

Online Retail Sales Analysis

Project Introduction:

This project focuses on analyzing online retail data, covering various aspects of transactions to uncover sales trends and product performance. The goal is to identify year-on-year sales patterns, assess product quantity trends, and provide a comprehensive product overview. Through this project, I demonstrate my expertise in Excel by utilizing a range of functions and analytical tools to extract valuable insights from the sales data. By analyzing trends and patterns, I aim to provide actionable recommendations to optimize sales strategies and improve overall business performance.

Tools and Functions Used in This Project:

- In this project, I use key Excel functions like SUMIFS, COUNTIFS, AVERAGEIFS, SUMPRODUCT, and ABS to analyze data and uncover trends. I also use cell references for dynamic calculations.
- To summarize data, I create Pivot Tables, making it easy to spot patterns. I use Power Query to combine data from two sheets into one, streamlining the analysis. These tools help me deliver clear and actionable insights.



Check My Video Presentation:



[Click here to watch a detailed walkthrough of this project](#)

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Datasets Overview:



The online retail dataset includes detailed transactional records, with the following key columns:

1. **InvoiceNo**: A unique 6-digit identifier for each transaction. If the code starts with 'C', it indicates a cancellation.
2. **StockCode**: A unique 5-digit identifier for each product in the store.
3. **Description**: The name of the product.
4. **Quantity**: The number of units of each product sold per transaction.
5. **InvoiceDate**: The date and time when the transaction occurred.
6. **UnitPrice**: The price per unit of the product, in sterling (£).
7. **CustomerID**: A unique 5-digit identifier for each customer.
8. **Country**: The country where the customer resides.

Analysis Breakdown:

I divided this analysis into 10 key questions, using Excel functions and charts to visualize insights and address each aspect of the data.

1. Data Cleaning and Preparation

- Objective: Remove duplicate records to ensure unique transactions.
- Tools: Remove Duplicates, COUNTIF

2. Handling Cancellations

- Objective: Flag and calculate the total value of cancelled transactions.
- Tools: LEFT, IF, SUMIFS, SUMPRODUCT

3. Sales Performance Analysis

- Objective: Identify top 5 products by quantity and revenue.
- Tools: SUMIF, VLOOKUP, LARGE, INDEX, MATCH, Pivot Table

4. Pricing Strategy

- Objective: Find items priced above the 90th percentile.
- Tools: AVERAGEIF, PERCENTILE.INC, IF

5. Customer Analysis

- Objective: Rank top 10 customers by spending.
- Tools: SUMIF, RANK.EQ, INDEX, MATCH

6. Sales Trends

- Objective: Visualize monthly sales fluctuations.
- Tools: TEXT, MONTH, YEAR, SUMIFS, Line Chart

7. Geographical Insights

- Objective: Identify the country with the most transactions.
- Tools: COUNTIF, Pivot Table

8. Product Return Rate

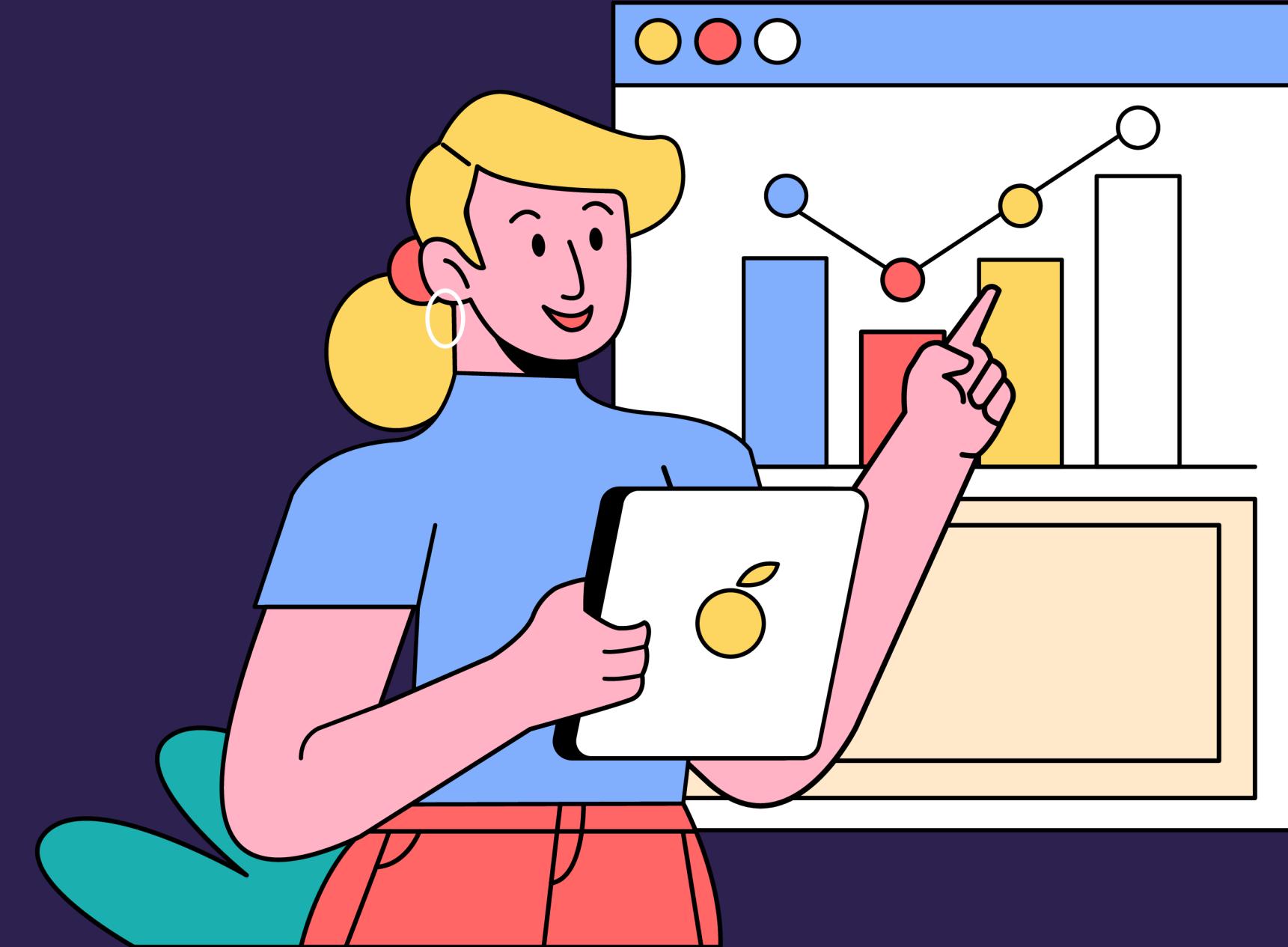
- Objective: Calculate return rates for each product.
- Tools: SUMIFS, IF, ABS, Pivot Table

9. Customer Segmentation

- Objective: Segment customers into spending tiers.
- Tools: QUARTILE.INC, IF, VLOOKUP

10. Dashboard Creation

- Objective: Build an interactive dashboard with key performance indicators.
- Tools: Pivot Tables, Slicers, Charts, Dashboard Design



1. Data Cleaning and Preparation :

Objective: Remove duplicate records to ensure unique transactions.

Tools: Remove Duplicates, COUNTIF

Note: I use column names for cell references as they are easier to understand and make the formulas more dynamic and attractive.

- Use Excel's "Remove Duplicates" feature to easily eliminate duplicate records from your dataset.

First, select all data with Ctrl+A, go to the Data tab, and choose "Remove Duplicates" from the Data Tools group.

- Using COUNTIF Function:

=COUNTIF(range of column check duplicates and Freeze (press F4 key) column, cell reference.)

2. Handling Cancellations :

Objective: Flag and calculate the total value of cancelled transactions

Tools: LEFT, IF, SUMIFS, SUMPRODUCT

- Using IF Conditional Function:

=IF(LEFT(Cell refrence,1)="C","Cancelled","Successful")

Calculate the total value of cancelled transactions.

- Using SUMIFS Function:

=SUMIFS(total_value,status,E14)*-1

:- For cancelled transactions, subtract the value and multiply by -1 to adjust it.

With SUMIFS

Transactions	Toal Value
Cancelled	1092068

With SUMPRODUCT

Transactions	Toal Value
Cancelled	1092068

- Using SUMPRODUCT Function:

=SUMPRODUCT(--(status=H14),quantity,price)*-1

3. Sales Performance Analysis :

Objective: Identify top 5 products by quantity and revenue.

Tools: SUMIF, VLOOKUP, LARGE, INDEX, MATCH, Pivot Table

For extract all unique products =UNIQUE(Description)

Total quantity by =SUMIF(Description,A6,quantity)

Total Revenue by =SUMIF(Description,A6,total_value)quantity)

Extract Unique products		
Products	Quantity	Total Revenue
15CM CHRISTMAS GLASS BALL 20 LIGHTS	2482	18311.9
PINK CHERRY LIGHTS	1541	9176.75
WHITE CHERRY LIGHTS	1970	11607.5
RECORD FRAME 7" SINGLE SIZE	7120	15685.17
STRAWBERRY CERAMIC TRINKET BOX	33722	39502.65
PINK DOUGHNUT TRINKET POT	6134	9174.9
SAVE THE PLANET MUG	10438	11793.34
FANCY FONT HOME SWEET HOME DOORMAT	622	3822.5
CAT BOWL	861	2055.15

- Top five products by quantity and revenue and verifying with vlookup function.

=TRANSPOSE(LARGE(B6:B5304,{1,2,3,4,5}))

Match product by quantity =INDEX(\$A\$6:\$C\$5304,MATCH(H10,\$B\$6:\$B\$5304,0),1)

Match product by quantity =VLOOKUP(H10,\$A\$6:\$C\$5304,2,0)

- Create Pivot Table

First, create a Pivot Table from your data. Drag Products to the Rows area and Revenue and Quantity to the Values area, setting them to Sum. Next, sort the data by Revenue and Quantity in descending order, and filter to display the Top 5 products by quantity and revenue

Top 5 products By Quantity

Product	Quantity	Verify with Vlookup
WORLD WAR 2 GLIDERS ASSTD DESIGNS	107249	107249
WHITE HANGING HEART T-LIGHT HOLDER	89888	89888
ASSORTED COLOUR BIRD ORNAMENT	79215	79215
JUMBO BAG RED RETROSPOT	74402	74402
BROCADE RING PURSE	70354	70354

With Pivot Table

Row Labels	Sum of Quantity
WORLD WAR 2 GLIDERS ASSTD DESIGNS	107249
WHITE HANGING HEART T-LIGHT HOLDER	89888
ASSORTED COLOUR BIRD ORNAMENT	79215
JUMBO BAG RED RETROSPOT	74402
BROCADE RING PURSE	70354
Grand Total	421108

Top 5 products By Quantity

Product	Total Revenue	Verify with Vlookup
REGENCY CAKESTAND 3 TIER	269268.25	269268.25
WHITE HANGING HEART T-LIGHT HOLDER	242359.31	242359.31
JUMBO BAG RED RETROSPOT	134549.87	134549.87
ASSORTED COLOUR BIRD ORNAMENT	125984.07	125984.07
POSTAGE	112249.1	112249.1

Row Labels	Sum of total_value
REGENCY CAKESTAND 3 TIER	269268.25
WHITE HANGING HEART T-LIGHT HOLDER	242359.31
JUMBO BAG RED RETROSPOT	134549.87
ASSORTED COLOUR BIRD ORNAMENT	125984.07
POSTAGE	112249.1
Grand Total	884410.6

4. Pricing Strategy

- **Objective:** Find items priced above the 90th percentile.
- **Tools:** AVERAGEIF, PERCENTILE.INC, IF, MATCH, Pivot Table

For extract all unique products =UNIQUE(Description)

Average unit price =AVERAGEIF(Description,C10,price)

=PERCENTILE.INC(price,0.9)

Product unit price greater then or equal to 90th percentile

=FILTER(Description,price>\$F\$9,"nan")

Values using product =XLOOKUP(I10,Description,price)

90th Percentile of unit price

6.75

Identified Items those grater the 90 percentile	
Item	Unit Price
15CM CHRISTMAS GLASS BALL 20 LIGHTS	6.95
PEACE WOODEN BLOCK LETTERS	6.95
BLACK DINER WALL CLOCK	8.5
JOY LARGE WOOD LETTERS	9.95
WOODEN BOX ADVENT CALENDAR	8.95
ASSORTED COLOUR MINI CASES	7.95
POSTAGE	18
POSTAGE	18
RETRO SPOT LAMP	9.95
EDWARDIAN TOILET ROLL UNIT	12.75
RED SPOTTY ROUND CAKE TINS	8.95
CREAM SWEETHEART MINI CHEST	12.75

All Unique Items and avg unit pric	
Items	Average Unit Pice
15CM CHRISTMAS GLASS BALL 20 LIGHTS	7.75
PINK CHERRY LIGHTS	6.40
WHITE CHERRY LIGHTS	6.37
RECORD FRAME 7" SINGLE SIZE	2.45
STRAWBERRY CERAMIC TRINKET BOX	1.23
PINK DOUGHNUT TRINKET POT	1.63
SAVE THE PLANET MUG	1.29
FANCY FONT HOME SWEET HOME DOORMAT	6.41
CAT BOWL	2.53
DOG BOWL , CHASING BALL DESIGN	3.72
HEART MEASURING SPOONS LARGE	1.65

5. Customer Analysis

- **Objective:** Rank top 10 customers by spending.
- **Tools:** SUMIF, RANK.EQ, INDEX, MATCH

=UNIQUE(customer_id)

=SUMIF(customer_id,B10,total_value)

=PERCENTILE.INC(price,0.9)

=RANK.EQ(C10,\$C\$10:\$C\$5948,0)

=INDEX(\$B\$10:\$D\$5948,MATCH(F9,\$D\$10:\$D\$5948,0),1)

Top 10 Cuatomers

Rank	Customer	Total Spending
1	18102	598215.22
2	14646	523342.07
3	14156	296378.14
4	14911	270169.49
5	17450	233419.39
6	13694	190862.96
7	17511	171885.98
8	12415	143269.29
9	16684	141502.25
10	15061	136391.48

Unque Customers

Countsmokers	Speding Amou	Rank
13085	1459.46	2039
13078	28883.83	55
15362	613.08	3480
18102	598215.22	1
12682	23937.41	72
18087	14411.62	146
13635	2948.22	1141
14110	12957.6	169
12636	141	5367
17519	5102.8	611
13758	9263.14	286
12362	5284.58	590
15413	-2531.38	5929
16321	265.5	4722
17592	-1.06581E-14	5854

6. Sales Trends

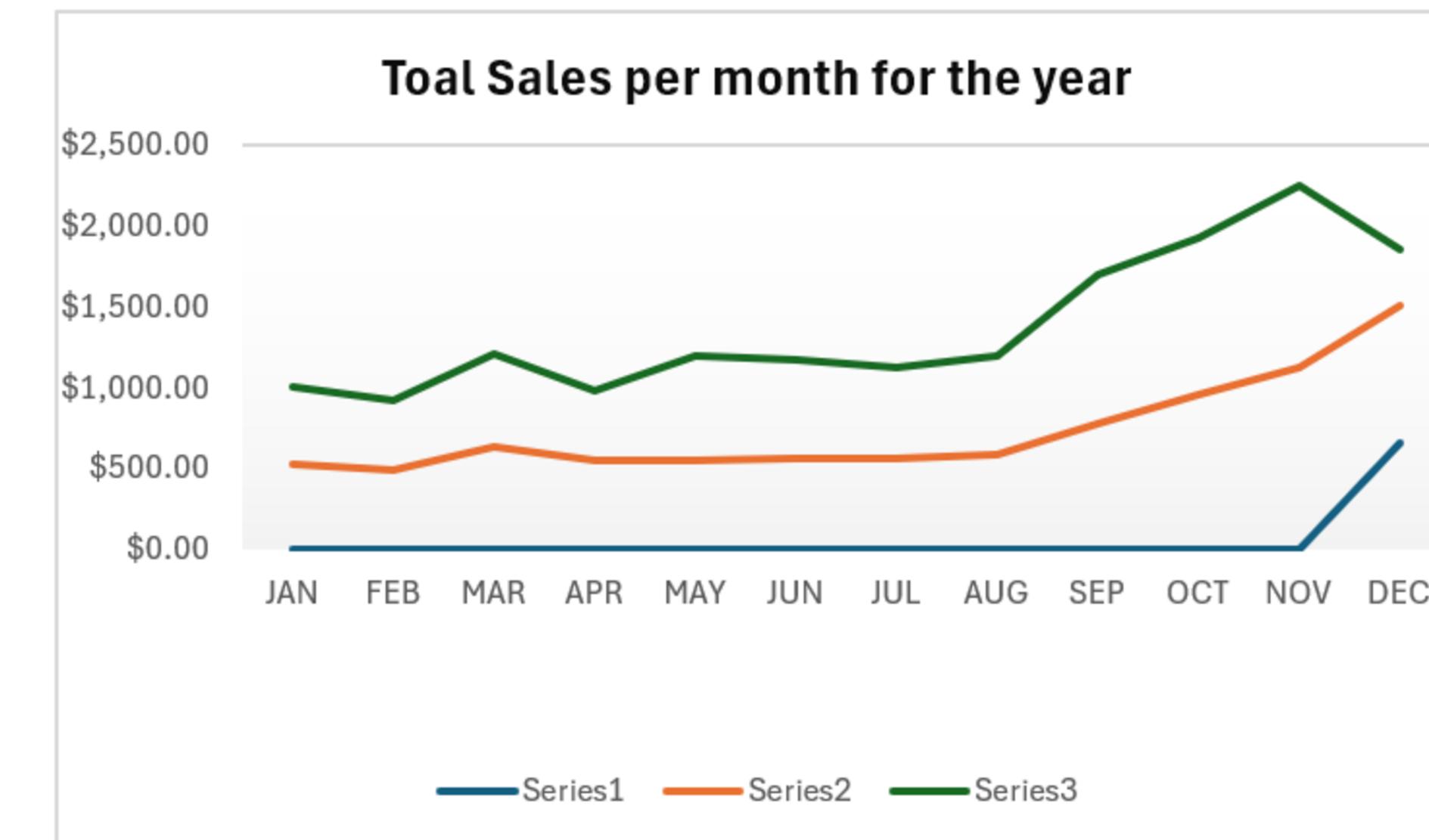
- **Objective:** Visualize monthly sales fluctuations.
- **Tools:** TEXT, MONTH, YEAR, SUMIFS, Line Chart

```
=SORTBY(UNIQUE(UPPER(TEXT(invoicedate, "mmm"))), MATCH(UNIQUE(UPPER(TEXT(invoicedate, "mmm"))), {"JAN","FEB","MAR","APR","MAY","JUN","JUL","AUG","SEP","OCT","NOV","DEC"}, 0))
```

```
=SUMPRODUCT(--(UPPER(TEXT(invoicedate,"mmm"))=$D10)*(YEAR(invoicedate)=E$9)*total_value)
```

```
=TRANSPOSE(UNIQUE(YEAR(invoicedate)))
```

Months/year	2009	2010	2011
JAN	0	530436.5	473731.9
FEB	0	487596.4	435534.1
MAR	0	633419.3	578576.2
APR	0	558007.8	425222.7
MAY	0	557873.4	647011.7
JUN	0	568784.6	606862.5
JUL	0	560885.3	573112.3
AUG	0	585259.5	615078.1
SEP	0	778520.1	929356.2
OCT	0	961520.7	973306.4
NOV	0	1129025	1126815
DEC	660125.1	855774.6	341557.4



7. Geographical Insights

- **Objective:** Identify the country with the most transactions.

- **Tools:** COUNTIF, Pivot Table

=SORT(UNIQUE(country))

=COUNTIF(country,E9)

8. Product Return Rate

- **Objective:** Calculate return rates for each product.

- **Tools:** SUMIFS, IF, ABS

=SUMPRODUCT(--(Desctription=A4)*ABS(quantity))

=ABS(SUMIFS(quantity,Desctription,\$A4,status,C\$3))

=IFERROR(IF(C4=0,0,(C4/B4)*100),0)

Good Performance Products

Products	Total Quant	Cancelled	Reeturn R
FOLKART ZINC HEART CHRISTMAS DEC	10693	1	0.01
DISCO BALL CHRISTMAS DECORATION	21331	3	0.01
PICTURE DOMINOES	6360	1	0.02
MINI JIGSAW DOLLY GIRL	5586	1	0.02
ABSTRACT CIRCLE POCKET BOOK	5392	1	0.02
CHRISTMAS GINGHAM TREE	4528	1	0.02
EMPIRE DESIGN ROSETTE	4519	1	0.02
TRAVEL CARD WALLET I LOVE LONDON	4347	1	0.02
BLACK AND WHITE PAISLEY FLOWER MUG	25691	6	0.02
FROSTED BOX 9 WHITE T-LIGHT CANDLES	3700	1	0.03
PACK 3 BOXES BIRD PANNETONE	3685	1	0.03
MINI JIGSAW PURDEY	3638	1	0.03
FELTCRAFT PRINCESS CHARLOTTE DOLL	3496	1	0.03
GREEN FERN NOTEBOOK	3428	1	0.03
BLUE PAISLEY NOTEBOOK	3321	1	0.03
SMALL HEART FLOWERS HOOK	6295	2	0.03
FLOWER FAIRY INCENSE ROSE	3125	1	0.03
BLUE SPOTTY CUP	3124	1	0.03
METAL SIGN EMPIRE TEA	2724	1	0.04
CHILDRENS APRON APPLES DESIGN	2701	1	0.04
SANDWICH BATH SPONGE	2677	1	0.04
CHRISTMAS TREE HEART DECORATION	2573	1	0.04
ASS FLORAL PRINT TORCH	2568	1	0.04
LARGE RED BABUSHKA NOTEBOOK	2540	1	0.04
BLACK HEART CARD HOLDER	12386	5	0.04
12 IVORY ROSE PEG PLACE SETTINGS	2397	1	0.04
PINK VINTAGE SPOT BEAKER	4681	2	0.04
POTTING IN THE SHED METAL SIGN	9329	4	0.04
JUMBO BAG RED WHITE SPOTTY	13885	6	0.04
WATERING CAN GARDEN MARKER	2259	1	0.04
HANGING WOOD AND FELT FLOWER	2151	1	0.05
LOVE HEART POCKET WARMER	4208	2	0.05
STARS GIFT TAPE	2102	1	0.05
RetroSpot GIANT TURF MATCHES	2096	1	0.05

Worst Performance Products

Products	Total Quant	Cancelled	Reeturn R
CRUK Commission	16	16	100.00
SET 6 MINI SUSHI SET FRIDGE MAGNETS	12	12	100.00
VINTAGE BLUE VACUUM FLASK 0.5L	10	10	100.00
WHITE ORCHID FLOWER LIGHTS	6	6	100.00
SET OF KITCHEN WALL STICKERS	4	4	100.00
LARGE GLASS HEART TRINKET POT	4	4	100.00
HAND OPEN SHAPE CHROME	3	3	100.00
S/4 HEART CRYSTAL FRIDGE MAGNETS	3	3	100.00
PINK EAR MUFF HEADPHONES	3	3	100.00
Adjustment by Peter on 24/05/2010 1	3	3	100.00
PURPLE ORCHID FLOWER LIGHTS	2	2	100.00
VINTAGE WOOD ORGANISER	2	2	100.00
ENGLISH ROSE DESIGN KITCHEN APRON	2	2	100.00
ZINC HEART HANGER WITH HOOKS	1	1	100.00
BLUE GREEN CHRISTMAS HANGING BALL	1	1	100.00
LARGE SILVER BALUSTRADE CANDLESTICK	1	1	100.00
WHITE SCANDINAVIAN HEART CHRISTMAS	13	12	92.31
FEATHER HEART LIGHTS	10	9	90.00
RED HEART CANDY POP LIGHTS	4	3	75.00
SILVER CHERRY LIGHTS	211	152	72.04
CREAM SWEETHEART DOUBLE SHELF	9	6	66.67
CERAMIC CAKE TEAPOT WITH CHERRY	3	2	66.67
TREE OF NOAH FESTIVE SCENTED CANDLE	146	96	65.75
ENGLISH ROSE SET/3 GARDEN TOOLS	7	4	57.14
KISS REINDEER SCANDINAVIAN STOCKING	11	6	54.55
WHITE CHERRY LIGHTS	2029	1067	52.59
BLACK CHERRY LIGHTS	471	240	50.96
PAPER CRAFT, LITTLE BIRDIE	161990	80995	50.00
LITTLE FLOWER SHOPPER BAG	800	400	50.00
MULTICOLOUR FEATHERS CURTAIN	144	72	50.00
WOODLAND CREATURES WRAP	50	25	50.00
Adjustment by John on 26/01/2010 16	36	18	50.00
BREAD BIN DINER STYLE BLACK	16	8	50.00
BLUE TILED SET OF 3 DRAWERS	10	5	50.00
CAMOUFLAGE BACKPACK ON WHEELS	4	2	50.00
GLASS JAR, ENGLISH CONFECTIONERY	4	2	50.00
BEWARE OF THE CAT DOORMAT	4	2	50.00
SILVER WINE GOBLET	4	2	50.00
SWEETHEART CREAM STEEL FOLDIN CHAIR	2	1	50.00
BOX OF 3 PEBBLE CANDLES	2	1	50.00
ENGLISH ROSE DESIGN SHOPPING BAG	2	1	50.00
CIRCUS PARADE FINCHROY	2	1	50.00

Country	No of transactions	Row Labels	Count of Invoice
Australia	1909	Australia	1909
Austria	938	Austria	938
Bahrain	59	Bahrain	59
Belgium	3121	Belgium	3121
Brazil	94	Brazil	94
Canada	228	Canada	228
Channel Islands	1663	Channel Islands	1663
Cyprus	1157	Cyprus	1157
Czech Republic	30	Czech Republic	30
Denmark	817	Denmark	817
EIRE	16178	EIRE	16178
European Community	61	European Community	61
Finland	1049	Finland	1049
France	14167	France	14167
Germany	17591	Germany	17591
Greece	663	Greece	663
Iceland	253	Iceland	253
Israel	321	Israel	321
Italy	1532	Italy	1532
Japan	582	Japan	582
Korea	63	Korea	63
Lebanon	45	Lebanon	45
Lithuania	189	Lithuania	189
Malta	299	Malta	299
Netherlands	5134	Netherlands	5134
Nigeria	30	Nigeria	30
Norway	1454	Norway	1454
Poland	535	Poland	535
Portugal	2494	Portugal	2494
RSA	122	RSA	122
Saudi Arabia	10	Saudi Arabia	10
Singapore	346	Singapore	346
Spain	3798	Spain	3798
Sweden	1343	Sweden	1343
Switzerland	3063	Switzerland	3063
Thailand	76	Thailand	76
United Arab Emirates	386	United Arab Emirates	386
United Kingdom	729387	United Kingdom	729387
Unspecified	521	Unspecified	521
USA	535	USA	535
West Indies	54	West Indies	54
Grand Total	812297		

9. Customer Segmentation

- **Objective:** Segment customers into spending tiers.
- **Tools:** QUARTILE.INC, IF, VLOOKUP

Expenditure per customer =**=IFERROR(SUMIFS(total_value,customer_id,A4),">0")**

=QUARTILE.INC(\$B\$4:\$B\$5942,1)

=IF(B4 <= \$H\$8,"Low", IF(B4 <= \$H\$9, "Medium", IF(B4 <= \$H\$10, "High", "Very High")))

=IFERROR(VLOOKUP(B4,\$J\$8:\$L\$11,3,1),"<0")

=COUNTIF(\$D\$4:\$D\$5942,G16)

Quartile	Quartile based on expenditure
Quartile 1	323.35
Quartile 2	841.64
Quartile 3	2172.42

Range Start	Range End	Tier
0	323.345	Low
323.345	841.64	Medium
841.64	2172.42	High
2172.42	MAX	Very High

10. Dashboard Creation

- **Objective:** Build an interactive dashboard with key performance indicators.
- **Tools:** Pivot Tables, Slicers, Charts, Dashboard Design

Create Multiple Pivot table for Build Sales Performance Dashboard

	Sum of total_value	Sum of Quantity	Count of Invoice	Average of total_value	Average of Quantity
	\$ 16.59 M	10.19 M	812.30 K	\$ 20.43	12.54
Row Labels					
REGENCY CAKESTAND 3 TIER	269268.25				

	Sum of total_value	Column Labels	2010	2011	Grand Total
Row Labels			2009		
Jan	\$ 530.4K		\$ 473.7K		\$ 1004.2K
Feb	\$ 487.6K		\$ 435.5K		\$ 923.1K
Mar	\$ 633.4K		\$ 578.6K		\$ 1212.0K
Apr	\$ 558.0K		\$ 425.2K		\$ 983.2K
May	\$ 557.9K		\$ 647.0K		\$ 1204.9K
Jun	\$ 568.8K		\$ 606.9K		\$ 1175.6K
Jul	\$ 560.9K		\$ 573.1K		\$ 1134.0K
Aug	\$ 585.3K		\$ 615.1K		\$ 1200.3K
Sep	\$ 778.5K		\$ 929.4K		\$ 1707.9K
Oct	\$ 961.5K		\$ 973.3K		\$ 1934.8K
Nov	\$ 1129.0K		\$ 1126.8K		\$ 2255.8K
Dec	\$ 660.1K		\$ 855.8K		\$ 341.6K
Grand Total	\$ 660.1K		\$ 8207.1K		\$ 7726.2K
					\$ 16593.4K

Row Labels	Sum of total_value
REGENCY CAKESTAND 3 TIER	\$ 269268.25
Grand Total	\$ 269268.25

Row Labels	Sum of total_value	Row Labels	Sum of Price
United Kingdom	\$ 13752.9K	14911	\$ 71.3K
EIRE	\$ 578.2K	14096	\$ 41.4K
Netherlands	\$ 548.5K	15098	\$ 40.3K
Germany	\$ 417.4K	14063	\$ 39.9K
France	\$ 326.3K	14156	\$ 36.4K
Grand Total	\$ 15623.4K	Grand Total	\$ 229.3K

Sum of total_value	Column Label
	2009
EIRE	17196
France	5555
Germany	9516
Netherlands	15204
United Kingdom	589996

Row Labels	Sum of Price
14911	\$ 71.3K
14096	\$ 41.4K
15098	\$ 40.3K
14063	\$ 39.9K
14156	\$ 36.4K
Grand Total	\$ 229.3K

Tier	No of customer
Low	1397
Medium	1485
High	1484
Very High	1485
Total	5851

SALES PERFORMANCE DASHBOARD



Online Retail Sales

\$ 16.59 M

Total Revenue

10.19 M

Total Quantity Sold

812.30 K

Total Orders

\$ 20.43

Avg Price Per Order

12.54

Avg Quantity Per Order

REGENCY CAKESTAND 3 TIER
Top Item By Sale

* Sales Trend by Year and Month: The sales in 2011 saw a significant increase during the latter half of the year, particularly in October and November, suggesting a seasonal boost.

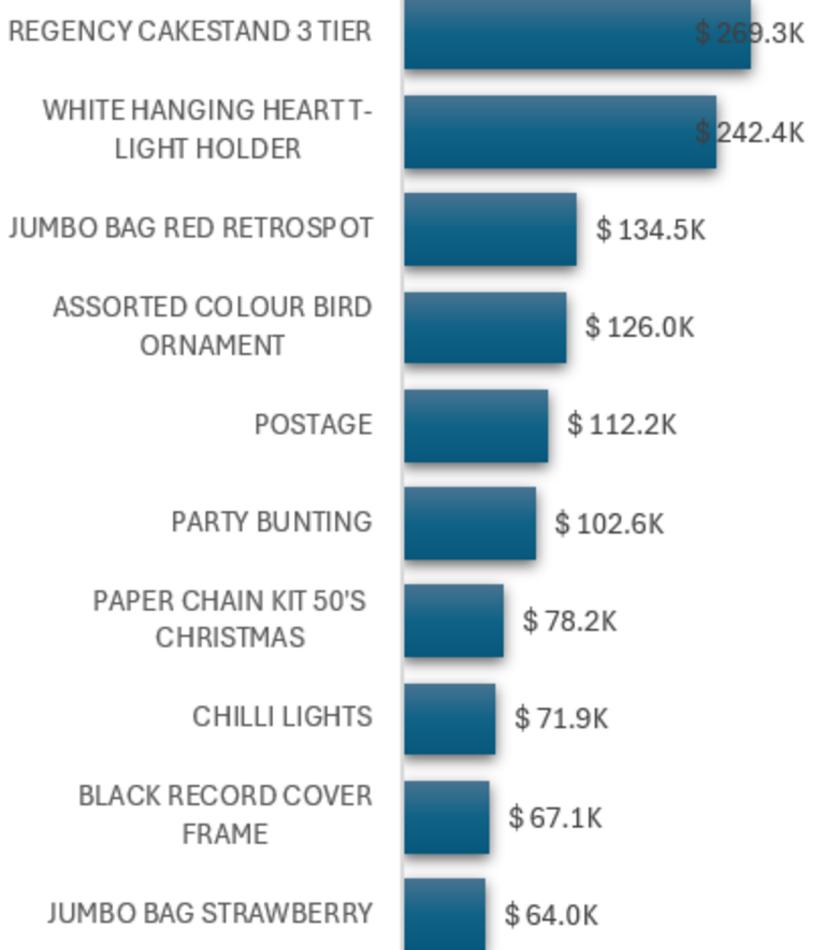
* Quantity vs. Revenue Analysis: The top products by quantity sold are not necessarily the top by revenue, suggesting opportunities to

Filter

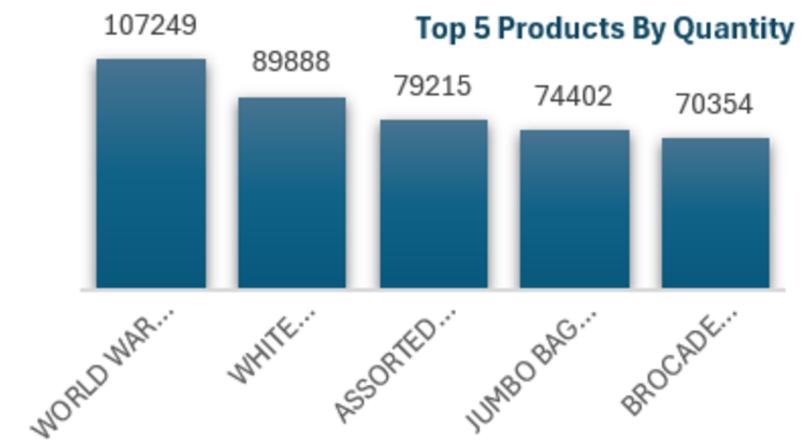
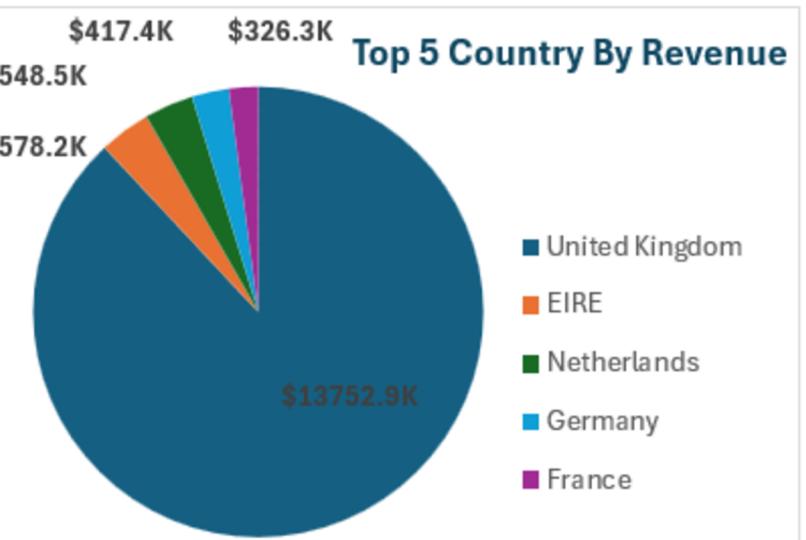
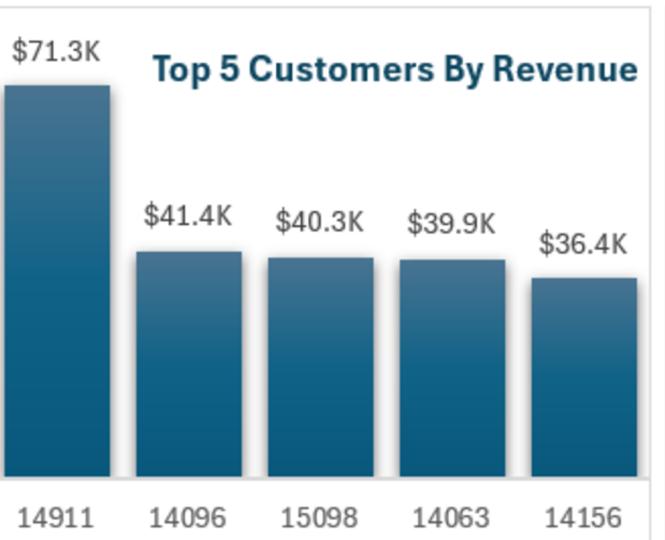
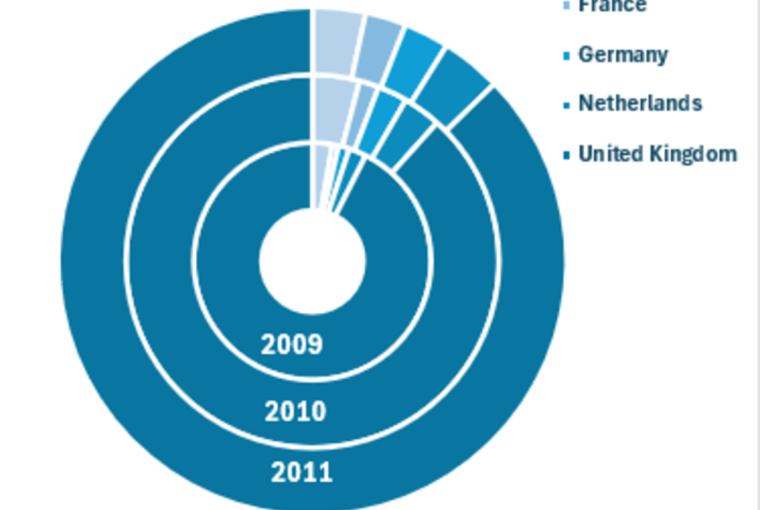
Months	Jan	Feb
Mar	Apr	
May	Jun	
Jul	Aug	
Sep	Oct	
Nov	Dec	



Top 10 Products By Revenue



Top 5 Country Revenue YOY



Key Insights:

- **Sales Growth:** 2021 shows a significant sales boost, especially during October and November, indicating strong seasonality. Consider boosting marketing efforts and inventory around these months to capitalize on high demand.
- **Top-Selling Products:** The Regency Cakestand 3 Tier and White Hanging Heart-Light Holder are the highest revenue generators. Focus on promoting these items further through bundles or special offers.
- **Customer Revenue Distribution:** United Kingdom leads with the highest revenue, followed by EIRE. Enhance targeted promotions and customer loyalty programs in these regions to maximize revenue.
- **Quantity vs. Revenue:** Top products by quantity sold (e.g., World War 2 Glider, White Hanging Heart-Light Holder) differ from top revenue products. Analyze pricing strategies to optimize both quantity and revenue.
- **Customer Segmentation:** The top five customers contribute significantly to the revenue. Consider creating exclusive offers or personalized experiences for these customers to boost retention and sales.



Suggestions to Improve Sales:

- **Seasonal Promotions:** Launch targeted promotions during the latter half of the year, especially in October and November, to leverage the natural sales spike.
- **Product Bundling:** Bundle top-selling products with lower-performing items to increase average order value and move less popular inventory.
- **Country-Specific Campaigns:** Tailor marketing campaigns for the UK and EIRE, focusing on the products that are most popular in these regions to enhance engagement and sales.
- **Cross-Sell & Upsell:** Implement cross-selling and upselling strategies, especially for the top 10 products by revenue, to encourage higher spending per transaction.
- **Inventory Management:** Ensure sufficient stock of top products during peak sales months and consider expanding the range of bestsellers to maintain customer interest and satisfaction.



Thank You!



GitHub <https://github.com/sumit-me-97/Online-Retail-Sales-Analysis> **YouTube** <https://youtu.be/Jpzx4hQKNb0>

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