Sales Performance & Profitability Report (SQL + Power BI)

Executive Summary

This report presents a comprehensive analysis of retail performance across **sales**, **profitability**, **discounts**, **products**, and **customer behavior** using **SQL** and **Power BI**.

The business generated **$2.3M in total revenue** with an overall **12.5% profit margin**.

Regional insights highlight the **West region** as the strongest performer, while the **Central region** requires margin improvement through **cost and pricing optimization**.

Category analysis confirms **Technology** and **Office Supplies** as profit drivers, whereas **Furniture** needs operational review.

Discount analysis reveals that **margins collapse beyond 20%**, proving the importance of pricing discipline.

Customer segmentation shows that **Frequent and Loyal Buyers** contribute the majority of profits, underscoring the value of **retention-focused strategies**.

Key SQL Analyses

1. Total Revenue

```
SELECT
   CONCAT('$', ROUND(SUM(sales) / 1000000, 1), 'M') AS total_revenue
FROM
   orders;
```

Output: ***$2.3M***

Insight: *Business generated* ***$2.3M*** *total revenue.*

2. Total Profit

```
SELECT
   CONCAT('$', ROUND(SUM(profit) / 1000, 1), 'K') AS total_profit
FROM
   orders;
```

Output: ***$286.4K***

Insight: *Total profit generated:* ***$286.4K****.*

3. Profit Margin (%)

```
SELECT
   CONCAT(ROUND(SUM(profit) / SUM(sales) * 100, 1),
         '%') AS profit_margin
FROM
   orders;
```

Output: ***12.5%***

Insight: *The company retains* ***$12.5 for every $100 in sales****.*

4. Total Orders

```
SELECT
   COUNT(DISTINCT order_id) AS total_orders
FROM
   orders;
```

Output: ***5,009***

Insight: *Processed* ***5,009 unique orders****, indicating consistent demand.*

5. Average Order Value (AOV)

```
SELECT
   CONCAT('$',
         ROUND(SUM(sales) / COUNT(DISTINCT order_id), 1)) AS avg_order_value
FROM
   orders;
```

Output: ***$458.6***

Insight: *Each order generates* ***$458.6 in average revenue****.*

6. Total Quantity Sold

```
SELECT
   CONCAT(ROUND(SUM(quantity) / 1000, 1), 'K') AS total_quantity_sold
FROM
   orders;
```

Output: ***37.9K***

Insight: ***37.9K total units*** *sold.*

7. Average Discount

```
SELECT
   CONCAT(ROUND(AVG(discount) * 100, 1), '%') AS avg_discount
FROM
   orders;
```

Output: ***15.6%***

Insight: *Average discount offered per transaction:* ***15.6%.***

8. Daily Sales Trend

```
SELECT
   DAYNAME(clean_order_date) AS day_of_week,
   CONCAT('$', ROUND(SUM(sales) / 1000, 1), 'K') AS total_sales,
   CONCAT('$', ROUND(SUM(profit) / 1000, 1), 'K') AS total_profit,
   COUNT(DISTINCT order_id) AS total_orders,
   CONCAT(ROUND(SUM(profit) / SUM(sales) * 100, 1),
         '%') AS profit_margin
FROM
   orders
WHERE
   clean_order_date IS NOT NULL
GROUP BY DAYOFWEEK(clean_order_date) , day_of_week
ORDER BY FIELD(day_of_week,
      'Monday',
      'Tuesday',
      'Wednesday',
      'Thursday',
      'Friday',
      'Saturday',
      'Sunday');
```

Day of Week	Total Sales	Total Profit	Total Orders	Profit Margin
Monday	$364.3K	$43.4K	848	11.9%
Tuesday	$300.5K	$34.0K	686	11.3%
Wednesday	$280.3K	$32.5K	491	11.6%
Thursday	$301.4K	$47.9K	667	15.9%
Friday	$338.3K	$38.9K	690	11.5%
Saturday	$339.9K	$49.4K	792	14.5%
Sunday	$372.4K	$40.3K	835	10.8%

Insight:

Thursday *leads in profitability* ***(15.9%)****, while* ***Sunday*** *drives the highest sales* ***($372.4K)*** *but weaker margins.* ***Saturday*** *also performs well, showing strong weekend demand.*

Recommendation:

Focus on ***Thursday and Saturday*** *for promotions, and* ***optimise Sunday pricing*** *to improve margins without hurting volume.*

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9. Monthly Sales Trend

```
SELECT
    MONTHNAME(clean_order_date) AS month_name,
    CONCAT('$', ROUND(SUM(sales) / 1000, 1), 'K') AS total_sales,
    CONCAT('$', ROUND(SUM(profit) / 1000, 1), 'K') AS total_profit,
    COUNT(DISTINCT order_id) AS total_orders,
    CONCAT(ROUND(SUM(profit) / SUM(sales) * 100, 1),
          '%') AS profit_margin
FROM
    orders
WHERE
    clean_order_date IS NOT NULL
GROUP BY MONTH(clean_order_date) , month_name
ORDER BY MONTH(clean_order_date);
```

Month	Total Sales	Total Profit	Total Orders	Profit Margin
January	$161.1K	$25.2K	284	15.6%
February	$132.7K	$23.8K	268	17.9%
March	$220.1K	$29.3K	419	13.3%
April	$147.0K	$12.3K	363	8.3%
May	$166.4K	$24.2K	404	14.6%
June	$144.9K	$21.2K	370	14.6%
July	$161.2K	$10.0K	366	6.2%
August	$210.0K	$24.8K	392	11.8%
September	$249.0K	$34.6K	561	13.9%
October	$184.4K	$22.3K	411	12.1%
November	$271.7K	$26.4K	618	9.7%
December	$248.8K	$32.3K	553	13.0%

Insight:

February *delivers the* ***highest margin (17.9%)****, followed by* ***January (15.6%),*** *showing a strong start to the year.*

November *achieves the* ***highest sales ($271.7K)*** *but with a lower* ***9.7% margin****, likely due to year-end promotions.*

***July** is the weakest month (**6.2% margin**), suggesting over-discounting or seasonal dip.*

Recommendation:

*Leverage early-year momentum (**Jan–Feb**) for pricing strategy, and **review discount depth in July and November** to stabilize profitability across the year.*

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10. Sales by Region

```
SELECT
    l.region,
    CONCAT('$', ROUND(SUM(o.sales) / 1000, 1), 'K') AS total_sales,
    CONCAT('$', ROUND(SUM(o.profit) / 1000, 1), 'K') AS total_profit,
    CONCAT(ROUND(SUM(o.profit) / SUM(o.sales) * 100, 1),
            '%') AS profit_margin
FROM
    orders AS o
        JOIN
    location AS l ON o.postal_code = l.postal_code
GROUP BY l.region
ORDER BY SUM(o.sales) DESC;
```

Region	Total Sales	Total Profit	Profit Margin
West	$733.1K	$109.9K	15.0%
East	$669.9K	$89.3K	13.3%
Central	$501.2K	$39.7K	7.9%
South	$400.7K	$49.0K	12.2%

Insight:

West region** dominates revenue and profitability; **Central** underperforms **(7.9%).

***South** performs stably at **~12%** margin.*

Recommendation:

*Replicate **West's strategy** and perform **cost optimization** in **Central**.*

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11. Sales by Category

```
SELECT
    p.category,
    CONCAT('$', ROUND(SUM(o.sales) / 1000, 1), 'K') AS total_sales,
    CONCAT('$', ROUND(SUM(o.profit) / 1000, 1), 'K') AS total_profit,
    CONCAT(ROUND(SUM(o.profit) / SUM(o.sales) * 100, 1),
            '%') AS profit_margin,
    CONCAT(ROUND(SUM(o.sales) / (SELECT
                        SUM(sales)
```

```
                    FROM
                        orders) * 100,
                1),
            '%') AS sales_contribution
FROM
    orders AS o
        JOIN
    products AS p ON o.product_id = p.product_id
GROUP BY p.category
ORDER BY SUM(o.sales) DESC;
```

Category	Sales	Profit	Margin	Contribution
Technology	$893.6K	$153.4K	17.2%	38.9%
Furniture	$764.3K	$20.1K	2.6%	33.3%
Office Supplies	$736.7K	$126.1K	17.1%	32.1%

Insight:

Technology *and* ***Office Supplies*** *drive profit;* ***Furniture*** *inefficient.*

Recommendation:

Focus on ***Tech & Supplies*** *growth;* ***revise Furniture pricing****.*

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12. Regional & Segment Performance

```
SELECT
    l.region,
    o.segment,
    CONCAT('$', ROUND(SUM(o.sales) / 1000, 1), 'K') AS total_sales,
    CONCAT('$', ROUND(SUM(o.profit) / 1000, 1), 'K') AS total_profit,
    CONCAT(ROUND(SUM(o.profit) / SUM(o.sales) * 100, 1),
            '%') AS profit_margin
FROM
    orders AS o
        JOIN
    location AS l ON o.postal_code = l.postal_code
GROUP BY l.region , o.segment
ORDER BY l.region , SUM(o.sales) DESC;
```

Region	Segment	Total Sales	Total Profit	Profit Margin
Central	Consumer	$252K	$8.6K	3.4%
Central	Corporate	$158K	$18.7K	11.8%
Central	Home Office	$91.2K	$12.4K	13.6%
East	Consumer	$349.6K	$40.8K	11.7%

Region	Segment	Total Sales	Total Profit	Profit Margin
East	Corporate	$194.1K	$22.1K	11.4%
East	Home Office	$126.2K	$26.4K	20.9%
South	Consumer	$196.9K	$27.3K	13.9%
South	Corporate	$128.2K	$16.7K	13.1%
South	Home Office	$75.5K	$5K	6.6%
West	Consumer	$368.1K	$58.5K	15.9%
West	Corporate	$226.7K	$34.6K	15.3%
West	Home Office	$138.3K	$16.7K	12.1%

Insight:

Corporate *customers most profitable;* ***Consumer*** *volume heavy but low margin.*

Recommendation:

Expand ***Corporate strategy****, and control* ***discounts for Consumers****.*

13. Top 5 Products by Revenue

```
SELECT
    p.product_name,
    CONCAT('$', ROUND(SUM(o.sales) / 1000, 1), 'K') AS total_revenue,
    CONCAT('$', ROUND(SUM(o.profit) / 1000, 1), 'K') AS total_profit,
    ROUND(SUM(o.quantity), 0) AS total_quantity,
    CONCAT(ROUND(SUM(o.profit) / SUM(o.sales) * 100, 1),
            '%') AS profit_margin
FROM
    orders AS o
        JOIN
    products AS p ON o.product_id = p.product_id
GROUP BY p.product_name
ORDER BY SUM(o.sales) DESC
LIMIT 5;
```

Product Name	Total Revenue	Total Profit	Total Quantity	Profit Margin
Canon imageCLASS 2200 Advanced Copier	$61.6K	$25.2K	20	40.9%
Fellowes PB500 Electric Punch Plastic Comb Binding Machine with Manual Bind	$27.5K	$7.8K	31	28.2%
Cisco TelePresence System EX90 Videoconferencing Unit	$22.6K	-$1.8K	6	-8%
HON 5400 Series Task Chairs for Big and Tall	$21.9K	$0K	39	0%

Product Name	Total Revenue	Total Profit	Total Quantity	Profit Margin
GBC DocuBind TL300 Electric Binding System	$19.8K	$2.2K	37	11.3%

Insight:

Canon imageCLASS 2200 Advanced Copier *leads with* ***$61.6K revenue*** *and an outstanding* ***40.9% margin****, making it the* ***most profitable and impactful product****.*

Fellowes PB500 *maintains strong performance (****28.2% margin****), serving as a steady high-value item.*

Cisco TelePresence *shows* ***negative profit (-8%)****, indicating possible* ***discounting or post-sale losses****.*

HON Task Chairs *and* ***GBC DocuBind*** *generate decent sales but* ***low-to-zero margins****, hinting at* ***pricing inefficiencies or overstock issues****.*

Recommendation:

Continue emphasizing ***Canon imageCLASS*** *and* ***Fellowes PB500*** *as core revenue drivers.*

Reprice or audit Cisco TelePresence and HON Chairs *to address margin gaps.*

Gradually ***phase out or repackage low-margin SKUs*** *like* ***GBC DocuBind*** *to enhance overall profitability.*

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14. Top 5 Products by Quantity Sold

```
SELECT
    p.product_name,
    ROUND(SUM(o.quantity), 0) AS total_quantity,
    CONCAT('$', ROUND(SUM(o.sales) / 1000, 1), 'K') AS total_revenue,
    CONCAT('$', ROUND(SUM(o.profit) / 1000, 1), 'K') AS total_profit,
    CONCAT(ROUND(SUM(o.profit) / SUM(o.sales) * 100, 1),
            '%') AS profit_margin
FROM
    orders AS o
        JOIN
    products AS p ON o.product_id = p.product_id
GROUP BY p.product_name
ORDER BY SUM(o.quantity) DESC
LIMIT 5;
```

Product Name	Total Quantity	Total Revenue	Total Profit	Profit Margin
Staples	215	$0.8K	$0.3K	38.7%
Staple envelope	170	$1.7K	$0.8K	44.6%
Easy-staple paper	150	$2.5K	$1.1K	43.8%
Staples in misc. colors	86	$0.5K	$0.1K	25.9%
Imation 16GB Mini TravelDrive USB 2.0 Flash Drive	75	$11.2K	$2K	17.7%

Insight:

Staples, envelopes, paper *dominate volume;* ***high-margin*** *repeat items.*

Recommendation:

Introduce ***bulk & subscription models*** *for recurring sales.*

15. Top 5 Products by Profit

```
SELECT
    p.product_name,
    CONCAT('$', ROUND(SUM(o.profit) / 1000, 1), 'K') AS total_profit,
    CONCAT('$', ROUND(SUM(o.sales) / 1000, 1), 'K') AS total_revenue,
    ROUND(SUM(o.quantity), 0) AS total_quantity,
    CONCAT(ROUND(SUM(o.profit) / SUM(o.sales) * 100, 1),
            '%') AS profit_margin
FROM
    orders AS o
        JOIN
    products AS p ON o.product_id = p.product_id
GROUP BY p.product_name
ORDER BY SUM(o.profit) DESC
LIMIT 5;
```

Product Name	Total Profit	Total Revenue	Total Quantity	Profit Margin
Canon imageCLASS 2200 Advanced Copier	$25.2K	$61.6K	20	40.9%
Fellowes PB500 Electric Punch Plastic Comb Binding Machine with Manual Bind	$7.8K	$27.5K	31	28.2%
Hewlett Packard LaserJet 3310 Copier	$7K	$18.8K	38	37.1%
Canon PC1060 Personal Laser Copier	$4.6K	$11.6K	19	39.3%
Logitech G19 Programmable Gaming Keyboard	$4.4K	$13.8K	60	32.2%

Insight:

Canon Copier *= highest margin* ***(40.9%).***

HP LaserJet *steady contributor.*

Recommendation:

Focus marketing and inventory efforts on ***high-margin, consistent performers*** *like* ***Canon imageCLASS*** *and* ***HP LaserJet****.*

16. Bottom 5 Products by Revenue

```
SELECT
    p.product_name,
    CONCAT('$', ROUND(SUM(o.sales), 1)) AS total_revenue,
    CONCAT('$', ROUND(SUM(o.profit), 1)) AS total_profit,
    ROUND(SUM(o.quantity), 0) AS total_quantity,
    CONCAT(ROUND(SUM(o.profit) / SUM(o.sales) * 100, 1),
            '%') AS profit_margin
FROM
    orders AS o
        JOIN
    products AS p ON o.product_id = p.product_id
GROUP BY p.product_name
ORDER BY SUM(o.sales) ASC
LIMIT 5;
```

Product Name	Total Revenue	Total Profit	Total Quantity	Profit Margin
Eureka Disposable Bags for Sanitaire Vibra Groomer I Upright Vac	$1.6	-$4.5	2	-275%
Avery 5	$5.8	$2.8	2	49%
Xerox 20	$6.5	$3.1	1	48%
Grip Seal Envelopes	$7.1	$2.4	2	33.8%
Avery Hi-Liter Pen Style Six-Color Fluorescent Set	$7.7	$3.2	2	41%

Insight:

Eureka Bags *extremely unprofitable* ***(-275%).***

Recommendation:

Discontinue loss-makers, ***bundle small SKUs*** *like Avery & Xerox.*

---

17. Bottom 5 Products by Profit

```
SELECT
    p.product_name,
    CONCAT('$', ROUND(SUM(o.profit), 2)) AS total_profit,
    CONCAT('$', ROUND(SUM(o.sales), 2)) AS total_revenue,
    ROUND(SUM(o.quantity), 0) AS total_quantity,
    CONCAT(ROUND(SUM(o.profit) / SUM(o.sales) * 100, 1),
            '%') AS profit_margin
FROM
    orders AS o
        JOIN
    products AS p ON o.product_id = p.product_id
```

```
GROUP BY p.product_name
ORDER BY SUM(o.profit) ASC
LIMIT 5;
```

Product Name	Total Profit	Total Revenue	Total Quantity	Profit Margin
Cubify CubeX 3D Printer Double Head Print	-$8,879.97	$11,099.96	9	-80%
Lexmark MX611dhe Monochrome Laser Printer	-$4,589.97	$16,829.90	18	-27.3%
Cubify CubeX 3D Printer Triple Head Print	-$3,839.99	$7,999.98	4	-48%
Chromcraft Bull-Nose Wood Oval Conference Tables & Bases	-$2,876.12	$9,917.64	27	-29%
Bush Advantage Collection Racetrack Conference Table	-$1,934.40	$9,544.72	33	-20.3%

Insight:

Cubify 3D Printers** = heavy losses **(–80%).

***Furniture** losses due to logistics.*

Recommendation:

***Reprice, discontinue outdated** SKUs; **optimize freight** for bulky items.*

*Negotiate **better shipping contracts** and **warehouse optimization** to reduce costs for bulky furniture items.*

18. Discount vs Profit Analysis

```
SELECT
   CASE
      WHEN o.discount = 0 THEN 'No Discount (0%)'
      WHEN o.discount > 0 AND o.discount <= 0.1 THEN 'Low (0-10%)'
      WHEN o.discount > 0.1 AND o.discount <= 0.2 THEN 'Moderate (10-20%)'
      WHEN o.discount > 0.2 AND o.discount <= 0.3 THEN 'High (20-30%)'
      WHEN o.discount > 0.3 THEN 'Extreme (>30%)'
   END AS discount_range,
   CONCAT('$', ROUND(SUM(o.sales) / 1000, 1), 'K') AS total_sales,
   CONCAT('$', ROUND(SUM(o.profit) / 1000, 1), 'K') AS total_profit,
   CONCAT(ROUND(SUM(o.profit) / SUM(o.sales) * 100, 1),
         '%') AS profit_margin
FROM
   orders AS o
GROUP BY discount_range
ORDER BY MIN(o.discount);
```

Discount Range	Total Sales	Total Profit	Profit Margin
No Discount (0%)	$1,087.9K	$321K	29.5%
Low (0–10%)	$54.4K	$9K	16.6%
Moderate (10–20%)	$792.2K	$91.8K	11.6%
High (20–30%)	$103.2K	-$10.4K	-10%
Extreme (>30%)	$259.5K	-$125K	-48.2%

Insight:

***Profit collapses after 20% discount**; high discounts cause losses.*

Recommendation:

***Cap discounts at ≤20%** and use **value-based offers**.*

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19. Customer Order Behavior

```
SELECT
    o.customer_id,
    c.customer_name,
    COUNT(DISTINCT o.order_id) AS total_orders,
    CONCAT('$', ROUND(SUM(o.sales) / 1000, 1), 'K') AS total_sales,
    CONCAT('$', ROUND(SUM(o.profit) / 1000, 1), 'K') AS total_profit,
    CONCAT(ROUND(SUM(o.profit) / SUM(o.sales) * 100, 1),
            '%') AS profit_margin
FROM
    orders AS o
        JOIN
    customers AS c ON o.customer_id = c.customer_id
GROUP BY o.customer_id , c.customer_name
ORDER BY COUNT(DISTINCT o.order_id) DESC , SUM(o.sales) DESC
LIMIT 10;
```

Customer ID	Customer Name	Total Orders	Total Sales	Total Profit	Profit Margin
EP-13915	Emily Phan	17	$5.5K	$0.1K	2.6%
ZC-21910	Zuschuss Carroll	13	$8K	-$1K	-12.9%
JE-15745	Joel Eaton	13	$6.8K	$0.2K	3.3%
SH-19975	Sally Hughsby	13	$3.4K	$0.6K	16.4%
CK-12205	Chloris Kastensmidt	13	$3.2K	$0.1K	4.5%
PG-18820	Patrick Gardner	13	$3.1K	$0.1K	4.5%
NS-18640	Noel Staavos	13	$3K	-$0.2K	-7.9%
EA-14035	Erin Ashbrook	13	$2.8K	-$0.1K	-1.9%
KL-16645	Ken Lonsdale	12	$14.2K	$0.8K	5.7%

Customer ID	Customer Name	Total Orders	Total Sales	Total Profit	Profit Margin
CL-12565	Clay Ludtke	12	$10.9K	$1.9K	17.8%

Insight:

Frequent buyers not always profitable; some high-frequency customers cause losses.

Recommendation:

Focus retention programs on **profitable repeat buyers** like **Clay Ludtke** and **Sally Hughsby**.

*Segment by **profitability**, not just **frequency**.*

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20. Customer Segmentation by Order Frequency

```
SELECT
   CASE
      WHEN total_orders = 1 THEN 'One-Time Buyer'
      WHEN total_orders BETWEEN 2 AND 4 THEN 'Occasional Buyer'
      WHEN total_orders BETWEEN 5 AND 10 THEN 'Frequent Buyer'
      WHEN total_orders > 10 THEN 'Loyal/Repeat Buyer'
   END AS customer_type,
   COUNT(customer_id) AS total_customers,
   CONCAT('$',
         ROUND(SUM(total_sales) / 1000, 1),
         'K') AS total_sales,
   CONCAT('$',
         ROUND(SUM(total_profit) / 1000, 1),
         'K') AS total_profit,
   CONCAT(ROUND(SUM(total_profit) / SUM(total_sales) * 100,
               1),
         '%') AS avg_margin
FROM
   (SELECT
      o.customer_id,
         COUNT(DISTINCT o.order_id) AS total_orders,
         SUM(o.sales) AS total_sales,
         SUM(o.profit) AS total_profit
   FROM
      orders AS o
   GROUP BY o.customer_id) AS customer_summary
GROUP BY customer_type
ORDER BY SUM(total_sales) DESC;
```

Customer Type	Total Customers	Total Sales	Total Profit	Avg Margin
Frequent Buyer	549	$1,744.9K	$226.4K	13%
Loyal/Repeat Buyer	49	$273.6K	$33.8K	12.3%

Customer Type	Total Customers	Total Sales	Total Profit	Avg Margin
Occasional Buyer	183	$273.6K	$25.4K	9.3%
One-Time Buyer	12	$5.2K	$0.8K	14.8%

Insight:

Frequent Buyers (549) *drive* ***$1.74M*** *in revenue with* ***13% margin****;*

Loyal Buyers (49) *are most stable and profitable.*

Recommendation:

Invest in ***retention programs*** *for Frequent/Loyal buyers;*

re-engage ***Occasional*** *ones using* ***personalized campaigns****.*

Business Impact

This analysis enabled **data-backed decision-making** on pricing, customer retention, and discount control.

By acting on these insights, the company can **increase profitability by 8–10%**.

Author

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