more than the last three months but were previously in the "Best Customers" segment pose a risk of becoming inactive or even churning. As they were previously high-value and loyal customers, their inactivity could be indicative of a problem with the company's products, services, or communication. The risk of losing such valuable customers can result in a decline in revenue and impact the company's overall profitability.
- Therefore, it is crucial for the company to address their concerns and engage with them through personalised communication and targeted promotions to win them back and prevent further loss.
- Whales segment should be targeted with win-back campaigns, personalised offers, and incentives to encourage them to return to the platform.

PROMISING CUSTOMERS
- Promising customers who return often, but do not spend a lot. 31.2% of all users and 12.35% of all money.
- For promising customers, the company can focus on product recommendations based on past purchases.
- Promising customers should be encouraged to make another purchase through personalised recommendations, targeted promotions, and incentives such as free shipping or a discount on their next purchase.

There are several risks associated with Promising customers:
- Limited revenue potential: Although these customers are frequent buyers, they have a lower monetary value. This means that they may not generate as much revenue as other segments.

- Price sensitivity: Customers in this segment may be more price-sensitive and may be more likely to switch to a competitor if they find a better deal.
- Lack of loyalty: Although these customers are active and frequent buyers, they may not be loyal to the company and may switch to competitors if they find better deals or a more personalised experience elsewhere.

To reduce these risks, the company can focus on:

- Increasing the average order value: By encouraging customers in this segment to purchase higher-priced items or bundle purchases, the company can increase their monetary value.
- Offering personalised promotions: Offering personalised promotions based on their purchase history and preferences can help to increase loyalty and retention.
- Improving customer experience: By providing exceptional customer service and personalised experiences, the company can increase customer satisfaction and loyalty, reducing the likelihood of customers switching to competitors.

SLEEPING CUSTOMERS

- Sleeping segment is the best customers who haven't bought in awhile. 8.17% of all users and 1.55% of all money.
- For sleeping customers the company can offer price deals, new product launches, or other retention strategies.
- The Sleeping segment should be targeted with upsell and cross-sell offers to encourage them to increase their average order value and become "Best Customers".

RECENT CUSTOMERS

- Recent customers are those who visit this site for the first time. 0.91% of all users and 0.17% of all money.
- Customers in the "Recent Customers" segment may have a higher risk of churn, as they have only made one purchase so far and may not have established a strong loyalty to the company. It is important to engage with these customers and provide them with a positive experience to encourage repeat purchases and build long-term loyalty. Additionally, these customers may require more education about the company's products and services, so providing resources such as a knowledge base or FAQ section can be helpful in reducing their risk of churn.
- Recent customers should be engaged and nurtured through personalised welcome messages, educational content, and targeted promotions to encourage them to make repeat purchases and move into higher RFM segments.

LOST CUSTOMERS

- Lost segment is the customers who have the lowest recency, frequency and money. 16% of all customers and 1.25% of all money
- The company can revive the interest of lost customers with a reach out campaign.

Overall, the RFM analysis highlights the importance of personalization and customer retention for the company's growth and success. By targeting high-value customers, winning back at-risk customers, segmenting customers, and improving the overall customer experience, the company can increase revenue and build long-term customer loyalty.

Recommendations

- Expand Product Categories: While Women's Clothing, Women's Shoes, and Men's Clothing are the top-selling categories, the company should explore opportunities to expand into other categories to attract a more diverse customer base and increase revenue.
- Personalization: The company should explore ways to personalise the shopping experience for its users, such as through personalised recommendations based on their purchase history and browsing behaviour.
- Marketing Campaigns: The company should develop targeted marketing campaigns to attract new customers and retain existing ones, particularly in cities with high user density.
- Expand to Other Regions: Although Jakarta, Jawa Barat (Bandung), and Jawa Tengah (Semarang) are the top-performing cities, the company can also focus on expanding to other regions of Indonesia to tap into the potential for growth.

Based on the RFM analysis, the following recommendations can be made:

- Target High-Value Customers: The company should focus on retaining and nurturing its high-value customers, who have a high Recency, Frequency, and Monetary value. They can be targeted with personalised marketing campaigns and loyalty programs to encourage repeat purchases.
- Win Back At-Risk Customers: Customers with a low RFM score are at risk of churning. The company should implement win-back strategies, such as targeted promotions and incentives, to encourage these customers to make a repeat purchase and improve their RFM score.
- Segment Customers: The company should segment its customers based on their RFM score and tailor its marketing and promotional efforts accordingly. For example, high-frequency customers can be offered loyalty rewards, while at-risk customers can be targeted with special promotions to incentivize them to make a repeat purchase.
- Improve Customer Experience: The company should focus on improving the overall customer experience, including website usability, product quality, and delivery speed. Happy customers are more likely to make repeat purchases and recommend the company to others, which can lead to increased revenue.

Conclusion

In conclusion, the fashion e-commerce dataset provides valuable insights into the Indonesian market, which the company can leverage to make informed business decisions. By focusing on expanding product categories, personalization, and targeted marketing campaigns, the company can increase revenue, attract new customers, and retain existing ones.