

Lana Dashevsky

E-commerce Consumer profile research

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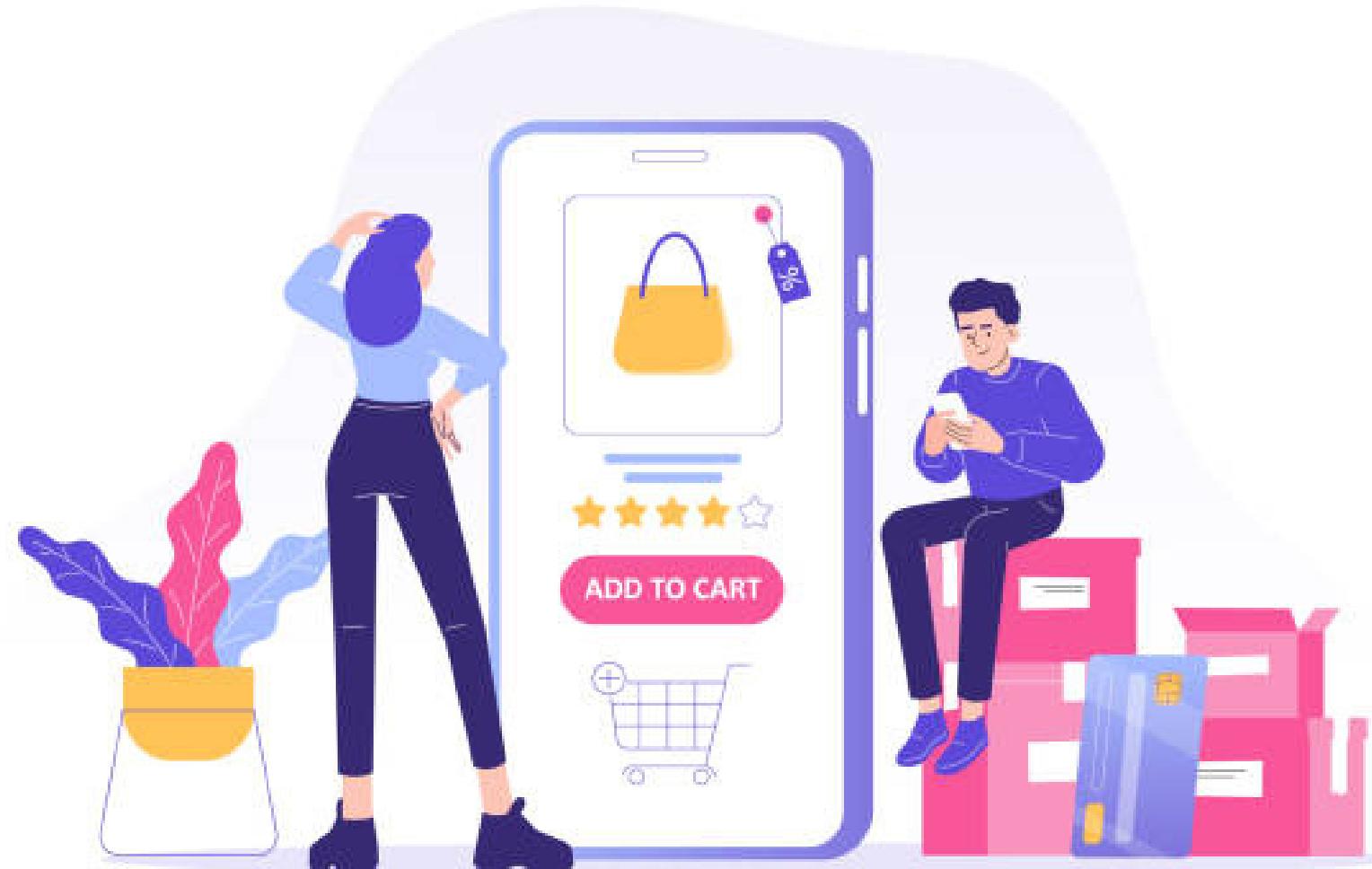
FINAL PROJECT PRESENTATION

A B O U T P R O J E C T

Our Goal

Understanding Customer Buying Patterns and Improving Sales through Data Analysis

In this analysis is to uncover insights about customer buying patterns, determine the most popular items sold, and identify areas for improvement in the sales process. Using the data our presentation will provide a comprehensive view of customer behavior and preferences. This information can be leveraged to optimize sales strategies, improve the customer experience, and ultimately drive growth for the business.



Lana Dashevsky :: Final Project

MAIN INFORMATION

Sales summary

Our store has seen significant growth in sales over the period December 2018 December 2019, with a total revenue of **9 256 610** by the end of the year. This growth was reflected in the number of total orders, which reached **493K** as well as the number of unique items sold, which came to 3989.

Additionally, the number of customers shopping with us also saw an increase, reaching a total of 4258.

These results demonstrate the success of our business and show the continued growth and potential for future success.

REVENUE

9 256 610

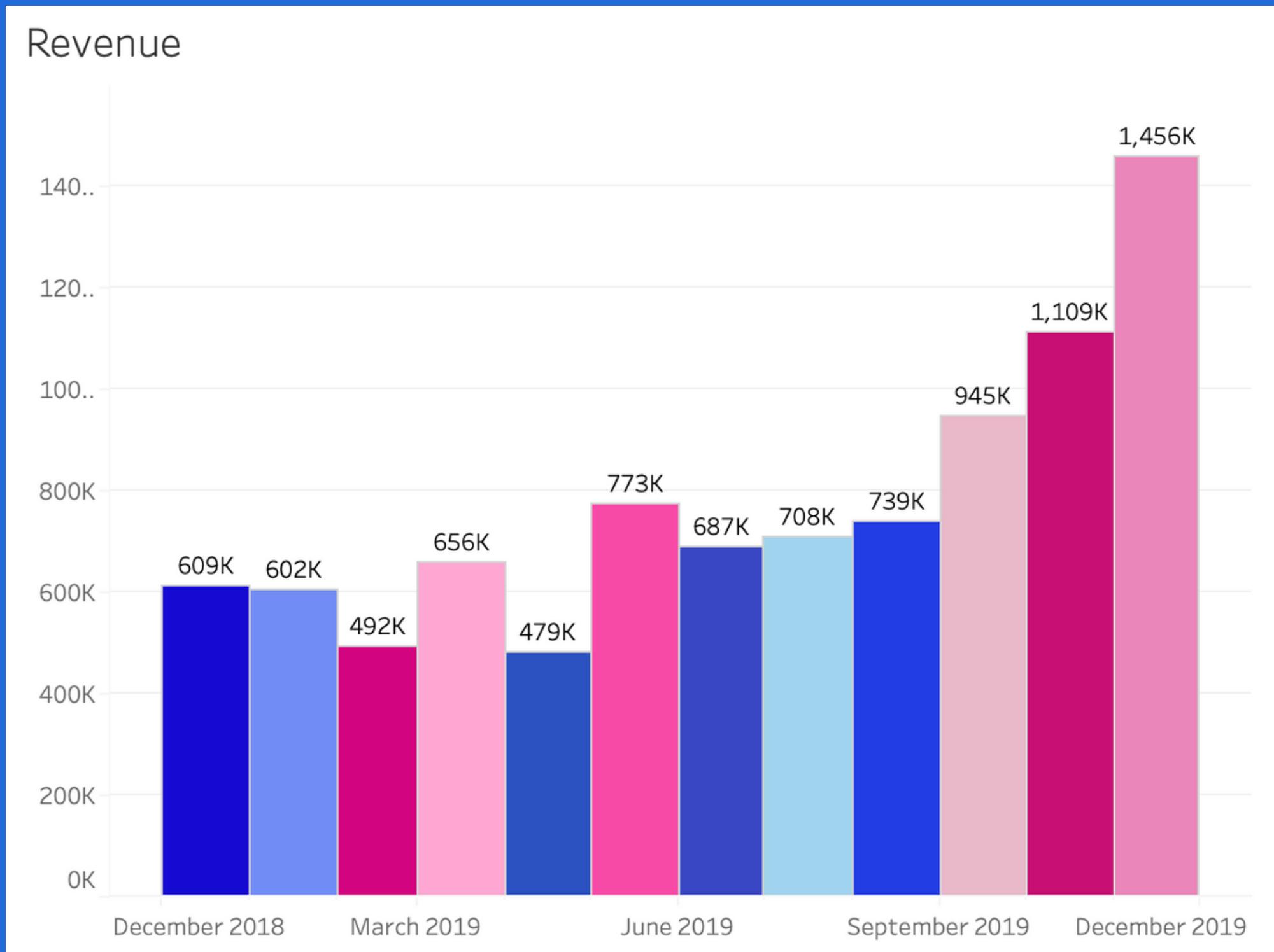
TOTAL ORDERS

493 003

CUSTOMERS

3 989

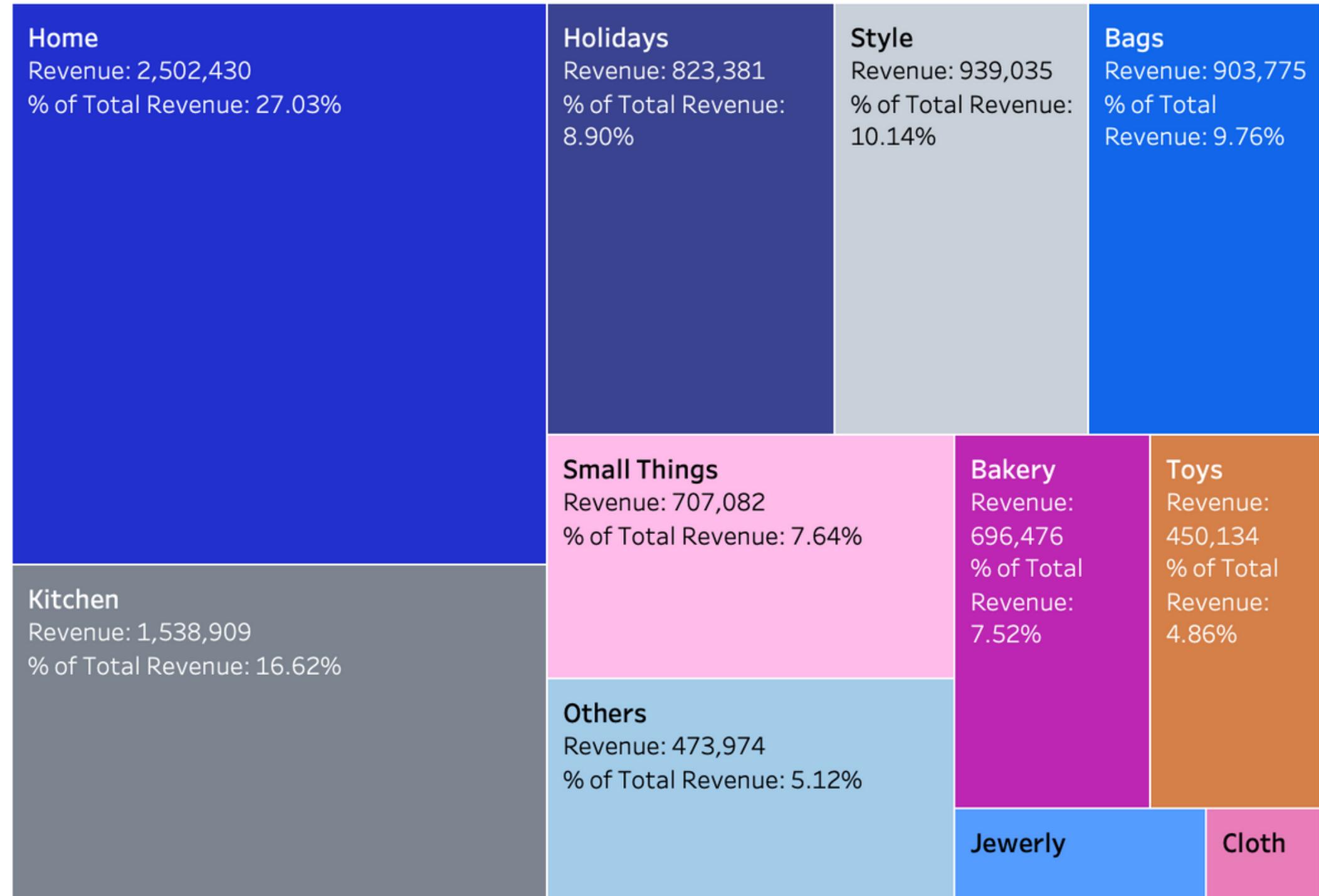
Revenue has increased a lot



The revenue for the year saw a significant increase, going from 609K in December 2018 to 1.456 million in November 2019.

This boost in sales was primarily attributed to the growth in the number of invoices and the quantity of items sold, while the average check saw limited change. The majority of the growth was observed in the months of September to November 2019.

Revenue by Categories



CATEGORIES

The data shows the revenue generated by 11 different product categories.

- Home category has the highest revenue of 2,178,970 and has 94,806 items sold.
- Kitchen category has the second-highest revenue of 1,285,457 and has 55,266 items sold.
- Style category has revenue of 793,798 and has 34,737 items sold.

By product category

Focus

Monitor

Increase

Promote

Diversify

Analyze



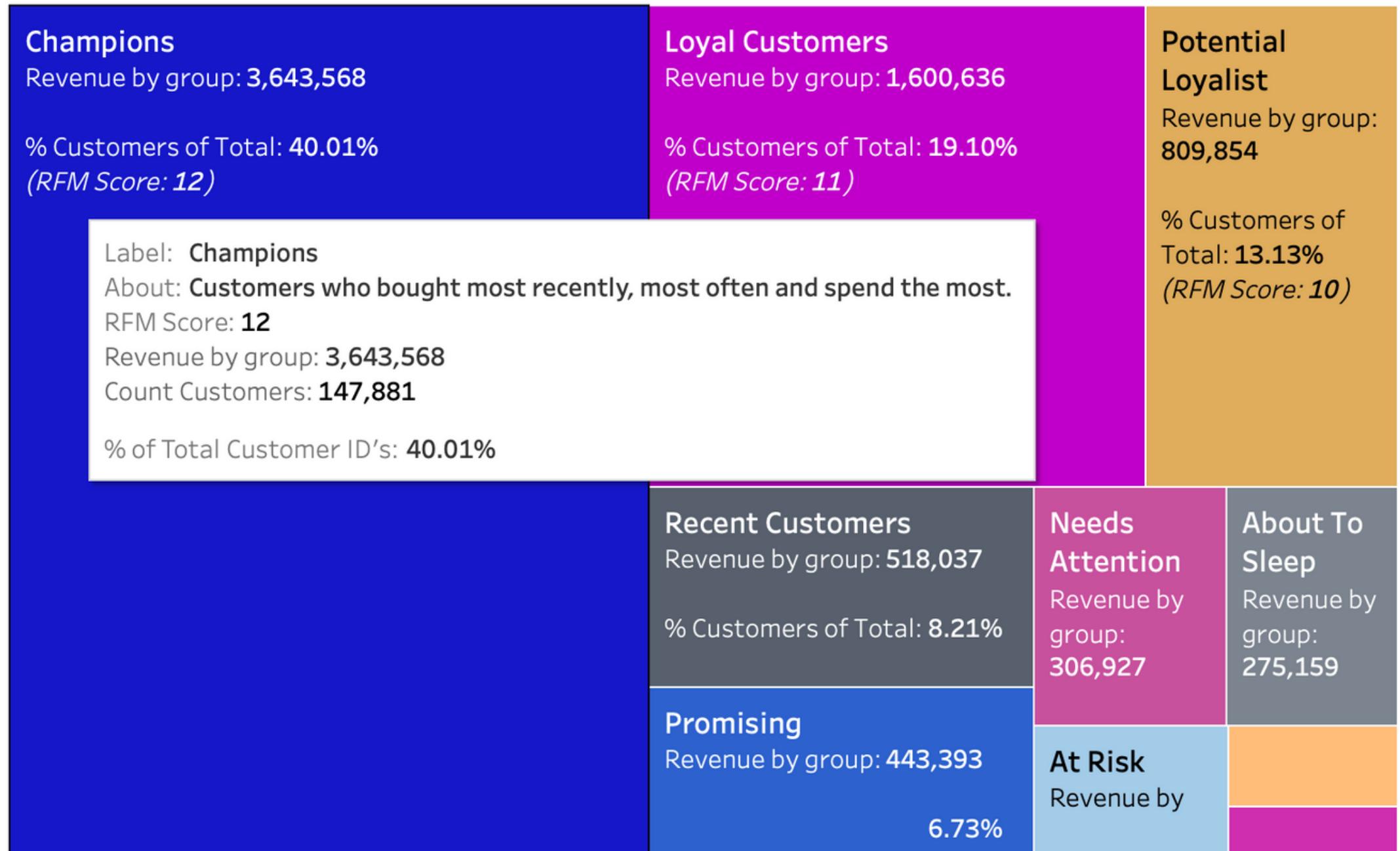
1. Focus on high revenue-generating categories: prioritize promoting and growing the Home, Kitchen, and Style categories, as they have the highest revenue.
2. Monitor low-revenue generating categories: monitor the Jewelry and Cloth categories, as they have the lowest revenue, to identify potential growth opportunities.
3. Increase average revenue per item sold: focus on increasing the average revenue per item sold in all categories, especially those with a low ratio of goods sold to revenue. This can be achieved by offering promotions, discounts, or upselling to customers.
4. Promote high-selling categories: focus on promoting categories with high numbers of items sold, such as the Home category.
5. Monitor categories with low item sales: monitor categories with low numbers of items sold, such as the Cloth category, to identify potential growth opportunities.
6. Diversify product offerings: consider diversifying its product offerings in categories with low revenue or low numbers of items sold, as this may attract new customers and increase overall revenue.
7. Analyze customer behavior: analyze customer behavior to understand which categories are most popular and why, and use this information to make informed decisions about product offerings and promotions.



Customers Segmentation

RFM segments customers based on recent purchases (recency), frequency of purchases, and monetary value of purchases. Champions and Loyal Customers are high-value customers and should be prioritized for retention and upselling. Potential Loyalist, Recent Customers, and Promising are moderate value customers that should be converted into loyal customers. Needs Attention, About To Sleep, At Risk, Can't Lose Them, and Hibernating are low-value customers that should be encouraged to make a purchase or retained with promotions and incentives.

RFM Segments



C U S T O M E R S

Key Customers

Champions and Loyal Customers are high-value customers, making up 49% and 18% of total revenue, respectively. Potential Loyalists have a high average monetary value and customer count and are good targets for building loyalty. Recent Customers have a lower average monetary value but higher frequency and customer count. The remaining segments have lower values and should be encouraged or incentivized to make purchases.

RFM Customer Segmentation Summary

Label	Avg_recency	Avg_frequency	Sum_Monetary_Value	Monetary_Value_mean	Customer_Count	%_of_all
Champions	5.693	14.987	3,889,227.020	8,642.727	450	49.109
Loyal Customers	19.449	7.864	1,439,768.920	3,759.188	383	18.180
Potential Loyalist	30.995	4.943	683,477.940	1,862.338	367	8.630
Recent Customers	41.843	3.673	527,132.941	1,358.590	388	6.656
Promising	57.304	2.878	370,637.040	962.694	385	4.680
Needs Attention	74.200	2.188	369,659.732	888.605	416	4.668
About To Sleep	82.540	1.606	259,124.880	534.278	485	3.272
At Risk	108.414	1.329	176,228.811	371.791	474	2.225
Can't Lose Them	176.017	1.124	134,600.990	283.371	475	1.700
Hibernating	256.514	1.000	69,654.590	160.494	434	0.880

RECOMMENDATIONS

Marketing Strategy for Customers



1. Focus on retaining and growing the "Champions" and "Loyal Customers" segments. **Offer them exclusive promotions, personalized communication, and loyalty programs to encourage repeat purchases.**
2. Re-engage the "Recent Customers" segment. **Offer targeted promotions, personalized communication, and incentives to encourage repeat purchases.**
3. Nurture the "Potential Loyalists" segment. **Offer targeted communication, personalized recommendations, and loyalty programs to encourage repeat purchases.**
4. Win back inactive customers in the "Needs Attention" and "About To Sleep" segments. **Offer targeted re-engagement campaigns, exclusive offers, and personalized communication to encourage these customers to make a purchase.**
5. Monitor the "At Risk" and "Can't Lose Them" segments. **Identify the root cause of their decreased activity and take action to retain these customers.**
6. Re-engage the "Hibernating" segment. **Offer targeted campaigns, incentives, and personalized communication to encourage these customers to make a purchase.**

Basket Analysis

We can also look at the data through the lens of seasonal basket analysis. This approach allows us to understand the purchasing patterns of customers during different times of the year. By analyzing the data, we can identify which items are commonly purchased together and whether these patterns change throughout the year. This information can be useful in predicting future sales, informing product placement, and developing targeted marketing strategies. Additionally, combining this information with the insights we gained about store operating hours could help us to better understand the needs of our customers and make informed decisions to further drive sales and growth.



Apriori generated association rules

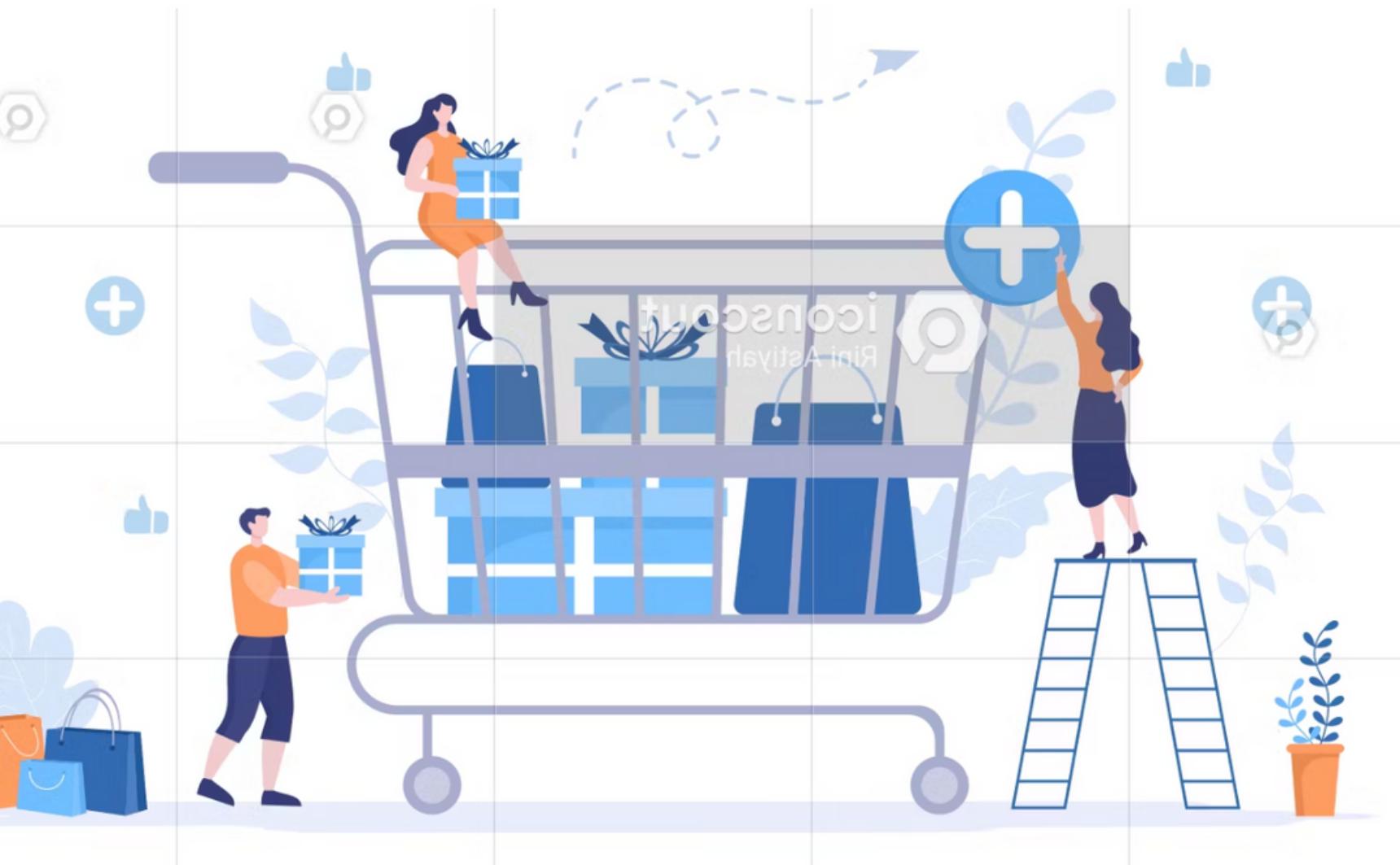
	antecedents	consequents	antecedent support	consequent support	support	confidence	lift	leverage	conviction
3	(pink regency teacup and saucer)	(green regency teacup and saucer)	0.031	0.038	0.025	0.819	21.651	0.024	5.322
4	(green regency teacup and saucer)	(roses regency teacup and saucer)	0.038	0.042	0.029	0.763	18.026	0.027	4.039
5	(roses regency teacup and saucer)	(green regency teacup and saucer)	0.042	0.038	0.029	0.682	18.026	0.027	3.026
1	(alarm clock bakelike green)	(alarm clock bakelike red)	0.042	0.047	0.028	0.671	14.156	0.026	2.894
2	(green regency teacup and saucer)	(pink regency teacup and saucer)	0.038	0.031	0.025	0.661	21.651	0.024	2.861
7	(jumbo bag pink polkadot)	(jumbo bag red retrospot)	0.048	0.088	0.030	0.620	7.042	0.026	2.400
0	(alarm clock bakelike red)	(alarm clock bakelike green)	0.047	0.042	0.028	0.593	14.156	0.026	2.357
15	(lunch bag pink polkadot)	(lunch bag red retrospot)	0.052	0.071	0.029	0.553	7.836	0.025	2.079
9	(lunch bag pink polkadot)	(lunch bag black skull.)	0.052	0.058	0.026	0.500	8.643	0.023	1.884
18	(lunch bag suki design)	(lunch bag red retrospot)	0.051	0.071	0.025	0.495	7.022	0.022	1.842

Rule 3: If a transaction contains "pink regency teacup and saucer", there is an 81.9% chance that it will also contain "green regency teacup and saucer". The lift value of 21.651 indicates that the presence of "pink regency teacup and saucer" increases the likelihood of "green regency teacup and saucer" by more than 21 times compared to if they were independent.

Rule 4: If a transaction contains "green regency teacup and saucer", there is a 76.3% chance that it will also contain "roses regency teacup and saucer". The lift value of 18.026 indicates that the presence of "green regency teacup and saucer" increases the likelihood of "roses regency teacup and saucer" by more than 18 times compared to if they were independent.

RECOMMENDATIONS

Basket Analysis



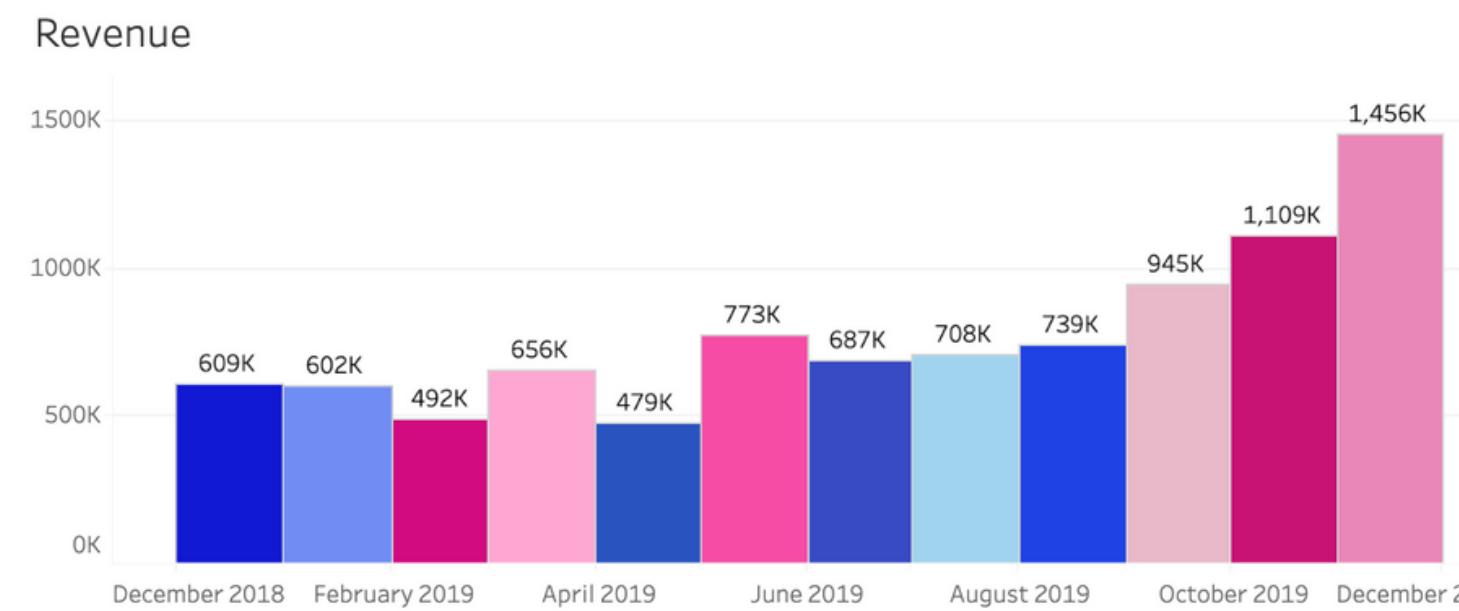
1. The difference in **buyer preferences highlights the importance of seasonal promotions and product offerings**. It's important for businesses to take into account the changing trends and adjust their product offerings accordingly.
2. To maximize sales, it's **recommended to analyze the data from each month to determine the most popular products and create targeted promotions for those items**. For example, during the months where picnic baskets are popular, it would be beneficial to offer discounts or bundle deals on picnic accessories such as blankets, cooler bags, or even wine.
3. In the months leading up to Christmas, the business can focus on promoting home decorations and Christmas trees, perhaps by offering a discount on multiple tree purchases or by showcasing a new line of holiday decorations.
4. By staying in tune with the changing trends and adapting the product offerings and promotions accordingly, a business can increase its sales and keep its customers engaged and interested.

HOW TO WORK?

Dashboard

SALES :: Overview

Revenue	Total Orders	Total Items	Total Customers
9,256,610	491,003	3,989	4,258

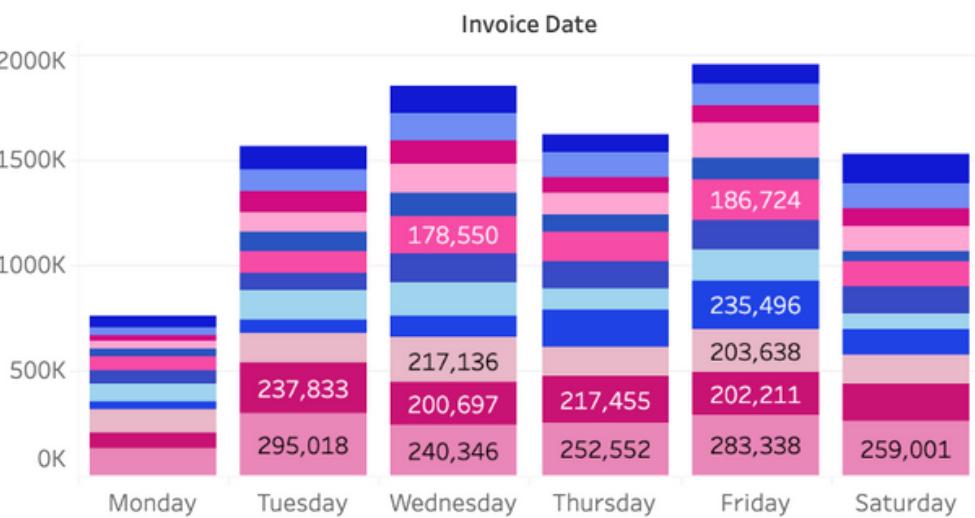


Control panel for filtering

MONTHS
December 2018
January 2019
February 2019
March 2019
April 2019
May 2019
June 2019

MONTH	Weekday	HOUR
December 2018	Monday	(All)
November 2019	Tuesday	(All)
July 2019	Wednesday	(All)
August 2019	Thursday	(All)
September 2019	Friday	(All)
October 2019	Saturday	(All)
November 2019	Sunday	(All)

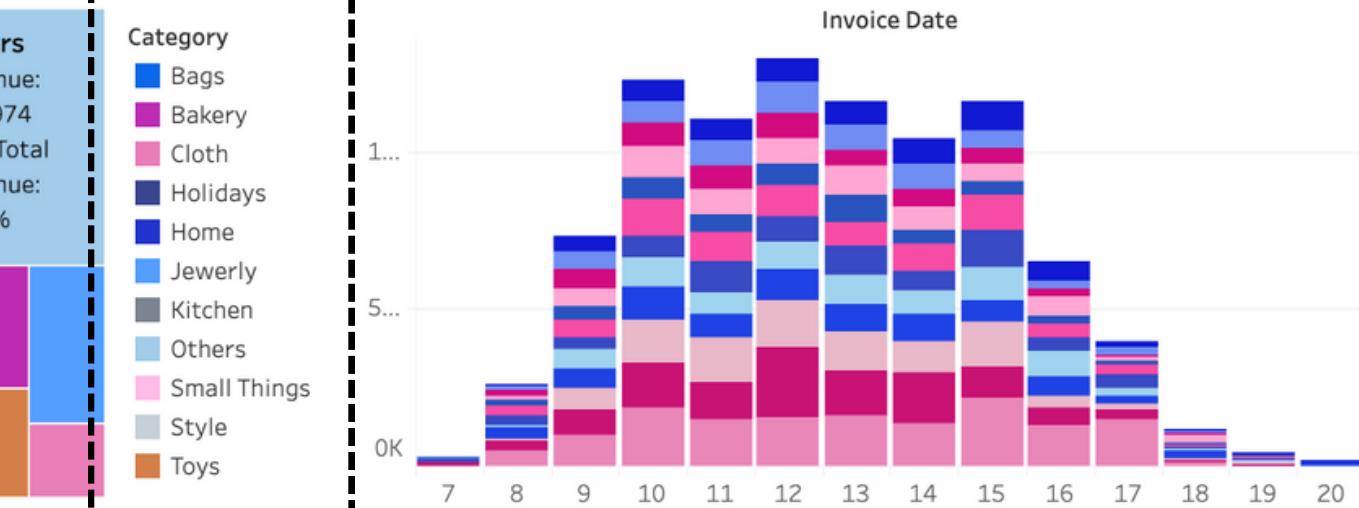
Revenue by Weekday



Revenue by Categories

Home Revenue: 2,502,430 % of Total Revenue: 27.03%	Holidays Revenue: 823,381 % of Total Revenue: 8.90%	Small Things Revenue: 707,082 % of Total Revenue: 7.64%	Others Revenue: 473,974 % of Total Revenue: 5.12%
Kitchen Revenue: 1,538,909 % of Total Revenue: 16.62%	Style Revenue: 939,035 % of Total Revenue: 10.14%	Bakery Revenue: 696,476	Toys Revenue: 450,134

Revenue by Hours



Category filters

Thank you!



THIS PRESENTATION WAS CREATED
BY LANA DASHESKY
FOR FINAL PROJECT
OF THE DATA ANALYTICS COURSE
BY PRACTICUM

EMAIL ADDRESS
lanita.mia@gmail.com

DASHBOARD FOR WORK
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