



# PrimeCart E-Commerce Data Analysis

## CAPSTONE PROJECT

Data Analytics with Advanced SQL | Power BI |  
MySQL | DAX | Visualization

# About Project

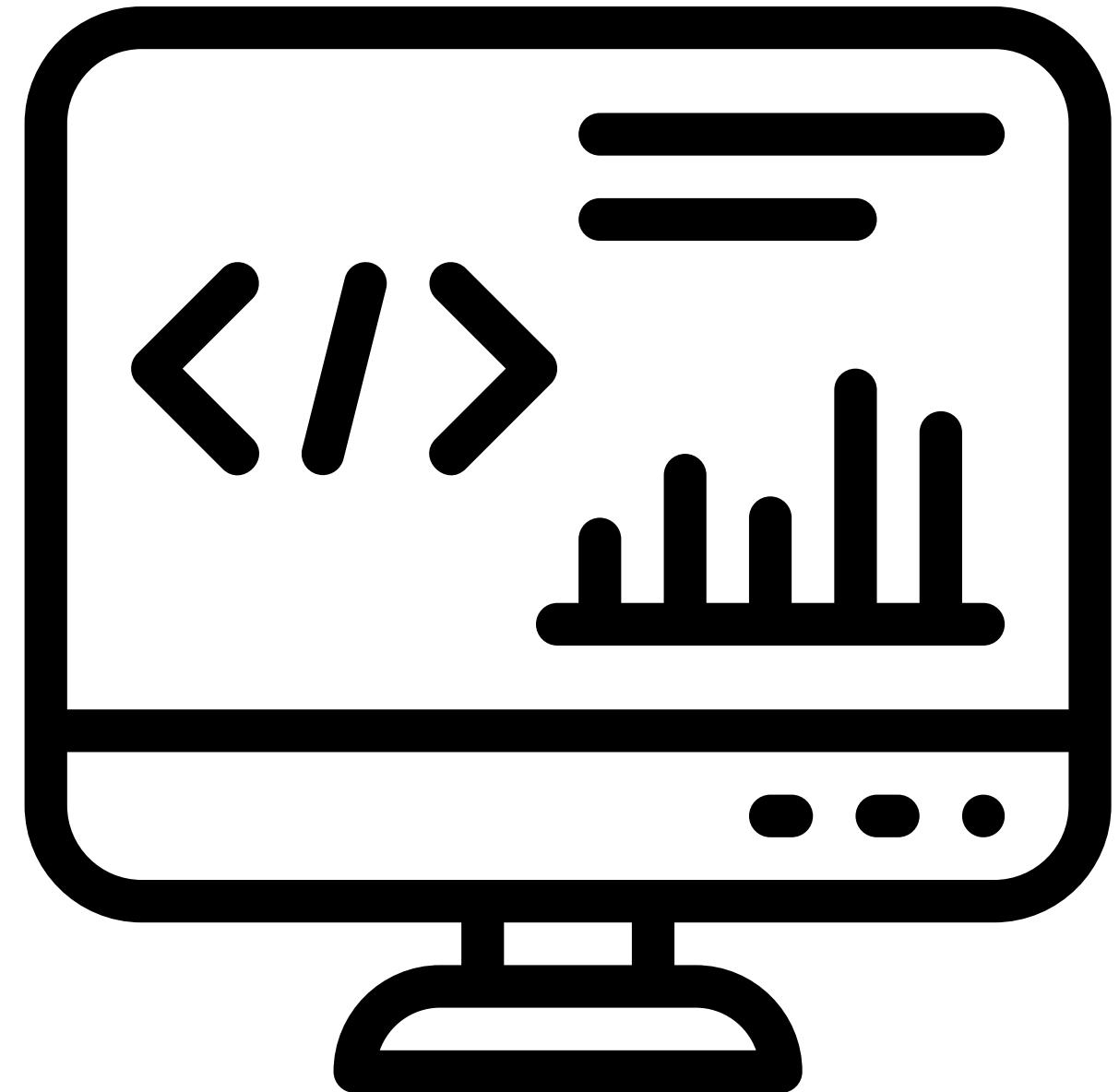
**As a Data Analyst at Target Sales Company, my role is to analyze and extract valuable insights from a diverse dataset comprising orders, customers, products, regions, and operational metrics**

**The objective is to support the company's strategic decision-making by identifying key trends in sales performance, customer behavior, and operational efficiency.**

**This project covers advanced SQL data extraction and interactive dashboard creation in Power BI/Tableau, providing a comprehensive view of business performance.**



# Phase 1: SQL Analysis – Advanced Queries



# Q1:-

--- 1. Customer Segmentation: Retrieve the number of unique customers who placed an order in the last 6 months.

## Syntax

```
SELECT  
    COUNT(DISTINCT user_id) AS unique_customers  
FROM  
    orders  
WHERE  
    STR_TO_DATE(SUBSTRING(created_at, 1, 19),  
        '%Y-%m-%d %H:%i:%s') >= DATE_SUB(UTC_TIMESTAMP(),  
        INTERVAL 6 MONTH);
```

## Result

	unique_customers
▶	26308

**Q2:-**

-- 2. Order Value Analysis: Calculate the total revenue generated per month for the last 12 months.

Syntax

```
SELECT  
    DATE_FORMAT(STR_TO_DATE(SUBSTRING(created_at, 1, 19),  
                            '%Y-%m-%d %H:%i:%s'),  
                '%Y-%m') AS order_month,  
    ROUND(SUM(sale_price), 2) AS total_revenue  
FROM order_items  
WHERE STR_TO_DATE(SUBSTRING(created_at, 1, 19),  
                  '%Y-%m-%d %H:%i:%s') >= DATE_SUB(UTC_TIMESTAMP(),  
                                             INTERVAL 12 MONTH)  
GROUP BY order_month  
ORDER BY order_month ASC;
```

Result

	order_month	total_revenue
▶	2024-02	25489.79
	2024-03	287833.16
	2024-04	304805.82
	2024-05	327796.78
	2024-06	322339.75
	2024-07	358282.45
	2024-08	392446.98
	2024-09	419358.79
	2024-10	446524.27
	2024-11	483770.63
	2024-12	592484.99
	2025-01	930429.36

### Q3:-

-- 3. Top Products: Identify the top 5 most sold products  
--- based on quantity ordered.

#### Syntax

**SELECT**

p.name AS product\_name, COUNT(\*) AS quantity\_ordered

**FROM**

order\_items oi

**JOIN**

products p ON oi.product\_id = p.id

**GROUP BY** p.id , p.name

**ORDER BY** quantity\_ordered DESC

**LIMIT** 5;

**Result**

	product_name	quantity_ordered
▶	Kavu Women's Rail Shorts	17
	Motherhood Maternity: Petite Secret Fit Belly(r)...	17
	Mundo Unico Men's Short Profundo Boxer	17
	Carhartt Men's Thermal Lined Duck Active Jacket	17
	Paul Fredrick Performance 100% Wrinkle \ Stain...	17

## Q4:-

-- 4. Customer Retention: Find customers who have placed more than 3 orders in the last year.

### Syntax

```
SELECT
    u.id AS customer_id,
    u.first_name,
    u.last_name,
    COUNT(o.order_id) AS order_count
FROM
    orders o
        JOIN
    users u ON o.user_id = u.id
WHERE
    STR_TO_DATE(SUBSTRING(o.created_at, 1, 19),
    '%Y-%m-%d %H:%i:%s') >= DATE_SUB(UTC_TIMESTAMP(),
    INTERVAL 1 YEAR)
GROUP BY u.id , u.first_name , u.last_name
HAVING COUNT(o.order_id) > 3;
```

### Result

	customer_id	first_name	last_name	order_count
▶	16674	Katherine	Howell	4
	20799	Ashley	Ayala	4
	27122	Christine	Reed	4
	31126	Hannah	Bryant	4
	64037	Erika	Rush	4
	74260	Jessica	Ryan	4
	74560	Bianca	Jones	4

## Q5:-

-- 5. Delivery Performance: Calculate the average delivery time  
-- (difference between order date and delivery date) for each distribution center.

### Syntax

```
SELECT
    dc.name AS distribution_center,
    ROUND(AVG(t.delivery_time), 2) AS avg_delivery_time_hours
FROM (
    SELECT DISTINCT
        o.order_id,
        p.distribution_center_id,
        TIMEDIFF(HOUR,
            STR_TO_DATE(LEFT(o.created_at, 19), '%Y-%m-%d %H:%i:%s'),
            STR_TO_DATE(LEFT(o.delivered_at, 19), '%Y-%m-%d %H:%i:%s')
        ) AS delivery_time
    FROM orders o
    JOIN order_items oi ON o.order_id = oi.order_id
    JOIN products p ON oi.product_id = p.id
    WHERE o.delivered_at IS NOT NULL
) t
JOIN distribution_centers dc ON t.distribution_center_id = dc.id
GROUP BY dc.id, dc.name;
```

### Result

distribution_center	avg_delivery_time_hours
Chicago IL	95.69
Port Authority of New York/New Jersey NY/NJ	96.26
Los Angeles CA	95.34
Mobile AL	95.96
Savannah GA	95.95
Charleston SC	94.87
Houston TX	95.09
Philadelphia PA	94.61
New Orleans LA	95.71
Memphis TN	95.12

**Q6:-**

-- 6. Sales by Region: Determine the top 3 cities  
--- that generated the highest revenue.

Syntax

```
SELECT
    u.city, ROUND(SUM(oi.sale_price), 2) AS total_revenue
FROM
    orders o
        JOIN
    order_items oi ON o.order_id = oi.order_id
        JOIN
    users u ON o.user_id = u.id
GROUP BY u.city
ORDER BY total_revenue DESC
LIMIT 3;
```

Result

	city	total_revenue
▶	Manaus	33813.4
	HULL	20316.38
	MÃilaga	8007.55

# Q7:-

-- 7. Inventory Turnover: Identify products that have been  
-- out of stock for more than 15 days in the last 3 months.

## Syntax

```
SELECT
    ii.product_id, p.name AS product_name
FROM
    inventory_items ii
        JOIN
    products p ON ii.product_id = p.id
WHERE
    STR_TO_DATE(LEFT(ii.created_at, 19),
                '%Y-%m-%d %H:%i:%s') >= DATE_SUB(NOW(), INTERVAL 3 MONTH)
GROUP BY ii.product_id , p.name
HAVING SUM(CASE
    WHEN ii.sold_at IS NULL THEN 1
    ELSE 0
END) = 0
    AND TIMESTAMPDIFF(DAY,
MAX(STR_TO_DATE(LEFT(ii.sold_at, 19),
                '%Y-%m-%d %H:%i:%s')), NOW()) > 15;
```

## Result

	product_id	product_name
▶	14043	Acrylic Tallit (imitation Wool) Prayer Shawl in Blu...
	14058	Adventure Time Marceline Seat Belt Buckle Belt
	28474	Alki Ribbed heavy gauge mens/womens warm ...
	28329	Alki cube mens/womens warm beanie snowboa...
	28343	Alki striped mens/womens warm beanie snowb...
	28349	BS-40 Vintage Style Full Grain Genuine 100% Le...
	28976	Barmah Squashy Cooper Australian Leather Hat...
	29099	Beza Geneva Money Clamp Black Matte with Wa...
	13801	Black & Silver Double Grommet Holes Belt
	14271	Black Cross Rodeo Rhinestone Western Bling Belt

## Q8:-

-- 8. Order Abandonment: Count the number of cancelled orders per month  
--- and find the month with the highest cancellation rate.

### Syntax

```
SELECT order_month, total_orders, cancelled_orders, cancellation_rate
FROM (
    SELECT
        DATE_FORMAT(STR_TO_DATE(LEFT(created_at, 19), '%Y-%m-%d %H:%i:%s'), '%Y-%m') AS order_month,
        COUNT(*) AS total_orders,
        SUM(CASE WHEN status = 'cancelled' THEN 1 ELSE 0 END) AS cancelled_orders,
        ROUND((SUM(CASE WHEN status = 'cancelled' THEN 1 ELSE 0 END) / COUNT(*)) * 100, 2) AS cancellation_rate
    FROM orders
    GROUP BY order_month
) sub
ORDER BY cancellation_rate DESC
LIMIT 1;
```

### Result

	order_month	total_orders	cancelled_orders	cancellation_rate
▶	2019-01	12	3	25.00

**Q9:-**

-- 9. Session Traffic Analysis: Identify the most common traffic source  
--- (e.g., Adwords, Email, Organic) that leads to a successful purchase.

Syntax

**SELECT**

**users.traffic\_source, COUNT(orders.order\_id)**

**FROM**

**users**

Syntax

**JOIN**

**orders ON users.id = orders.user\_id**

**GROUP BY users.traffic\_source**

**ORDER BY COUNT(orders.order\_id) DESC;**

Result

	traffic_source	COUNT(orders.order_id)
▶	Search	1545
	Organic	367
	Facebook	138
	Email	120
	Display	74

## Q10:-

-- 10. Discount Effectiveness: Find the conversion rate of users who used a discount code vs. those who didn't.

### Syntax

```
SELECT
    ROUND(
        (SELECT COUNT(DISTINCT o.user_id)
         FROM orders o
         JOIN order_items oi ON o.order_id = oi.order_id
         JOIN products p ON oi.product_id = p.id
         WHERE oi.sale_price < p.retail_price)
        / (SELECT COUNT(DISTINCT user_id) FROM events),
        4) AS discount_conversion_rate,
    ROUND((SELECT COUNT(DISTINCT o.user_id)
           FROM orders o
           WHERE o.user_id NOT IN (
               SELECT DISTINCT o2.user_id
               FROM orders o2
               JOIN order_items oi2 ON o2.order_id = oi2.order_id
               JOIN products p2 ON oi2.product_id = p2.id
               WHERE oi2.sale_price < p2.retail_price)))
        / (SELECT COUNT(DISTINCT user_id) FROM events),
        4) AS nondiscount_conversion_rate;
```

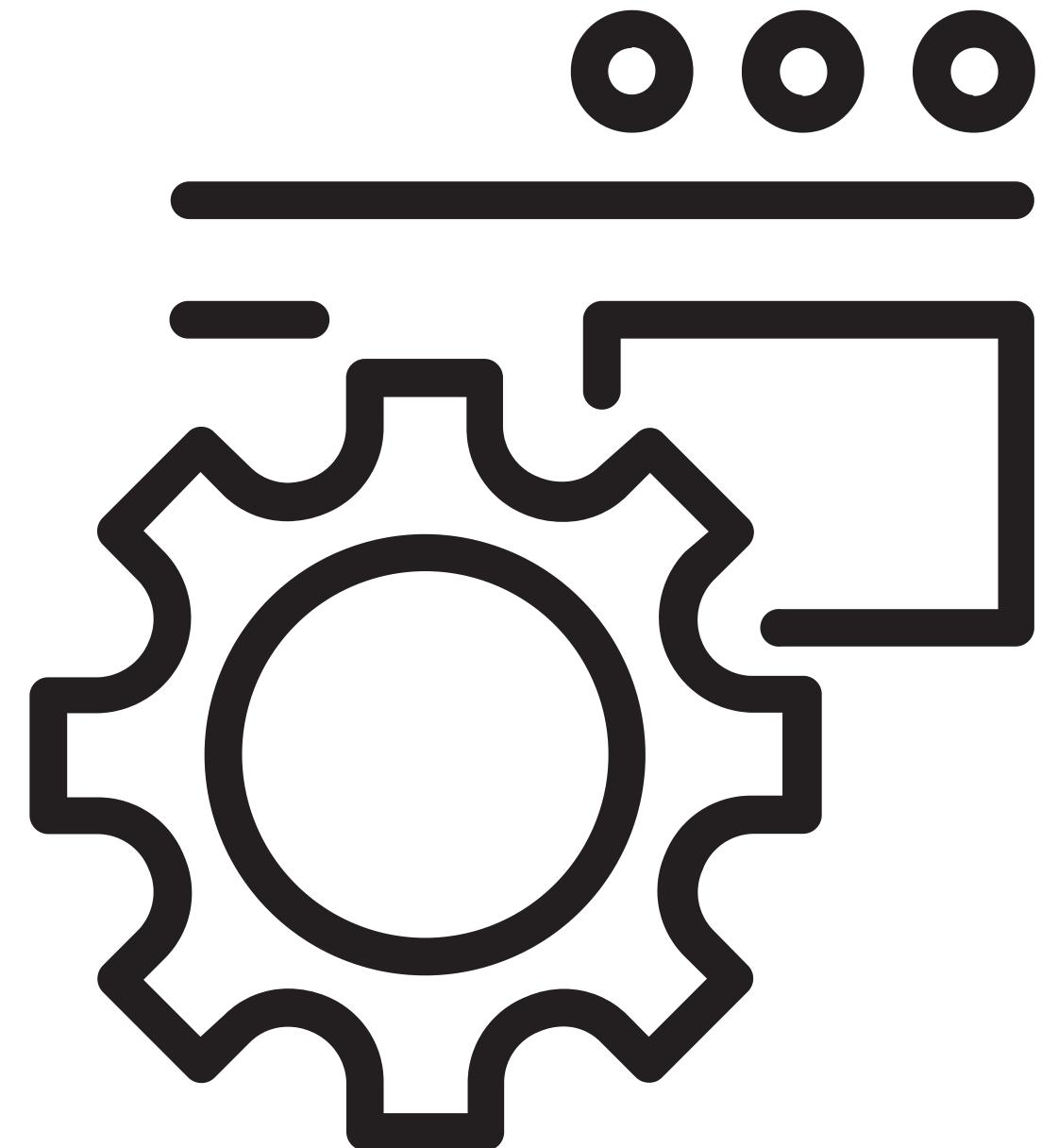
### Result

	discount_conversion_rate	nondiscount_conversion_rate
▶	0.0000	79927.0000

# Phase 2:

## Data Visualization

- Power BI



# Sales & Revenue Analysis Dashboard



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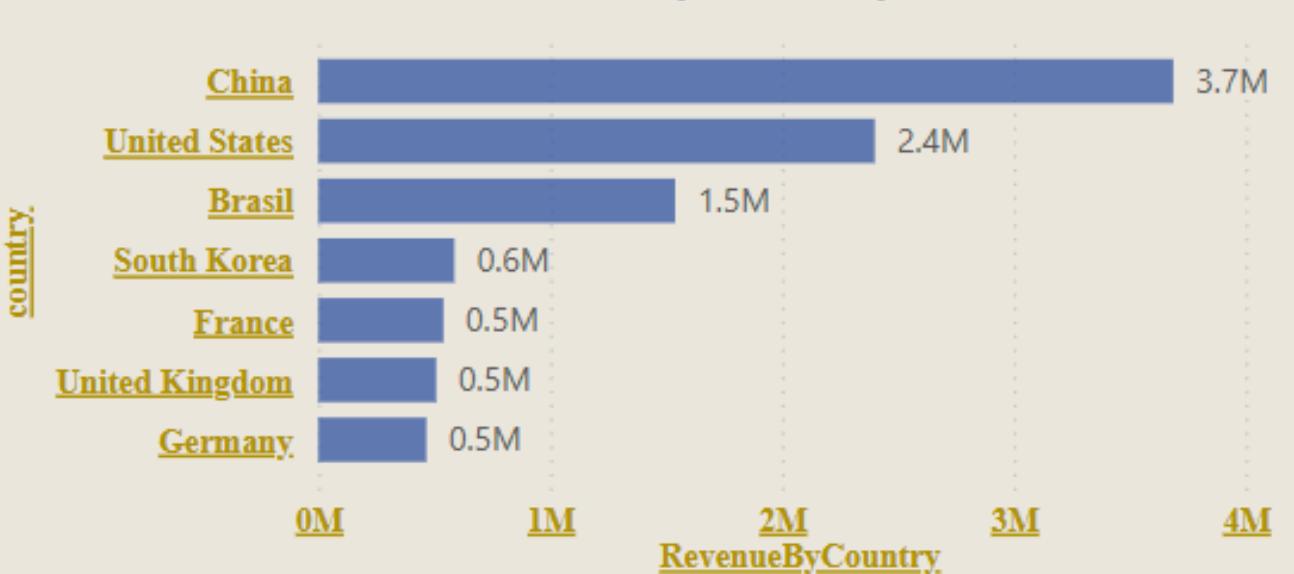
## PrimeCart E-Commerce Data Analysis Dashboard

[Sales & Revenue Analysis](#) | [Customer Analytics](#) | [Product & Inventory Performance](#) |  
[Order Fulfillment & Logistics](#) | [Marketing & Traffic Insights](#) | [Advanced Financial Reporting](#) |

### Revenue Trends Over Time



### Revenue By Country



### Monthly Revenue Breakdown

Month	Total Revenue
Jan	1,514,458.22
Dec	1,191,552.06
Nov	1,017,203.23
Oct	968,539.56
Sep	925,333.82
Aug	891,309.08
Jul	827,641.82
Jun	751,846.52
May	744,023.89
Apr	716,268.73
Mar	681,351.90
Feb	593,316.41
Total	10,822,845.25

### Total Sales By Traffic Source

traffic_source	Total Revenue
Display	439,425.17
Email	535,336.74
Facebook	658,354.40
Organic	1,623,579.90
Search	7,566,149.04
Total	10,822,845.25

### Total Sales Segmented By Country

country	Total Revenue
Australia	245,980.56
Total	10,822,845.25

### Total Sales Segmented By Category

category	Total Revenue
Accessories	418,686.70
Active	462,821.21
Blazers & Jackets	282,767.26
Clothing Sets	17,834.82
Dresses	463,791.16
Fashion Hoodies & Sweatshirts	648,656.73
Intimates	461,365.78
Jeans	1,232,843.36
Jumpsuits & Rompers	43,007.08
Leggings	86,404.21
Maternity	264,186.15
Total	10,822,845.25

### Total Sales Segmented By Brands

brand	Total Revenue
lit Jeans	5,001.28
[BLANKNYC]	3,719.10
007Lingerie	5,392.09
10 Deep	253.02
106Shades	727.65
12XLShop Inc.	342.61
180s	494.10
1826	151,995.58
1veMoon	3,101.87
1WorldSarong	22.95
Total	10,822,845.25

### Yearly Comparison of Revenue Growth

Year	Total Revenue
2024	4,466,121.56
2023	2,369,354.71
2022	1,501,037.14
2025	915,647.14
2021	913,867.93
2020	504,821.18
2019	151,995.58
Total	10,822,845.25

# Customer Analytics Dashboard

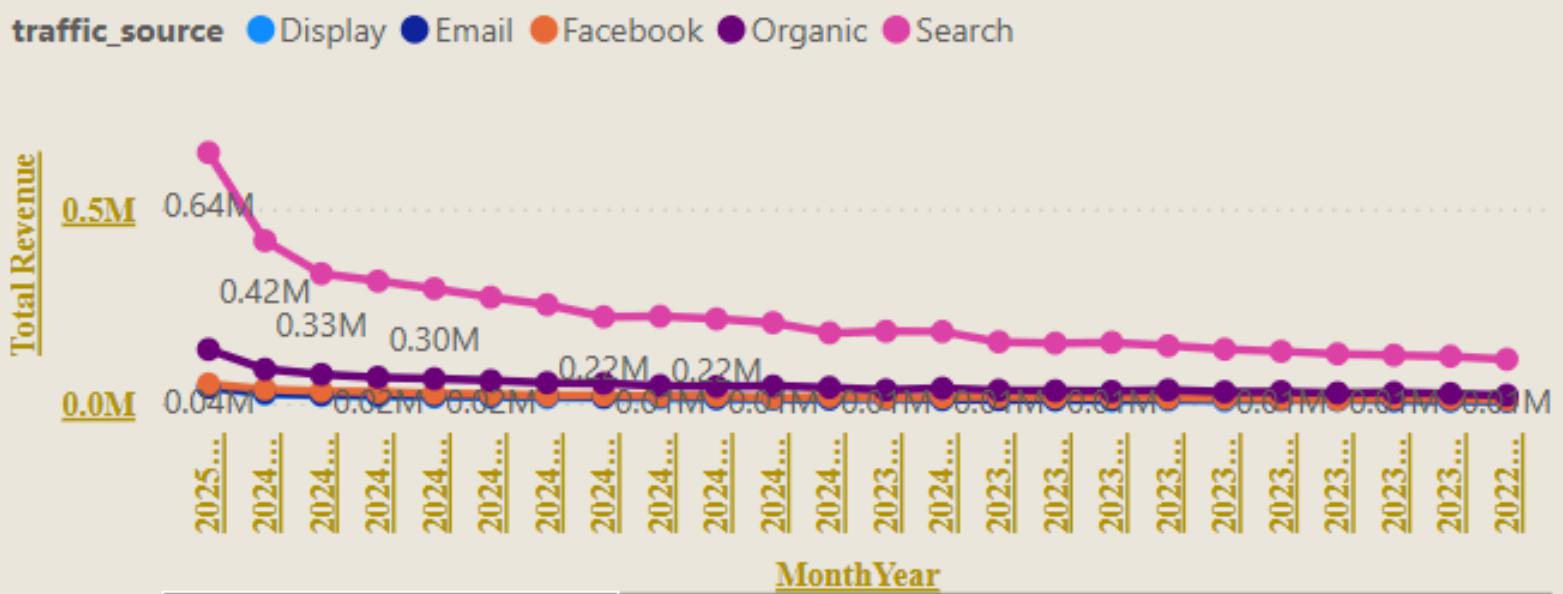


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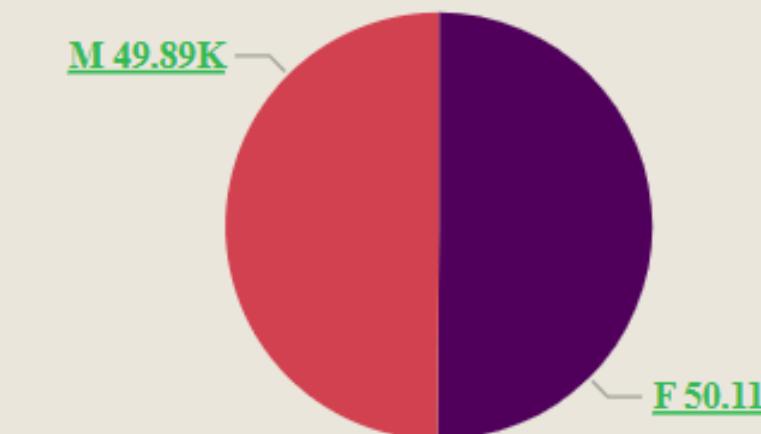
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[Order Fulfillment & Logistics](#) | [Marketing & Traffic Insights](#) | [Advanced Financial Reporting](#) |

### Customer Engagement Over Time



### Customer Demographics Segmentation By Gender



100K

TotalCustomers

1.00

RetentionRate

100K

ReturningCusto...

108.23

CLV Customer ...

4.12

Conversion Rate

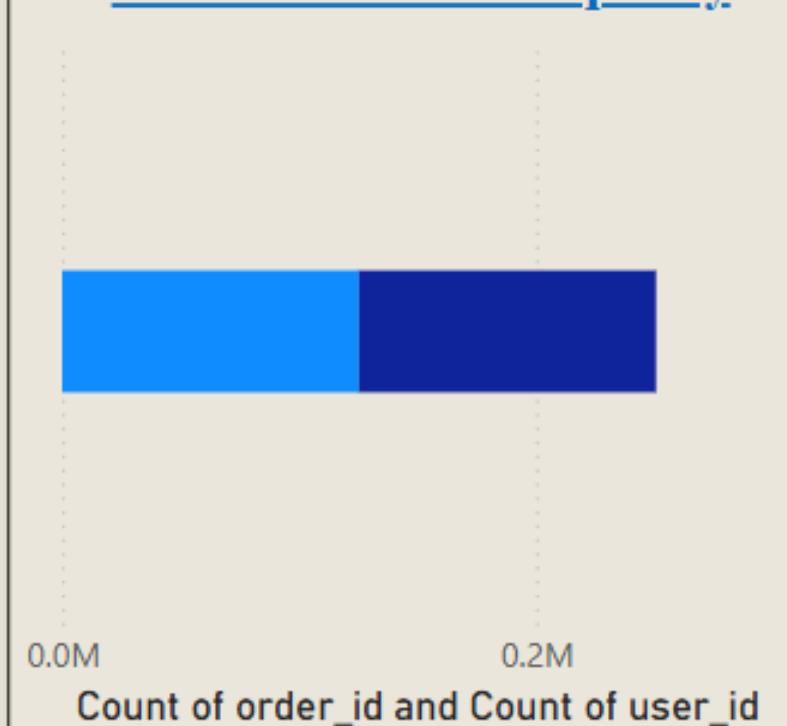
1

New Customers

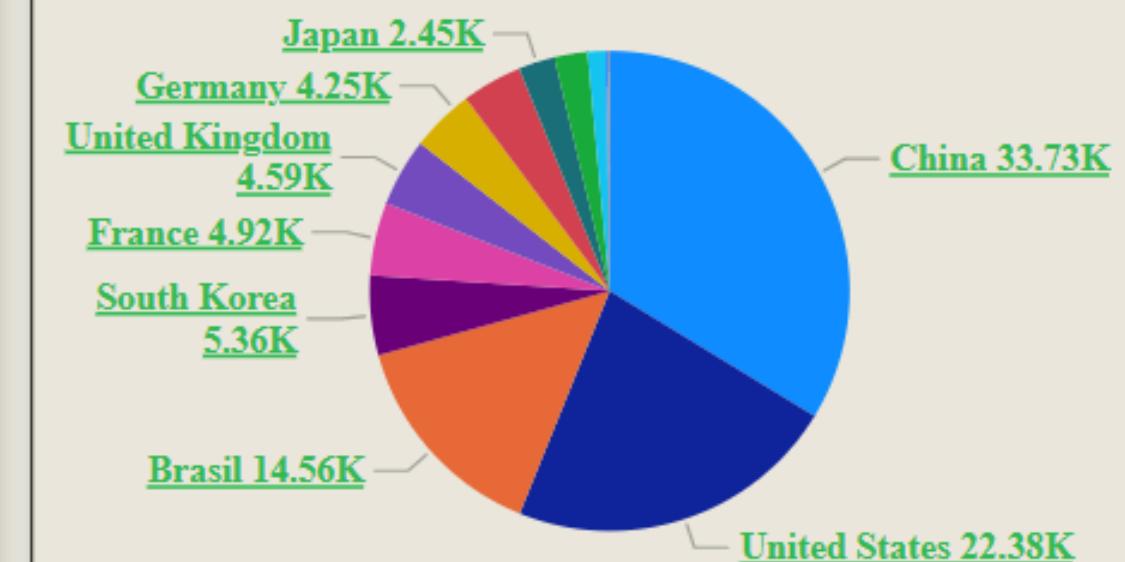
### Trends in New vs. Returning Customers



### Customer Order Frequency



### No. of Users From Different Countries



# Product & Inventory Performance Dashboard



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[Order Fulfillment & Logistics](#) | [Marketing & Traffic Insights](#) | [Advanced Financial Reporting](#) |

### Low-Stock and Out-of-Stock Items Report

product_name	Count of id
Wrangler Men's Premium Performance Cowboy Cut Jean	136
True Religion Men's Ricky Straight Jean	108
Puma Men's Socks	98
Thorlo Unisex Experia Running Sock	91
Volcom Men's Vorta Slim Straight Leg Fit Jean	90
7 For All Mankind Men's Standard Classic Straight Leg Jean	88
Bjorn Borg Men's Side Stretch Solid Boxer Brief	88
Wrangler Men's Rugged Wear Classic Fit Jean	87
Duofold Men's Midweight Ankle Length Bottom	85
neff Men's Daily Sunglass	84
Wrangler Men's Wrancher Dress Jean	82
Pearl iZUMi Attack Sock 3-Pack	81
Wrangler Men's Genuine Tampa Cargo Short	81
Wrangler Men's Sarasota Agility Short	81
FULL TILT Basic Womens Hoodie	80
Gold Toe Women's 3-Pack Comfort Crew Athletic Sock	80
Volcom Men's Nova Modern Straight Leg Fit	77
State O Maine Big and Tall Fashion Flannel Pajama	74
Wrangler Men's 20x Collection Jean	74
HUGO BOSS Men's Hooded Robe	73
HUGO BOSS Men's Long Pant	73
Michael Kors Men's 3 Pack Brief	73
Thorlo Women's Thick Cushion Hiking Sock	73
Joseph Abboud Men's Two-Button Side Vent Sport Coat	72
<b>Total</b>	<b>490216</b>

### Demand Fluctuations Across Months



13.05

[Inventory Turnover](#)

77.19

[Sell Through Rate](#)

0.37

[Stockout Rate](#)

### Inventory Health Monitoring

142.04

Goal: 19, 679084



# Order Fulfillment & Logistics Dashboard

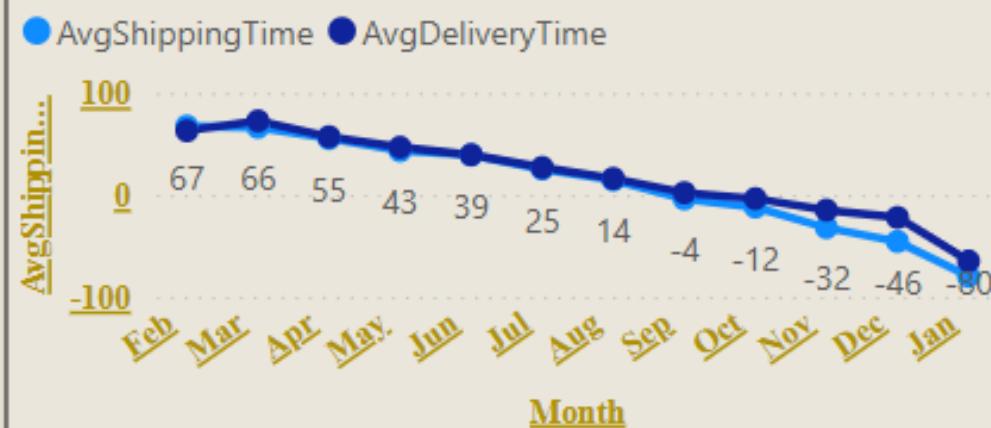


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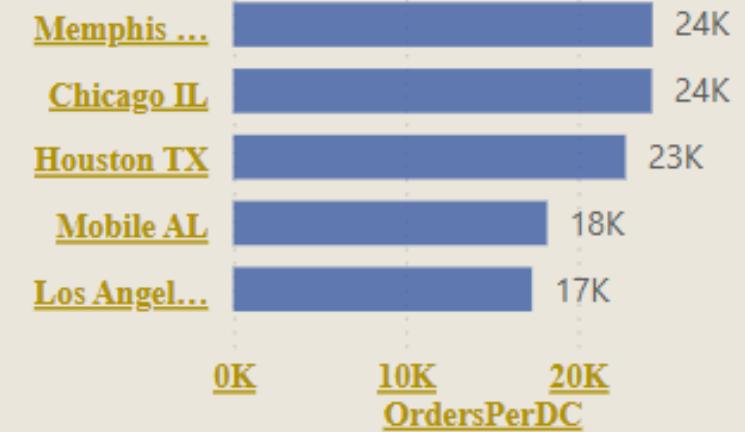
### Trends in Shipping and Delivery Times



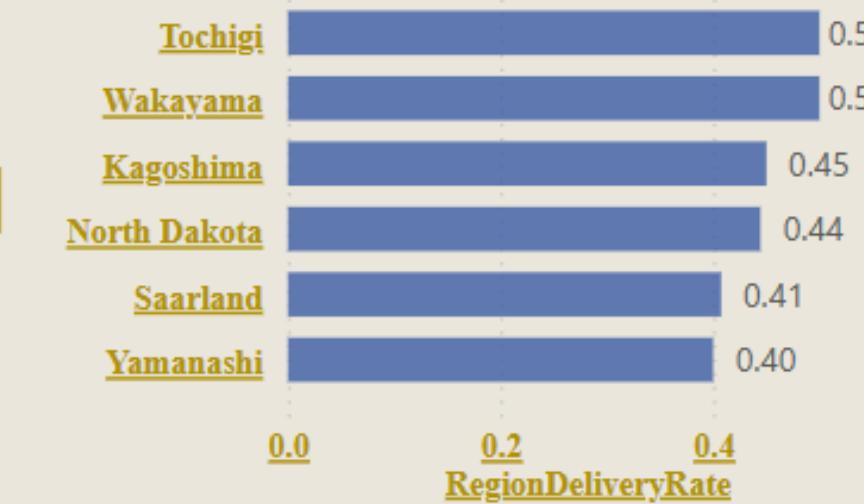
### Trends in Shipping and Delivery Times

Month	AvgShippingTime	AvgDeliveryTime
Feb	67.35	62.76
Mar	66.19	72.52
Apr	55.19	56.94
May	43.13	46.66
Jun	38.95	39.30
Jul	25.27	26.85
Aug	14.46	16.03
Sep	-4.11	2.01
Oct	-12.11	-3.75
Nov	-32.26	-15.03
Dec	-45.83	-22.28
Jan	-80.06	-64.98
Total	-0.53	7.84

### Distribution Center Performance Analysis



### Regional Order Fulfillment Efficiency



0.15

ReturnRate

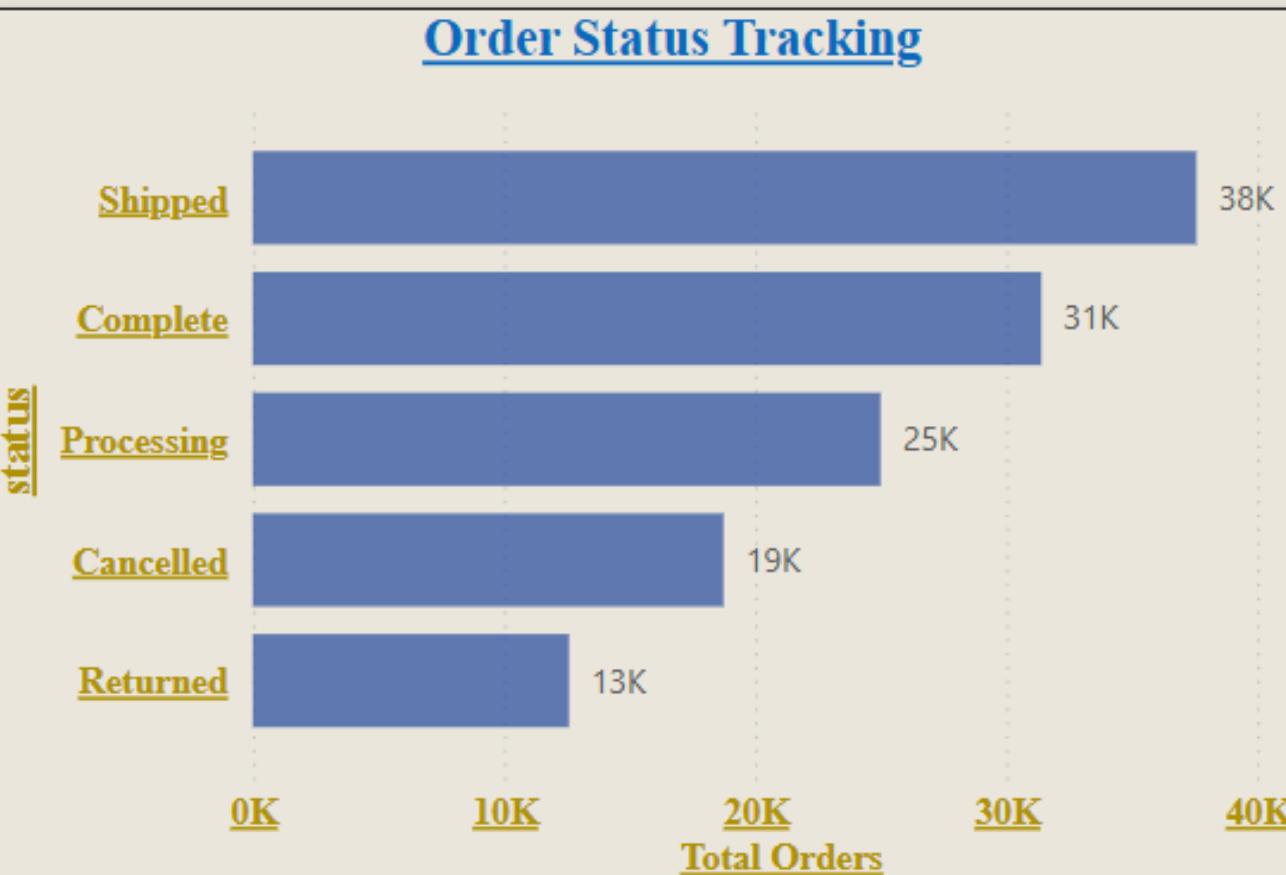
0.63

OnTimeDeliveryRate

-0.53

AvgProcessingTime

### Order Status Tracking



### Distribution Center Efficiency Score

	name	DC_Efficiency_Score
Savannah GA		51,676.31
Port Authority of New York/New Jersey NY/NJ		52,346.18
Philadelphia PA		52,333.81
New Orleans LA		51,889.43
Mobile AL		52,485.94
Memphis TN		53,348.43
Los Angeles CA		52,331.17
Houston TX		53,069.67
Chicago IL		53,259.39
Charleston SC		52,305.05
Total		50,127.60
		73,896.26

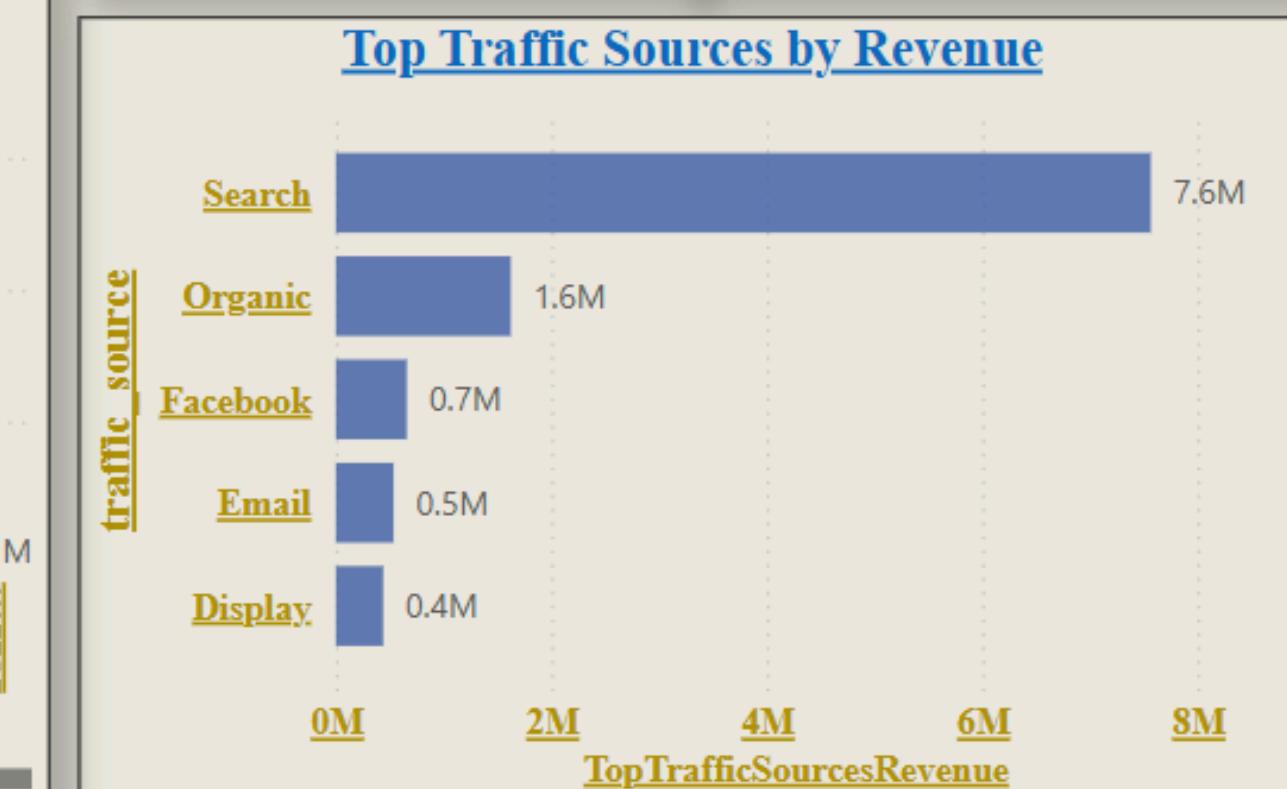
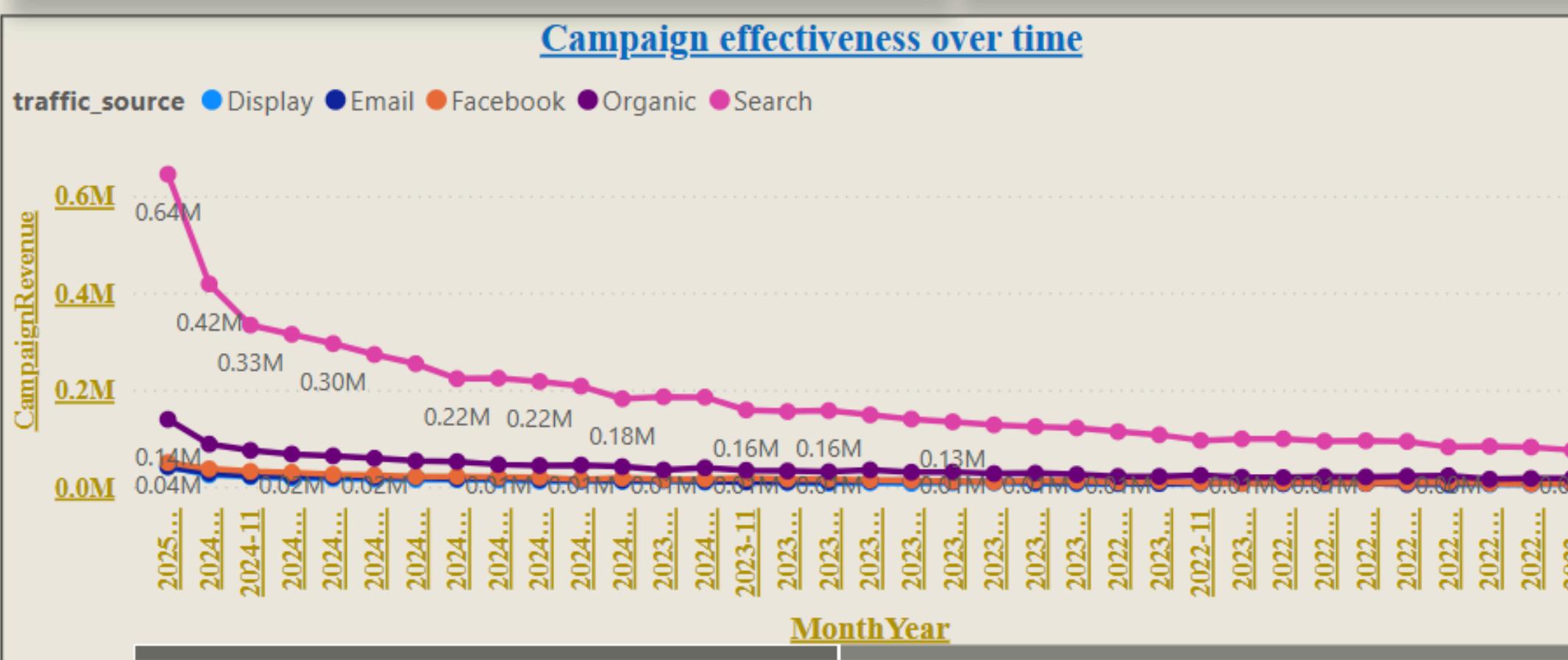
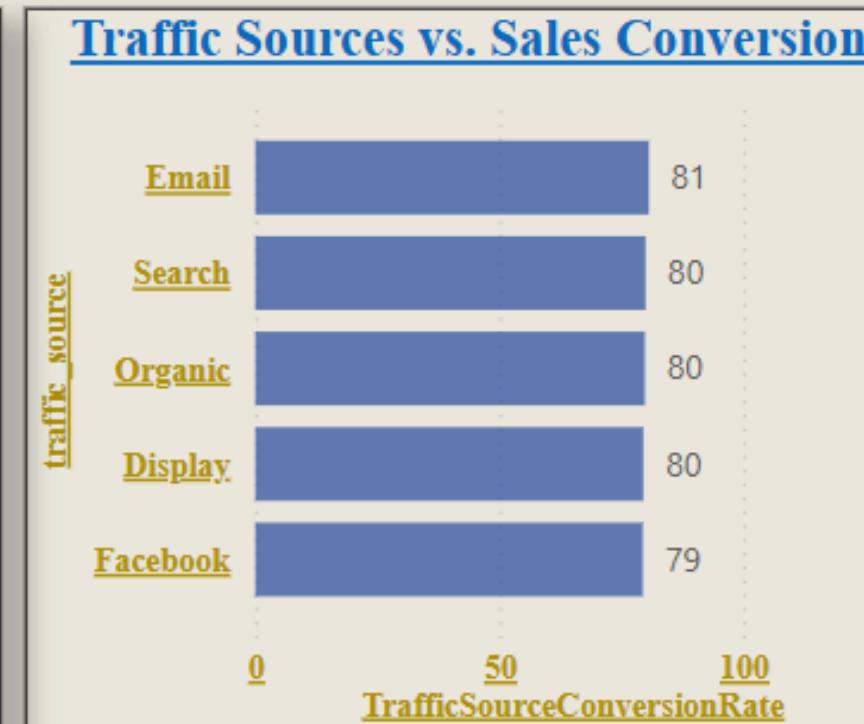
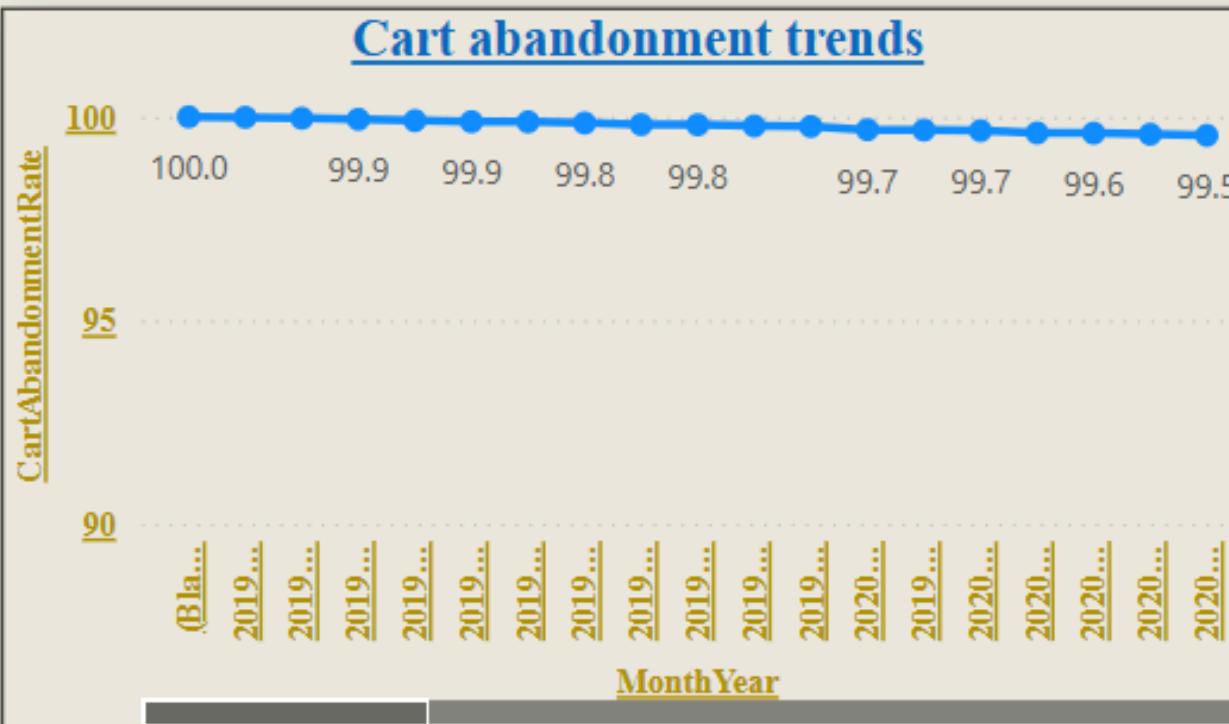
# Marketing & Traffic Insights Dashboard



E-commerce

## PrimeCart E-Commerce Data Analysis Dashboard

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[Order Fulfillment & Logistics](#) | [Marketing & Traffic Insights](#) | [Advanced Financial Reporting](#) |



# Advanced Financial Reporting Dashboard



E-commerce

# PrimeCart E-Commerce Data Analysis Dashboard

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## Revenue per Customer

<b>id</b>	<b>first_name</b>	<b>last_name</b>	<b>RevenuePerCustomer</b>
1	Matthew	Allen	36.00
2	Brenda	Charles	139.99
3	Tina	Smith	131.66
5	Jasmine	Dunn	52.63
7	Kristen	Thomas	52.99
12	Kim	Kelley	128.23
13	Elizabeth	Morris	118.08
14	Michael	Sutton	265.59
15	Brandi	Erickson	109.33
<b>Total</b>			<b>135.41</b>



**40.00%**

5.62M  
NetProfit

**51.92%**

**5.20M**

**27.06M**  
Estimated BEP Rev

**5.62M**  
GrossProfit

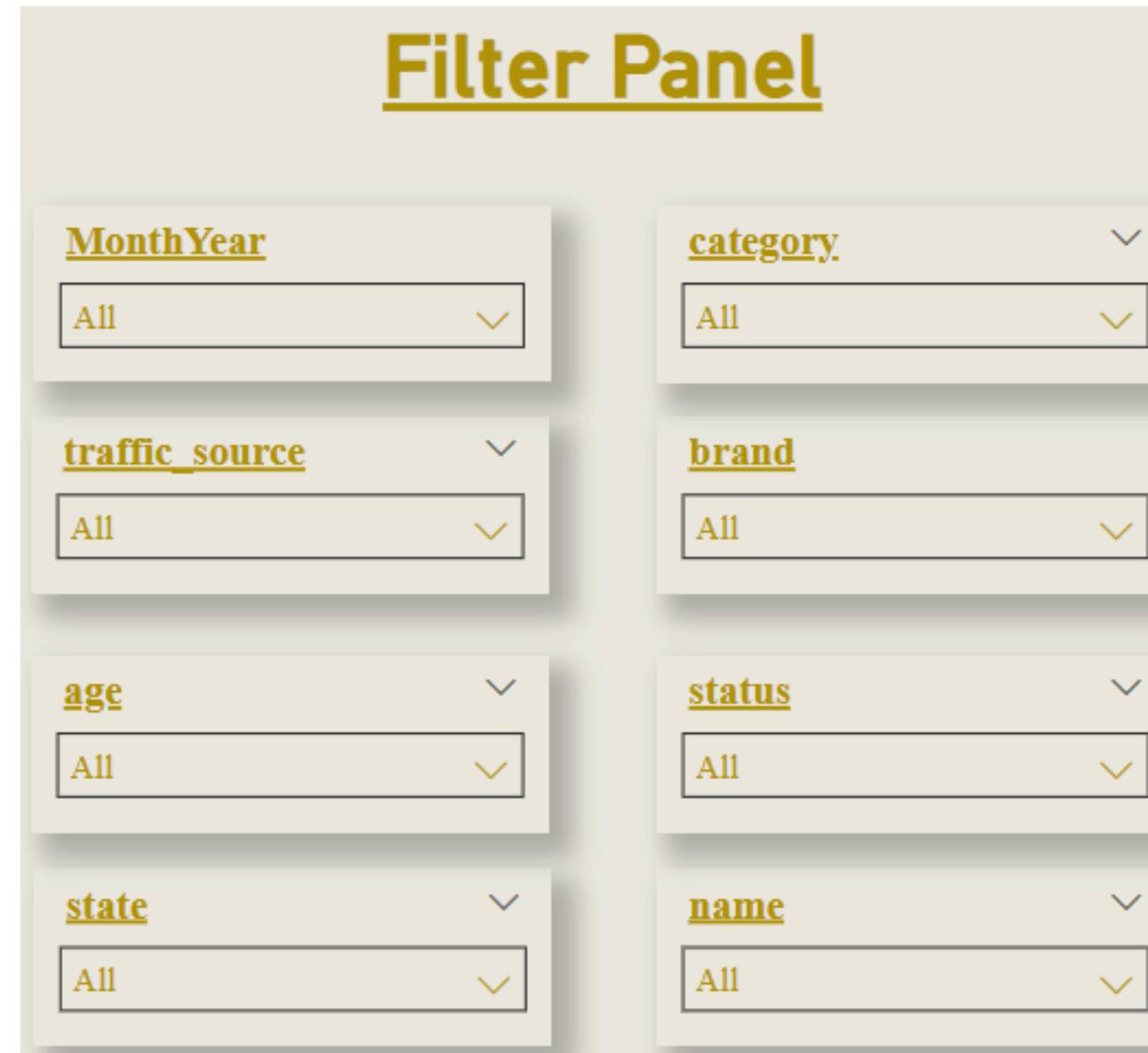
## Profitability trends by product

Outerwear & Coats		Sweaters		Sleep & Lounge	Active	Intimates	Pants
RevenueByProduct	RevenueByProduct	RevenueByProduct	Est...	RevenueByPr...	Revenue...	Revenue...	Revenue...
		Suits & Sport Coats		Shorts	Estimate...	Estimate...	Estimat...
EstimatedProfitByProdu...		RevenueByProduct	Est...	RevenueByPr...	Accessories	Unde...	Pant...
Jeans	RevenueByProduct	Fashion Hoodies & Sw...		Tops & Tees	Revenue...	Reven...	Reve...
		RevenueByProduct	Est...	RevenueByPr...	Blazers & J...	Rev...	Re...
RevenueByProduct	Es...	Swim		Dresses	Revenue...		
		RevenueByProduct	Est...	RevenueByPr...	Maternity	Skirts	

## Profitability trends by region

The treemap visualization illustrates the distribution of revenue across various regions. The largest segments are Guangdong (blue) and Texas (pink), each representing approximately 15% of the total. Other significant segments include Jiangsu (light green), Fujian (orange), and Pará (purple). The data is further subdivided into numerous smaller regions, such as Beijing, New York, Sichuan, Henan, Shandong, Seoul, Hunan, Liaoning, Hubei, and many more, each contributing a smaller portion of the overall revenue.

# Added an Interactive Filter Panel button to simplify navigation and enhance user experience



# Phase 3: E-Commerce Sales Performance Insights Report



# Executive Summary – PrimeCart E-Commerce Data Analysis

The PrimeCart E-Commerce Data Analysis Dashboard provides key insights into sales performance, customer behavior, order fulfillment, marketing effectiveness, and financial health.

- 1. Sales & Customer Trends:** While revenue remains strong, a declining trend in revenue growth and a high cart abandonment rate (0.82%) indicate potential friction in the purchasing journey. Customer spending varies, with some high-value customers driving revenue while others contribute minimally.
- 2. Order Fulfillment & Logistics:** On-time delivery rate is 63%, suggesting room for improvement in logistics and distribution center performance. Memphis and Chicago lead in order volume, but fulfillment efficiency varies by region, impacting customer satisfaction. Return rates (0.15) remain a concern, highlighting the need for better product quality control or improved return policies.
- 3. Marketing & Traffic Insights:** Search (7.6M) and Organic (1.6M) sources drive the most revenue, whereas Display Ads and Social Media contribute less. Campaign effectiveness is declining over time, requiring better targeting strategies and budget reallocation.
- 4. Financial Performance:** PrimeCart maintains healthy profitability with a Net Profit Margin of 40% and a Gross Profit Margin of 51.92%, indicating efficient cost management. However, total costs (5.2M) must be optimized to sustain profitability as competition increases.

# **Key Recommendations:**

**Enhance the Checkout Experience** – Address cart abandonment issues by improving the checkout process, offering incentives, and refining payment options.

**Optimize Marketing Strategies** – Focus on high-performing channels (Search & Organic) and re-evaluate underperforming ad campaigns to improve ROI.

**Improve Order Fulfillment & Logistics** – Increase on-time delivery rates and optimize distribution center efficiency to boost customer satisfaction.

**Refine Product & Inventory Strategies** – Prioritize high-margin and top-performing products while addressing underperforming categories.

**Sustain Financial Health** – Continue cost optimization, ensuring profitability while driving growth in key revenue-generating regions.

**By implementing these strategies, PrimeCart can boost revenue, enhance customer experience, improve operational efficiency, and ensure long-term profitability in the competitive e-commerce landscape.**

# 1. Sales & Revenue Analysis Insights

- **Total Revenue:** \$10.82M with 125K total orders and an Average Order Value (AOV) of \$86.36.
- **Top Revenue-Generating Countries:** China (\$3.7M) and United States (\$2.4M) lead, followed by Brazil (\$1.5M).
- **Top Traffic Source:** Search (\$7.56M) significantly outperforms other channels.
- **Best-Selling Category:** Jeans (\$1.23M) followed by Fashion Hoodies & Sweatshirts (\$648K).
- **Yearly Growth Trend:** Sales peaked in 2024 (\$4.46M) but declined after.
- **Action Points:** Strengthen high-performing channels (Search & Organic), expand in top regions (China, US, Brazil), and address recent revenue drops with targeted promotions.
- **Key Takeaways & Recommendations**
  - **Peak Revenue in 2024:** Investigate what drove high sales in 2024 and replicate strategies.
  - **Drop in Revenue After Peak:** Identify reasons for the sharp decline in recent months and strategize recovery.
  - **Strengthen High-Performing Traffic Sources:** Since Search and Organic traffic drive most sales, more investment in SEO & organic marketing is recommended.
  - **Optimize Low-Converting Traffic Sources:** Improve performance of Display Ads and Social Media campaigns.

## 2. Customer Analytics Insights

- **Total Customers:** 100K, but only 1 new customer, indicating a lack of new user acquisition.
  - **Retention Rate:** 100%, meaning all active users are returning customers.
  - **Customer Lifetime Value (CLV):** \$108.23, suggesting strong long-term engagement.
  - **Gender Distribution:** Almost equal (M: 49.89K, F: 50.11K).
  - **Top User Base by Country:** China (33.73K) and United States (22.38K) lead in customer count.
  - **Traffic Source Trends:** Search and Organic dominate, but engagement is declining over time.
  - **Action Points:** Focus on acquiring new customers through marketing efforts while maintaining high retention and engagement among the existing user base.
- Key Takeaways & Recommendations**
- **Boost Customer Acquisition** – Invest in targeted marketing to attract new customers.
  - **Leverage Customer Loyalty** – Introduce referral programs to encourage organic growth.
  - **Maximize Customer Value** – Use personalized promotions to increase CLV.
  - **Enhance Traffic Engagement** – Optimize SEO and retargeting ads to sustain growth.
  - **Expand Global Reach** – Localize marketing for emerging regions like Brazil and Germany.

### 3. Product & Inventory Performance Insights

- High inventory turnover (13.05) suggests efficient sales but potential supply risks.
- A sell-through rate of 77.19% indicates strong demand but requires better stock management.
- A stockout rate of 0.37 highlights product availability issues affecting revenue.
- Demand fluctuates significantly across months, requiring better forecasting.
- Several high-demand products are consistently low or out of stock, impacting customer satisfaction.
- Key Takeaways & Recommendations
- Address Low-Stock Issues – Implement proactive inventory replenishment to avoid stockouts of high-demand products.
- Optimize Demand Forecasting – Use historical sales trends to predict demand fluctuations and adjust stock levels accordingly.
- Enhance Inventory Turnover – Maintain a balanced inventory turnover rate to prevent overstocking and reduce holding costs.
- Improve Supply Chain Efficiency – Strengthen supplier relationships to reduce lead times and enhance stock availability.
- Monitor Stock Health – Leverage real-time inventory tracking to identify slow-moving products and optimize storage space.

## 4. Order Fulfillment & Logistics Insights

- Delivery times have improved significantly over the months, reflecting better logistics efficiency.
  - On-time delivery rate (0.63) indicates room for improvement in meeting customer expectations.
  - Return rate (0.15) suggests a relatively low percentage of returned orders.
  - Memphis and Chicago distribution centers handle the highest order volumes, requiring capacity optimization.
  - Savannah GA has the highest efficiency score, suggesting best practices can be replicated across other centers.
- Key Takeaways & Recommendations
- Optimize Order Fulfillment – Improve on-time delivery rate (0.63) by enhancing logistics planning and distribution center coordination.
  - Reduce Processing Time – Address inefficiencies causing delays in shipping and delivery to further reduce average processing time (-0.53).
  - Leverage High-Performing DCs – Replicate best practices from Savannah GA (top efficiency score) to underperforming distribution centers.
  - Monitor High-Volume DCs – Ensure Memphis and Chicago can handle demand without bottlenecks by optimizing staffing and resources.

# 5. Marketing & Traffic Insights

- **Search Traffic Dominates** – Search generates the highest revenue (\$7.6M), outperforming other channels.
- **Email & Organic Perform Well** – Both have high conversion rates (~80%), making them valuable for retention.
- **Low Cart Abandonment Rate** – At 0.82%, the abandonment rate is minimal, indicating strong purchase intent.
- **Marketing ROI is Excellent** – With a 99.09% ROI, campaigns are yielding significant returns.
- **Declining Campaign Revenue** – Marketing effectiveness is decreasing over time, requiring strategy adjustments.
- **Key Takeaways & Recommendations**
- **Invest More in Search Ads** – Since search generates the most revenue, optimizing paid search campaigns can further boost sales.
- **Leverage Email & Organic Strategies** – Enhance email automation and SEO strategies to sustain high conversion rates.
- **Monitor Marketing Trends** – Analyze declining campaign revenue trends to refine ad spend and targeting.
- **Expand High-ROI Channels** – Shift budget towards high-performing sources while testing emerging platforms.
- **Optimize Ad Content** – Ensure ad creatives and landing pages align with user intent to maintain strong ROI.

# 6. Advanced Financial Reporting Insights

- **Search Traffic Dominates** – Search generates the highest revenue (\$7.6M), outperforming other channels.
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# Recommendations for Stakeholders

- **Increase Investment in Search Marketing** – Given that search generates \$7.6M in revenue, allocate more budget to SEO and paid search campaigns to maximize returns.
- **Strengthen Retention Strategies** – With high conversion rates from email and organic sources (~80%), enhance personalized email marketing, loyalty programs, and organic content strategies to maintain customer engagement.
- **Optimize Marketing Spend** – Despite a 99.09% marketing ROI, campaign revenue is declining over time. Reallocate budget to top-performing channels and explore emerging digital marketing opportunities.
- **Enhance Data-Driven Decision-Making** – Regularly analyze campaign performance and customer behavior insights to refine targeting strategies, ad creatives, and promotional efforts.
- **Improve Cross-Channel Synergy** – Integrate marketing channels (search, email, and social) to create a seamless customer journey, ensuring a consistent brand experience that drives higher conversion rates.

# Conclusion

**PrimeCart's marketing performance shows strong ROI, with search and organic traffic driving the highest revenue. However, optimizing underperforming channels, enhancing customer engagement, and refining campaign strategies will further boost conversions and long-term growth. A data-driven approach to budget allocation and omnichannel marketing will maximize efficiency and profitability.**

## Key Areas of Focus:

- **Search Marketing Optimization** – Prioritize SEO and paid search strategies to maximize high-revenue traffic sources.
- **Customer Retention & Engagement** – Leverage email and organic channels to nurture repeat purchases and brand loyalty.
- **Marketing Budget Allocation** – Shift investments towards top-performing channels while optimizing underperforming ones.
- **Campaign Performance Analysis** – Continuously track marketing ROI and refine strategies based on data-driven insights.
- **Omnichannel Marketing Integration** – Ensure seamless brand messaging across search, email, social, and display channels.

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