

Report Proposal

Introduction

Here we discuss how to make the report, what areas we will be analyzing and how to present it to the stakeholders.

Context

We are looking at ecommerce data for the years 2016, 2017 and 2018. The data is collected from different vendors instead of just one site/store. Each row represents a sale of an item. The data sheds light on the following features.

Product, Delivery Status, Purchase Date, Delivery Date, Price, Quantity, Product Category, Sales Commissions, Payment Method, Delivery Date, Market Price, Customer, Orders.

Audience

Our users are the executives who will need insights into making decisions that impact the complete company. We can think of their needs as follows.

If I am a CEO, I will want to know how much money I am making and why (Performance). I would like to know how much I will make in the future (Forecast). Is there anything to be done to optimize current processes to increase profits or credibility (Optimization). Is everything running smoothly or are there any hiccups along the way (Anomaly). What can I do to further make more money (Opportunity). What could potentially harm my company (Threat). What would my team advice I do (Recommendations).

Performance, Forecast, Efficiency, Anomaly, Risk (Opportunity, Threat, Probability Assessment), Recommendations.

Expanding on above.

1. Performance
 - a. Operational KPIs
 - b. Time Bound Stats
 - c. Other Metric Bound Stats
 - d. Long Term Objectives Accomplished (Strategic)

- e. Long Term Objectives Backlogged (Strategic)
- f. Short Term Objectives Accomplished (Tactical)
- g. Short Term Objectives Backlogged (Tactical)
- h. Industrial Benchmark Comparisons

2. Forecast

- a. Trajectory KPIs
- b. Future Time Bound Money-Making Metrics
- c. Future Time Bound Other Metrics
- d. Trajectory Modelling Given Scenario
- e. Metric Wise Trajectory Growth
- f. Metric Wise Trajectory Shortcomings

3. Optimization

- a. Process KPIs
- b. Resources Allocation KPIs
- c. Process Growth
- d. Process Shortcomings
- e. Resources Allocations to Process Performance ROI

4. Anomaly

- a. External Accomplishments
- b. External Backlogs
- c. Metric Bound External Growth (Positive)
- d. Metric Bound External Shortcomings (Negative)
- e. Metric Bound External Unexpected Growth (Positive)
- f. Metric Bound External Unexpected Shortcomings (Negative)
- g. Urgency of External Shortcoming KPI

5. Risk

- a. Opportunity
 - i. Top Growth KPIs
 - ii. Trace Metric Bound Growth
 - iii. Metric Bound Unexpected Growth
 - iv. Unexplored/Untapped Areas (High Risk)
 - v. Unexplored/Untapped High Growing Areas (Low Risk)
- b. Threat
 - i. Bottom Growth KPIs
 - ii. Trace Metric Bound Shortcomings
 - iii. Metric Bound Unexpected Shortcomings
- c. Probability Assessment

- i. Past Probability Distributions to Use for Hypothesis Testing of New Ideas
- 6. Recommendations
 - a. Internal Optimization KPIs
 - b. Internal Optimizations Collaboration Efforts
 - c. Seize Opportunity
 - d. Mitigate Threat

Business Goals

Here we define what metrics are important to us so we can explore how they react to other external factors. We are an ecommerce company, so our goals can be some of the following.

Increase sales. Increase profit. Increase customers. Increase repeat purchase rates. Increase product sales in each category. Allow quicker delivery. Increase positive reviews. Reduce negative reviews. Minimize employee team size. Minimize employee pay. Increase product variety. Increase customer segments. Increase payment methods. Increase customer order/cart size. Decrease refunds. Decrease in cancellations.

Given our goals, we can pinpoint our priority metrics as follows.

Orders, Revenue, Customers, Order Complete/Refund/Cancel, Payment Methods, Sales Commission, Payment Method, Purchase Date, Product Categories.

KPIs

We will use the following KPIs.

- 1. Performance
 - a. Total Sales
 - b. Total Orders
 - c. Average Order Value
 - d. Total Customers
 - e. Repeat Purchase Rate
 - f. Total Revenue Last Year
 - g. Top Product Category
 - h. Bottom Product Category

- i. New Customers Last Year (%)
- 2. Forecast (by Next Month or Next Year)
 - a. Total Sales
 - b. Total Orders
 - c. Estimated Revenue
 - d. New Customers
 - e. Customer Churn Rate
- 3. Risk
 - a. Opportunity
 - i. Customer Retention Rate
 - b. Threat
 - i. Total Refund/Cancellation (%)
 - ii. Refund/Cancellation Increase Last Year (%)
 - iii. Customer Churn Rate

Trends

We are interested in the following relations.

- 1. Performance
 - a. Time Bound Stats
 - i. Order Over Time
 - ii. Revenue Over Time
 - iii. Order By Product Category Over Time
 - iv. Revenue By Product Category Over Time
 - b. Other Metric Bound Stats
 - i. Order By Product Category
 - ii. Revenue By Product Category
 - iii. Order By Payment Method
 - iv. Revenue By Payment Method
 - v. Order By Price
 - vi. Revenue By Price
 - c. Long Term Objectives (Strategic)
 - i. New Customer Over Time
 - ii. Customers By Product Category
 - iii. Customers By Payment Method
 - iv. Customers By Price
 - d. Short Term Objectives (Tactical)
 - i. Sales Commission by Product Category

- ii. Sales Commission by Price
 - iii. Order By Product Category Over Price
- 2. Forecast (over the Next Month or Next Year)
 - a. Orders
 - b. Revenue
 - c. Orders by Product Category
 - d. Revenue by Product Category
 - e. Refunds/Cancellations by Product Category
 - f. Orders by Payment Methods
- 3. Anomaly
 - a. External Accomplishments/Backlogs
 - i. Revenue Change Per Month
 - ii. Order Change Per Month
 - iii. New Customer Per Month
 - iv. Price Vs Sale
 - b. Metric Bound External Growth (Positive)
 - c. Metric Bound External Shortcomings (Negative)
 - i. Refunds/Cancellation Over Time
 - ii. Refunds/Cancellation by Payment Method
 - iii. Refunds/Cancellations by Product Category
 - iv. Orders By Products Category Over Refunds/Cancellations
 - d. Urgency of External Shortcoming KPI
- 4. Risk
 - a. Opportunity
 - i. Top Growth KPIs
 - 1. Top Sales by Product Category
 - 2. Bottom Sales by Months
 - 3. Customer Retention Rate by Product Category
 - 4. Customer Lifetime Value
 - b. Threat
 - i. Bottom Growth KPIs
 - 1. Least Sales by Product Category
 - 2. Least Sales by Months

Pages

Now let's define our pages in the report.

1. Executive Summary

- a. KPIs
 - i. Total Sales
 - ii. Total Revenue Last Year
 - iii. New Customers Per Month
 - iv. Estimated Revenue
- b. Visuals/Charts
 - i. Orders Over Time
 - ii. Top Sales by Product Category

2. Sales

- a. KPIs
 - i. Total Sales
 - ii. Total Orders
- b. Visuals/Charts
 - i. Order Change Per Month
 - ii. Revenue Change Per Month
 - iii. Refunds/Cancellation Over Time

3. Products

- a. KPIs
 - i. Average Order Value
 - ii. Top Product Category
 - iii. Bottom Product Category
- b. Visuals/Charts
 - i. Order By Product Category Over Time
 - ii. Order By Product Category Over Price
 - iii. Revenue By Product Category Over Time

4. Customers

- a. KPIs
 - i. Total Customers
 - ii. Repeat Purchase Rate
 - iii. New Customers Last Year (%)
- b. Visuals/Charts
 - i. Customers By Product Category
 - ii. New Customer Per Month
 - iii. Customers By Price

5. Forecast

- a. KPIs
 - i. Orders

- ii. Estimated Revenue
 - iii. New Customers
 - iv. Refunds/Cancellations
 - b. Visuals/Charts
 - i. Orders Over Time
 - ii. Revenue Over Time
 - iii. Orders by Product Category Over Time
- 6. Threats
 - a. KPIs
 - i. Total Refund/Cancellation (%)
 - ii. Refund/Cancellation Increase Last Year (%)
 - iii. Customer Churn Rate
 - b. Visuals/Charts
 - i. Refunds/Cancellation Over Time
 - ii. Refunds/Cancellations by Product Category
 - iii. Least Sales by Product Category
- 7. Recommendations

Visuals

Now let's define our pages in the report.

- 1. Executive Summary
 - a. KPIs
 - i. Total Sales [Square]
 - ii. Total Revenue Last Year [Square]
 - iii. New Customers Per Month [Square]
 - iv. Estimated Revenue [Square]
 - b. Visuals/Charts
 - i. Orders Over Time [Line Chart]
 - ii. Top Sales by Product Category [Pie Chart]
- 2. Sales
 - a. KPIs
 - i. Total Sales [Square]
 - ii. Total Orders [Square]
 - b. Visuals/Charts
 - i. Order Change Per Month [Candle Stick Chart]
 - ii. Revenue Change Per Month [Candle Stick Chart]

- iii. Refunds/Cancellation Over Time [Bar Chart (Per Week)]
- 3. Products
 - a. KPIs
 - i. Average Order Value [Square]
 - ii. Top Product Category [Square]
 - iii. Bottom Product Category [Square]
 - b. Visuals/Charts
 - i. Order By Product Category Over Time [Multi Line Chart]
 - ii. Order By Product Category Over Price [Multi Line Chart]
 - iii. Revenue By Product Category Over Time [Multi Line Chart]
- 4. Customers
 - a. KPIs
 - i. Total Customers [Square]
 - ii. Repeat Purchase Rate [Square]
 - iii. New Customers Last Year (%) [Square]
 - b. Visuals/Charts
 - i. Customers By Product Category (Doughnut Chart?)
 - ii. New Customer Per Month [Bar Chart]
 - iii. Customers By Price [Line Chart]
- 5. Forecast
 - a. KPIs
 - i. Orders [Square]
 - ii. Estimated Revenue [Square]
 - iii. New Customers [Square]
 - iv. Refunds/Cancellations [Square]
 - b. Visuals/Charts
 - i. Orders Over Time [Line Chart]
 - ii. Revenue Over Time [Line Chart]
 - iii. Orders by Product Category Over Time [Multi Line Chart]
- 6. Threats
 - a. KPIs
 - i. Total Refund/Cancellation (%) [Square]
 - ii. Refund/Cancellation Increase Last Year (%) [Square]
 - iii. Customer Churn Rate [Square]
 - b. Visuals/Charts
 - i. Refunds/Cancellation Over Time [Line Chart]
 - ii. Refunds/Cancellations by Product Category [Doughnut Chart]
 - iii. Least Sales by Product Category [Vertical Bar Chart]

