Ingoude Company

SALES REPORT

Dec 04, 2024

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INTRODUCTION

Supply chain data analysis is the process of collecting, processing, and interpreting data across various stages of a supply chain to optimize operations, reduce costs, and enhance overall efficiency. With the increasing complexity of global supply chains, businesses rely on data analysis to make informed decisions and remain competitive.

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PROJECT HIGHLIGHTS:

IN THIS PROJECT, I WORKED WITH A DATASET CONTAINING INFORMATION ABOUT:

- PRODUCT TYPES, SKUS, PRICES, AND STOCK LEVELS
- SALES METRICS (E.G., NUMBER OF PRODUCTS SOLD AND REVENUE GENERATED)
- CUSTOMER DEMOGRAPHICS AND SHIPPING DETAILS
- SUPPLIER PERFORMANCE, LEAD TIMES, AND DEFECT RATES

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#REVENUE ANALYSIS BY PRODUCT

```sql
SELECT `Product type`, round(sum(`Revenue generated`),2) AS total_revenue
FROM dataset
GROUP BY `Product type`
ORDER BY total_revenue DESC;
```

Product type	total_revenue
skincare	241628.16
haircare	174455.39
cosmetics	161521.27

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#AVERAGE SHIPPING TIMES AND COSTS BY SUPPLIER

```
SELECT `Supplier name`, round(avg(`Shipping times`),0) as avg_shipping_time,
round(avg(`Shipping costs`),4) as avg_shipping_cost
from dataset
group by `Supplier name`
order by `Supplier name`;
```

Supplier name	avg_shipping_time	avg_shipping_cost
Supplier 1	6	5.5123
Supplier 2	6	5.7392
Supplier 3	5	4.7888
Supplier 4	6	5.7596
Supplier 5	6	5.7898

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#SALES AND STOCK LEVELS COMPARISON

```
SELECT `Product type`, sum(`Number of products sold`) as total_sold,
avg(`Stock levels`) as avg_stock_level
from dataset
group by `Product type`
order by `total_sold` DESC;
```

Product type	total_sold	avg_stock_level
skincare	20731	40.2000
haircare	13611	48.3529
cosmetics	11757	58.6538

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#DEFECT RATE BY PRODUCT TYPE

```
select `Product type`, round(avg(`Defect rates`),4) as avg_defect_rate
from dataset
group by `Product type` ;
```

Product type	avg_defect_rate
haircare	2.4832
skincare	2.3347
cosmetics	1.9193

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#TRANSPORTATION MODES ANALYSIS

```
select `Transportation modes` , COUNT(*) AS frequency,
round(avg(`Costs`),4) as avg_cost
from dataset
group by `Transportation modes` ;
```

Transportation modes	frequency	avg_cost
Road	29	553.386
Air	26	561.7126
Rail	28	541.7476
Sea	17	417.8191

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#COST ANALYSIS BASED ON LEAD TIME

```
select `Lead time`, round(avg(`Manufacturing costs`),4) as avg_manf_cost,
 round(avg(`Shipping costs`),4) as avg_shipping_cost
from dataset
group by `Lead time` ;
```

Lead time	avg_manf_cost	avg_shipping_cost
29	57.0419	4.9388
23	59.3499	9.7279
12	45.5377	7.4987
24	36.4914	3.0523
5	63.2363	5.9528
10	27.4	8.0571
14	58.9696	5.111
22	53.6759	6.0772
13	34.6928	5.5269
18	60.297	5.6551
28	20.8868	4.6

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#CUSTOMER DEMOGRAPHICS AND PRODUCT PREFERENCES

```sql
select `Customer demographics`, `Product type`, count(*) as product_count
from dataset
group by `Customer demographics`, `Product type`;
```

Customer demographics	Product type	product_count
Non-binary	haircare	7
Female	skincare	13
Unknown	haircare	15
Non-binary	skincare	11
Male	skincare	7
Female	cosmetics	10

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#SUPPLIER LOCATION AND PERFORMANCE

```sql
SELECT `Supplier name`, `Location`,
AVG(`Production volumes`) AS avg_production_volume,
AVG(`Lead time`) AS avg_lead_time
FROM dataset
GROUP BY `Supplier name`, `Location`
order by `Supplier name`;
```

Supplier name	Location	avg_production_volume	avg_lead_time
Supplier 1	Bangalore	469.8000	16.0000
Supplier 1	Chennai	493.2500	16.2500
Supplier 1	Delhi	435.0000	6.5000
Supplier 1	Kolkata	502.6250	19.3750
Supplier 1	Mumbai	577.0000	12.1667
Supplier 2	Bangalore	447.2000	16.6000
Supplier 2	Chennai	892.6667	27.6667

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#IMPACT OF INSPECTION RESULTS ON DEFECT RATES

```sql
SELECT `Inspection results`,
round(AVG(`Defect rates`),4) AS avg_defect_rate
FROM dataset
GROUP BY `Inspection results`;
```

Inspection results	avg_defect_rate
Pending	2.1542
Fail	2.5693
Pass	2.039

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#ORDER QUANTITIES VS. MANUFACTURING LEAD TIMES

```
SELECT  `Order quantities`, AVG(`Manufacturing lead time`)
AS avg_manufacturing_lead_time
FROM dataset
GROUP BY `Order quantities`;
```

Order quantities	avg_manufacturing_lead_time
96	18.5000
37	30.0000
88	19.5000
59	10.0000
56	7.0000
66	10.7500
58	21.0000
11	11.0000

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THANK YOU

BY JYOTI VERMA