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Data Cleaning:

- **Gender Column**: Apply the replace function to ensure uniformity by replacing all gender values with standardized codes like "M" for male and "F" for female.
- **Quantity Column**: Standardize quantity data by converting numbers in words to numeric digits using the replace or map functions, ensuring consistency.
- **Age, Qty, & Amount Columns**: Validate data integrity by checking for negative values in these columns, which may indicate errors.
- **Amount Column**: Convert numbers into currency format to ensure all amounts are displayed uniformly as monetary values.
- **Ship-City & Ship-State Columns**: Standardize text entries by applying the PROPER case function. Also, using pivot tables and filters helps in identifying inconsistencies and ensuring data uniformity.
- **Ship-Postal-Code Column**: Apply conditional formatting to verify that each postal code entry has exactly six digits, flagging any discrepancies.
- **Overall Quality Checks**: Checked for duplicate entries, blank values and spelling errors.

Data Summarization:

1. Which month got the highest sales & highest orders:

| Row Labels	Total Sales Amount	Sum of Qty
Jan	₹ 18,20,601	2,717
Feb	₹ 18,75,932	2,770
Mar	₹ 19,28,066	2,843
Apr	₹ 18,29,263	2,704
May	₹ 17,97,822	2,641
Jun	₹ 17,50,966	2,612
Jul	₹ 17,72,300	2,592
Aug	₹ 18,08,505	2,629
Sep	₹ 16,88,871	2,508
Oct	₹ 16,66,662	2,436
Nov	₹ 16,15,356	2,395
Dec	₹ 16,22,033	2,390
Grand Total	**₹ 2,11,76,377**	**31,237**
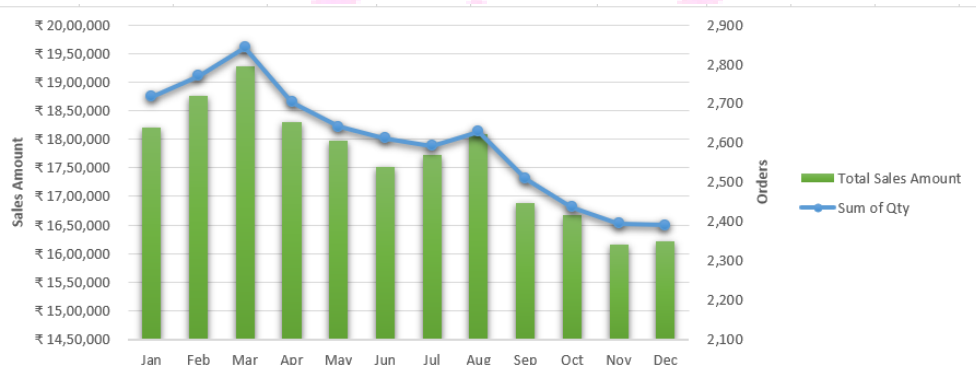
Observations:
- There is a peak in sales during March, where the "Total Sales Amount" is the highest at ₹19,97,822.
- After March, there's a noticeable decline in sales, especially sharp between March and May.
- The "Sum of Qty" (quantity sold) also follows a similar pattern to sales, with a peak in March (2,843 units) and then declining through the year.

2. Who purchased more (gender wise)

| Row Labels	Sum of Qty
Female	21,702
Male	9,535
Grand Total	**31,237**
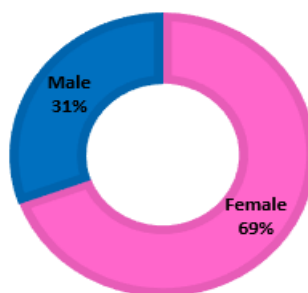
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Observations:

- The majority of sales are driven by female customers, indicating that the product or service may be more popular or targeted towards females.
- Given the lower percentage of sales from male customers, there might be an opportunity to explore strategies that could appeal more to male customers to balance the customer demographics.

3. **Month on month sales and orders (Gender wise)**

| Sum of Amount	Column Labels		
Row Labels	Female	Male	Grand Total
Jan	₹ 11,10,605	₹ 7,09,996	₹ 18,20,601
Feb	₹ 11,88,617	₹ 6,87,315	₹ 18,75,932
Mar	₹ 13,39,393	₹ 5,88,673	₹ 19,28,066
Apr	₹ 11,50,597	₹ 6,78,666	₹ 18,29,263
May	₹ 11,98,909	₹ 5,98,913	₹ 17,97,822
Jun	₹ 11,01,780	₹ 6,49,186	₹ 17,50,966
Jul	₹ 11,27,554	₹ 6,44,746	₹ 17,72,300
Aug	₹ 11,22,232	₹ 6,86,273	₹ 18,08,505
Sep	₹ 10,81,874	₹ 6,06,997	₹ 16,88,871
Oct	₹ 10,69,395	₹ 5,97,267	₹ 16,66,662
Nov	₹ 10,29,832	₹ 5,85,524	₹ 16,15,356
Dec	₹ 10,41,985	₹ 5,80,048	₹ 16,22,033
Grand Total	₹ 1,35,62,773	₹ 76,13,604	₹ 2,11,76,377
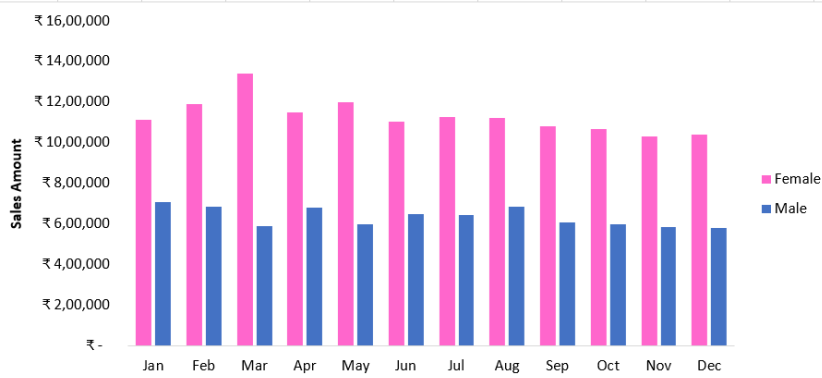
Observations:

- Both female and male segments hit their highest sales in March, with female sales reaching ₹13,39,393 and male sales at ₹5,88,673. This month has the highest total sales.
- Male sales are relatively stable throughout the year but have a noticeable drop in June and a minor increase in July and August, mirroring the trend observed in overall quantity data.
- Female sales show more fluctuation, with noticeable peaks in March and a secondary peak in August. This suggests that certain months may have promotions or events more appealing to female customers.

4. **Top3 States in terms of Sales and orders (separate)**

Sales Amount	Total Sales Amount
Maharashtra	₹ 29,90,221
Karnataka	₹ 26,46,358
Uttar Pradesh	₹ 21,04,659
Grand Total	₹ 77,41,238
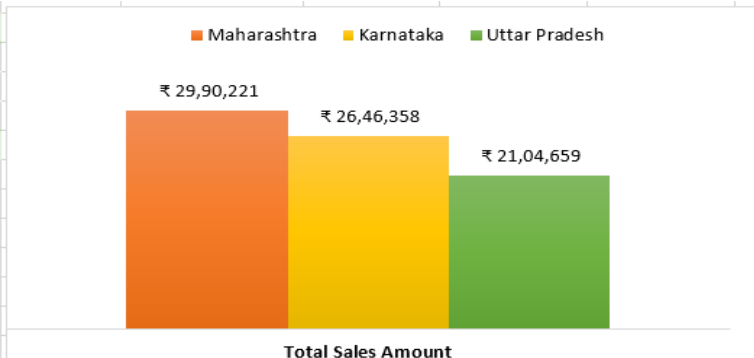
No. of Orders	Sum of Qty
Maharashtra	4,534
Karnataka	4,023
Uttar Pradesh	2,906
Grand Total	11,463
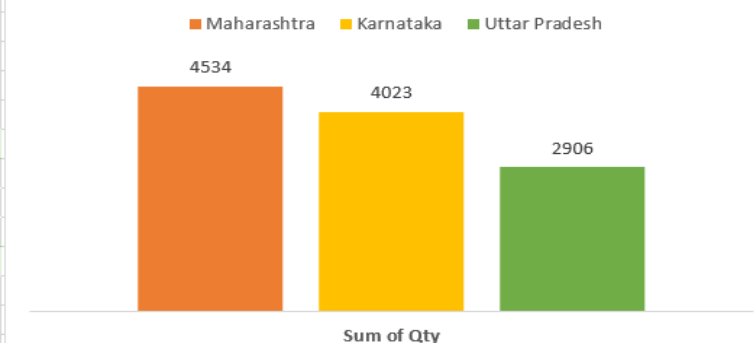
Observations:

- Maharashtra: Consistently the top-performing region, Maharashtra has the highest annual total sales at ₹29,90,221.

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- Karnataka: Second in total sales with ₹26,46,358 annually. While generally stable, Karnataka peaks in May with ₹2,43,716.
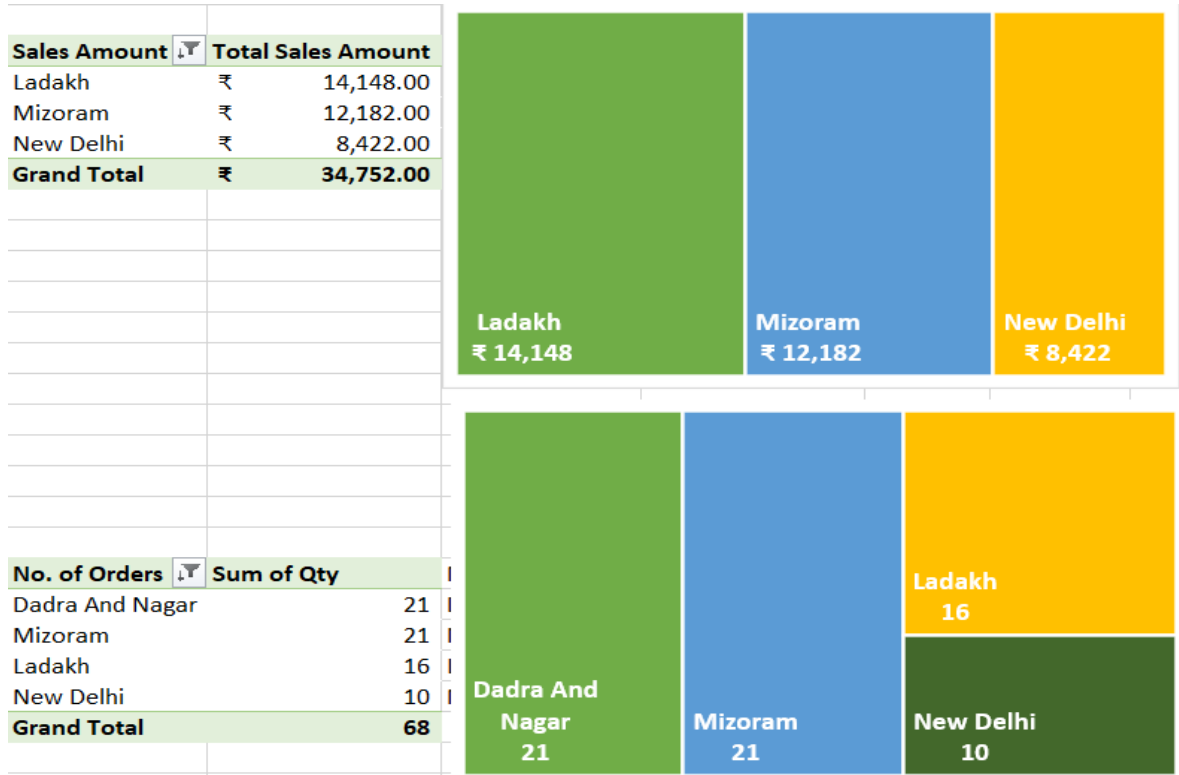- Uttar Pradesh: While it has the third in monthly totals, its sales show steady growth and decline similar to other regions, ending the year with ₹21,04,659.

5. **Bottom 3 States in terms of Sales and orders (separate)**

Sales Amount	Total Sales Amount
Ladakh	₹ 14,148.00
Mizoram	₹ 12,182.00
New Delhi	₹ 8,422.00
Grand Total	**₹ 34,752.00**

No. of Orders	Sum of Qty	
Dadra And Nagar	21	
Mizoram	21	
Ladakh	16	
New Delhi	10	
Grand Total	**68**	

Observations:

- In the bottom three states Ladakh leads in total sales with ₹14,148, followed by Mizoram with ₹12,182, while New Delhi has the lowest sales at ₹8,422, making it the least performing region in terms of revenue.
- Ladakh, despite having fewer orders than Dadra and Nagar, generates higher sales, suggesting higher transaction values per order. New Delhi has the lowest number of orders and sales, reflecting lower demand or market size in that region.

6. **Relationship between age and gender based on the number of orders**

Sum of Qty Column Labels			
Age	Female	Male	Grand Total
18	537	213	750
19	510	216	726
20	524	244	768
21	510	267	777
22	578	257	835
23	578	237	815
24	565	223	788
25	538	248	786
26	547	232	779
27	540	239	779
28	606	231	837
29	565	264	829
30	520	234	754

By Prasad Poojari
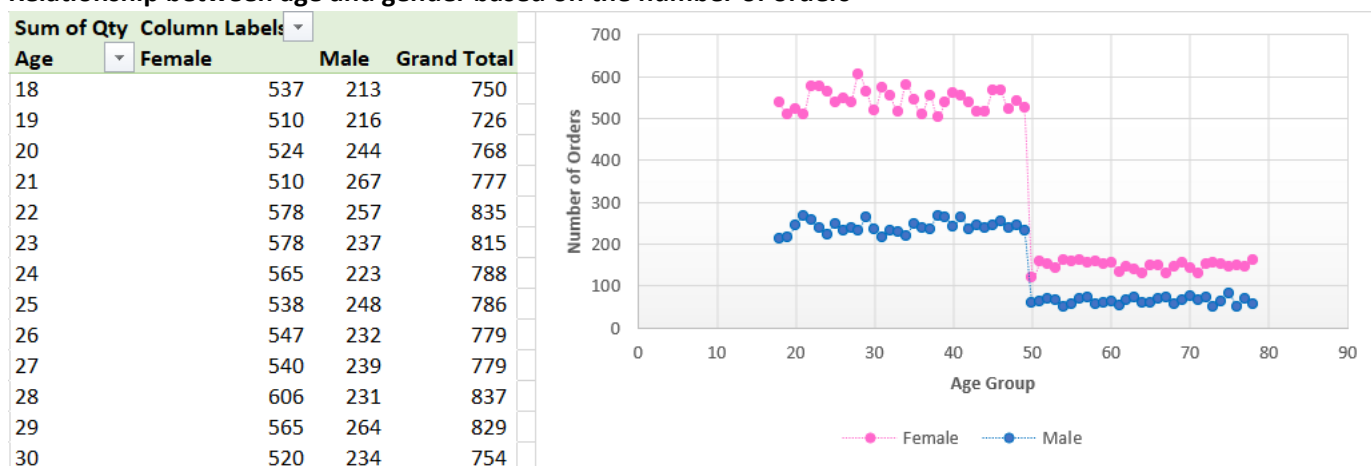
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Observations:

> **Gender Comparison:**

- Female quantities are consistently higher than male quantities for each age, with a cumulative total of 21,702 for females and 9,535 for males.
- The higher quantities for females across all ages may indicate either a higher participation rate or engagement level compared to males within this dataset.

> **Age Range Analysis:**

- Ages 18-30 collectively contribute significantly, making up a substantial proportion of the total. This trend typically signifies either a youthful demographic or one with a preference for this age range.
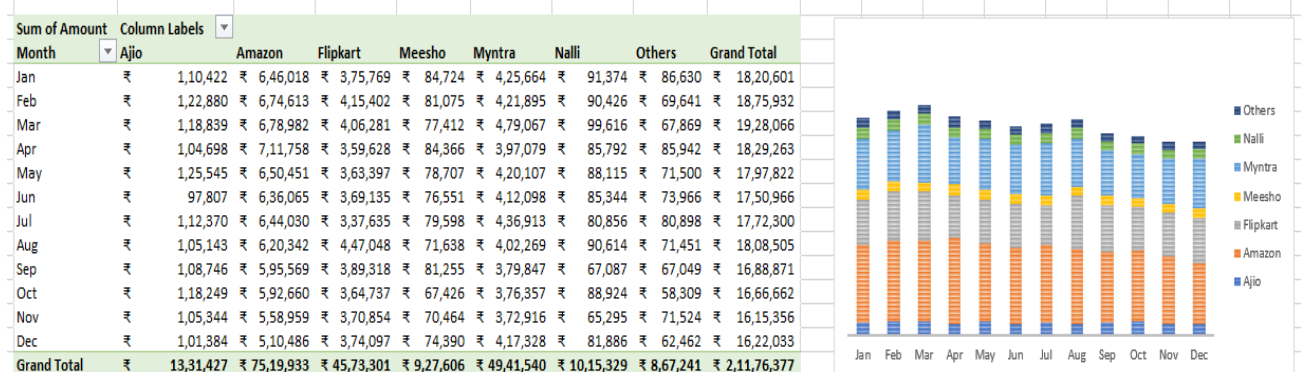- After age 30, the totals begin to gradually decrease, showing a potential decline in activity or representation as age increases.
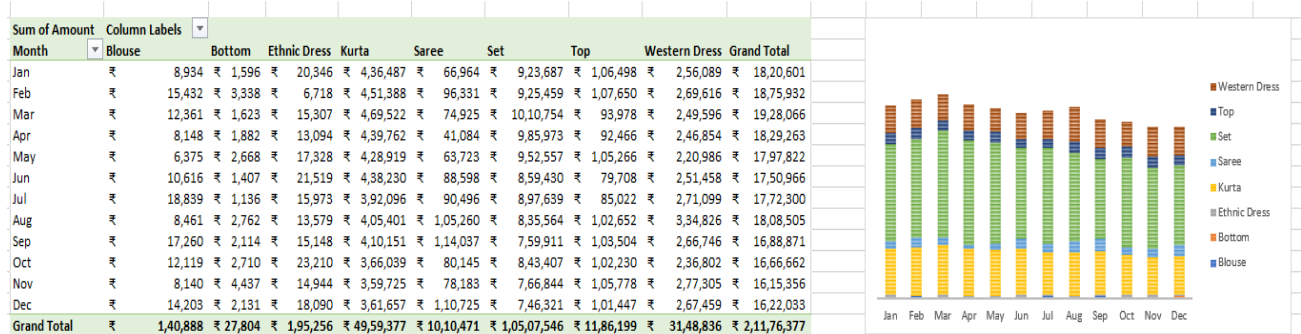
7. **Which channel contributes the maximum in Sales Month on Month basis**

Sum of Amount	Ajio	Amazon	Flipkart	Meesho	Myntra	Nalli	Others	Grand Total
Month								
Jan	₹ 1,10,422	₹ 6,46,018	₹ 3,75,769	₹ 84,724	₹ 4,25,664	₹ 91,374	₹ 86,630	₹ 18,20,601
Feb	₹ 1,22,880	₹ 6,74,613	₹ 4,15,402	₹ 81,075	₹ 4,21,895	₹ 90,426	₹ 69,641	₹ 18,75,932
Mar	₹ 1,18,839	₹ 6,78,982	₹ 4,06,281	₹ 77,412	₹ 4,79,067	₹ 99,616	₹ 67,869	₹ 19,28,066
Apr	₹ 1,04,698	₹ 7,11,758	₹ 3,59,628	₹ 84,366	₹ 3,97,079	₹ 85,792	₹ 85,942	₹ 18,29,263
May	₹ 1,25,545	₹ 6,50,451	₹ 3,63,397	₹ 78,707	₹ 4,20,107	₹ 88,115	₹ 71,500	₹ 17,97,822
Jun	₹ 97,807	₹ 6,36,065	₹ 3,69,135	₹ 76,551	₹ 4,12,098	₹ 85,344	₹ 73,966	₹ 17,50,966
Jul	₹ 1,12,370	₹ 6,44,030	₹ 3,37,635	₹ 79,598	₹ 4,36,913	₹ 80,856	₹ 80,898	₹ 17,72,300
Aug	₹ 1,05,143	₹ 6,20,342	₹ 4,47,048	₹ 71,638	₹ 4,02,269	₹ 90,614	₹ 71,451	₹ 18,05,505
Sep	₹ 1,08,746	₹ 5,95,569	₹ 3,89,318	₹ 81,255	₹ 3,79,847	₹ 67,087	₹ 67,049	₹ 16,88,871
Oct	₹ 1,18,249	₹ 5,92,660	₹ 3,64,737	₹ 67,426	₹ 3,76,357	₹ 88,924	₹ 58,309	₹ 16,66,662
Nov	₹ 1,05,344	₹ 5,58,959	₹ 3,70,854	₹ 70,464	₹ 3,72,916	₹ 65,295	₹ 71,524	₹ 16,15,356
Dec	₹ 1,01,384	₹ 5,10,486	₹ 3,74,097	₹ 74,390	₹ 4,17,328	₹ 81,886	₹ 62,462	₹ 16,22,033
Grand Total	₹ 13,31,427	₹ 75,19,933	₹ 45,73,301	₹ 9,27,606	₹ 49,41,540	₹ 10,15,329	₹ 8,67,241	₹ 2,11,76,377

Observations:

- Amazon, Myntra, and Flipkart are the leading platforms, with Amazon dominating monthly sales.
- April and May represent peak sales months, while January and December have relatively lower sales.
- Smaller platforms like Ajio, Meesho, and Nalli maintain steady but lower sales, while "Others" contribute a consistent smaller portion each month.

8. **Highest and Least Selling Category of Products Month on Month basis**

| Sum of Amount	Blouse	Bottom	Ethnic Dress	Kurta	Saree	Set	Top	Western Dress	Grand Total
Month									
Jan	₹ 8,934	₹ 1,596	₹ 20,346	₹ 4,36,487	₹ 66,964	₹ 9,23,687	₹ 1,06,498	₹ 2,56,089	₹ 18,20,601
Feb	₹ 15,432	₹ 3,338	₹ 6,718	₹ 4,51,388	₹ 96,331	₹ 9,25,459	₹ 1,07,650	₹ 2,69,616	₹ 18,75,932
Mar	₹ 12,361	₹ 1,623	₹ 15,307	₹ 4,69,522	₹ 74,925	₹ 10,10,754	₹ 93,978	₹ 2,49,596	₹ 19,28,066
Apr	₹ 8,148	₹ 1,882	₹ 13,094	₹ 4,39,762	₹ 41,084	₹ 9,85,973	₹ 92,466	₹ 2,46,854	₹ 18,29,263
May	₹ 6,375	₹ 2,668	₹ 17,328	₹ 4,28,919	₹ 63,723	₹ 9,52,557	₹ 1,05,266	₹ 2,20,986	₹ 17,97,822
Jun	₹ 10,616	₹ 1,407	₹ 21,519	₹ 4,38,230	₹ 88,598	₹ 8,59,430	₹ 79,708	₹ 2,51,458	₹ 17,50,966
Jul	₹ 18,839	₹ 1,136	₹ 15,973	₹ 3,92,096	₹ 90,496	₹ 8,97,639	₹ 85,022	₹ 2,71,099	₹ 17,72,300
Aug	₹ 8,461	₹ 2,762	₹ 13,579	₹ 4,05,401	₹ 1,05,260	₹ 8,35,564	₹ 1,02,652	₹ 3,34,826	₹ 18,08,505
Sep	₹ 17,260	₹ 2,114	₹ 15,148	₹ 4,10,151	₹ 1,14,037	₹ 7,59,911	₹ 1,03,504	₹ 2,66,746	₹ 16,88,871
Oct	₹ 12,119	₹ 2,710	₹ 23,210	₹ 3,66,039	₹ 80,145	₹ 8,43,407	₹ 1,02,230	₹ 2,36,802	₹ 16,66,662
Nov	₹ 8,140	₹ 4,437	₹ 14,944	₹ 3,59,725	₹ 78,183	₹ 7,66,844	₹ 1,05,778	₹ 2,77,305	₹ 16,15,356
Dec	₹ 14,203	₹ 2,131	₹ 18,090	₹ 3,61,657	₹ 1,10,725	₹ 7,46,321	₹ 1,01,447	₹ 2,67,459	₹ 16,22,033
Grand Total	₹ 1,40,888	₹ 27,804	₹ 1,95,256	₹ 49,59,377	₹ 10,10,471	₹ 1,05,07,546	₹ 11,86,199	₹ 31,48,836	₹ 2,11,76,377

Observations:

- Sets is the best-performing category by a wide margin, followed by Kurta and western dress.
- April and May represent peak sales months, while January and December have relatively lower sales.
- While sets shows consistent demand, Bottoms and Blouses lag in sales, possibly due to lower consumer interest or smaller market share for these items.

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9. Quarterly Sales

| Month	Sum of Amount
Qtr1	56,24,599
Qtr2	53,78,051
Qtr3	52,69,676
Qtr4	49,04,051
Grand Total	**2,11,76,377**
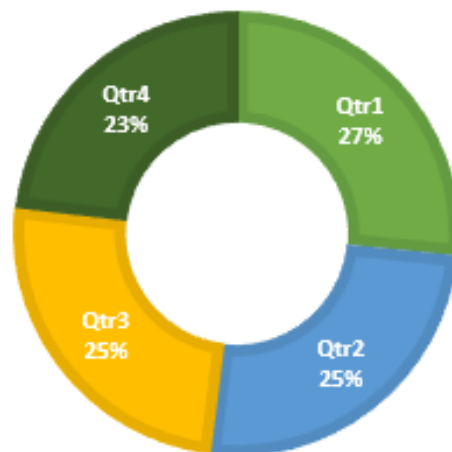
Observations:

- The highest amount is recorded in Qtr1 (5,624,599), followed by a slight decrease in Qtr2 (5,378,051) and Qtr3 (5,269,676).
- The lowest amount is seen in Qtr4 (4,904,051), indicating a downward trend throughout the year.
- This gradual decline suggests that there may be seasonal factors or other influences affecting the amounts collected in later quarters.

10. Delivery Rate & Non-Delivery Rate (Month on Month Basis)

| Month	Sum of Qty
Cancelled	844
Delivered	28,822
Refunded	521
Returned	1,050
Grand Total	**31,237**
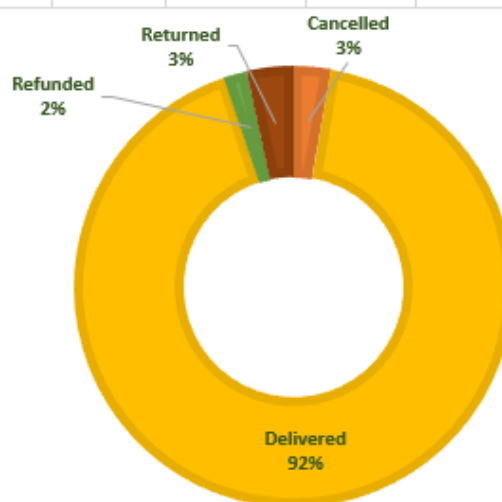
Observations:

- The vast majority of orders, 28,822 (or about 92%), are marked as Delivered. This high percentage indicates strong fulfilment and successful order completion for most transactions.
- Returned: 1,050 orders (about 3.4%) were returned, which may point to issues related to customer satisfaction or product quality.
- Cancelled: 844 orders (about 2.7%) were cancelled, suggesting potential issues with order processing, changes in customer intent, or availability.
- Refunded: 521 orders (about 1.7%) were refunded, possibly due to customer dissatisfaction or discrepancies in order fulfilment.
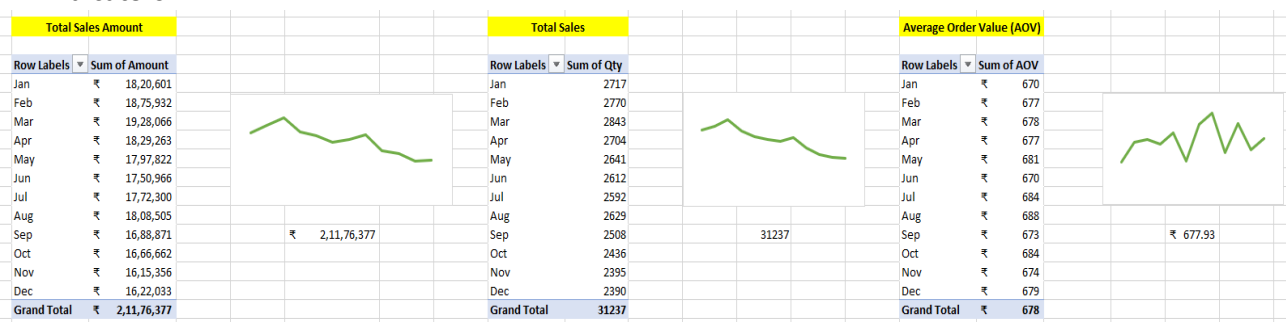
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11. Sales Composition

Row Labels	Sum of Amount
B2C	21050056
B2B	126321
Grand Total	**21176377**
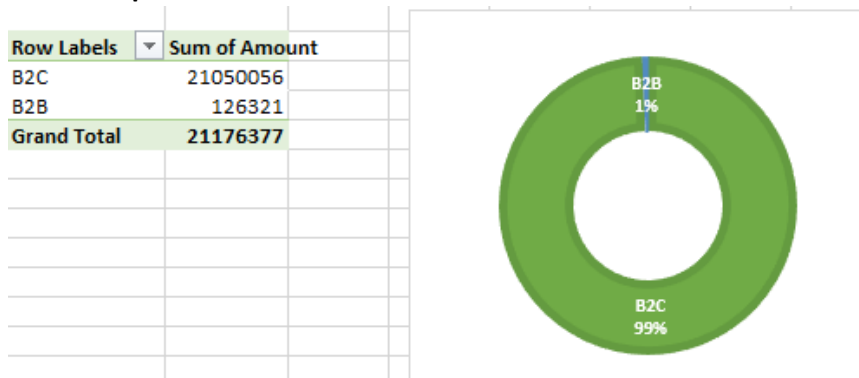
Observations:

- B2C transactions account for 21,050,056 of the total amounts, representing an overwhelming 99.4% of the grand total.
- B2B transactions contribute only 126,321, or 0.6%, of the total amount. This stark contrast highlights that the business is primarily focused on direct consumer sales rather than business-to-business transactions.

12. KPI indicators:

Total Sales Amount			Total Sales			Average Order Value (AOV)		
Row Labels	Sum of Amount		Row Labels	Sum of Qty		Row Labels	Sum of AOV	
Jan	₹ 18,20,601		Jan	2717		Jan	₹ 670	
Feb	₹ 18,75,932		Feb	2770		Feb	₹ 677	
Mar	₹ 19,28,066		Mar	2843		Mar	₹ 678	
Apr	₹ 18,29,263		Apr	2704		Apr	₹ 677	
May	₹ 17,97,822		May	2641		May	₹ 681	
Jun	₹ 17,50,966		Jun	2612		Jun	₹ 670	
Jul	₹ 17,72,300		Jul	2592		Jul	₹ 684	
Aug	₹ 18,08,505		Aug	2629		Aug	₹ 688	
Sep	₹ 16,88,871	₹ 2,11,76,377	Sep	2508	31237	Sep	₹ 673	₹ 677.93
Oct	₹ 16,66,662		Oct	2436		Oct	₹ 684	
Nov	₹ 16,15,356		Nov	2395		Nov	₹ 674	
Dec	₹ 16,22,033		Dec	2390		Dec	₹ 679	
Grand Total	**₹ 2,11,76,377**		**Grand Total**	**31237**		**Grand Total**	**₹ 678**	

Observations:

- **Total Sales Amount:** Monthly revenue shows a steady decline from March's peak (₹19,28,066) to December (₹16,22,033), indicating potential seasonality or factors reducing sales toward year-end.
- **Total Sales:** Monthly quantity trends show a gradual decline from March's peak (2,843) to December (2,390), suggesting reduced sales volume or demand in the latter part of the year.
- **Average Order Value (AOV):** The Average Order Value (AOV) for each month ranges from ₹670 to ₹688, with a Grand Total AOV of ₹678.

13. Slicers for the Dashboard:

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Dashboarding & Visualization:
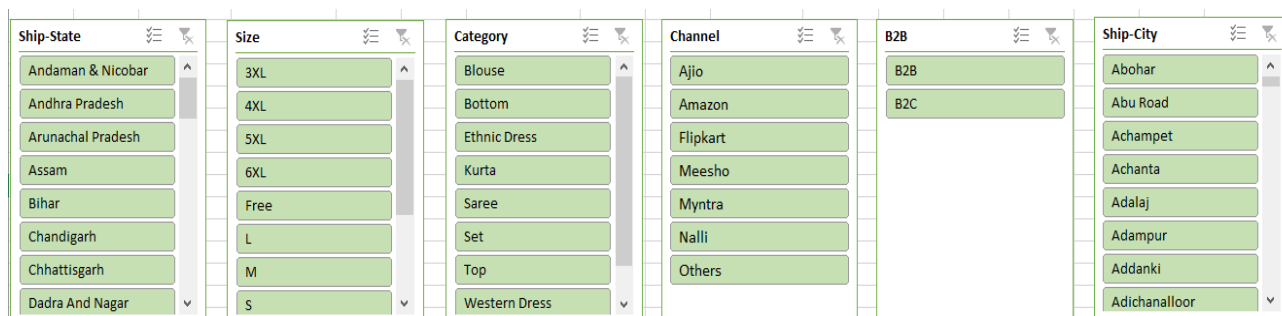
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Insights:

- **Decline in Sales and Profits**: Sales and profits have been decreasing on a quarterly and monthly basis.
- **Primary Sales Channels**: Major orders are through Amazon, Myntra, and Flipkart.
- **Product Preference**: Traditional clothing is more popular than western styles.
- **Sales Composition**: 99% of sales are Business-to-Consumer (B2C) and Only 1% of sales are Business-to-Business (B2B).
- **Revenue by Region**: Most revenue is generated from metropolitan areas.
- **Customer Age Demographic**: The majority of purchases are made by customers aged 20 to 46.
- **Customer Gender Demographic**: Female customers make up 69% of the customer base, while male customers represent 31%.

Assumptions:

- **Seasonality:** Some businesses experience natural demand fluctuations. March may mark the end of a peak season for your product.
- **Economic Changes:** Broader economic downturns, inflation, or rising interest rates might reduce consumer spending.
- **Quality Concerns:** Any perceived or actual decline in product quality could lead to customer dissatisfaction.
- **Limited Innovation:** A lack of new features or updates might result in reduced customer interest.

Countermeasures Suggested:

- Develop a Targeted Marketing Strategy for Traditional Clothing
- Increase Engagement with Female Customers with Curated Collections, Influencer Collaborations and Loyalty and Referral Programs.
- Expand Product Range to Capture Emerging Trends with modernize Traditional Styles and Limited Western Collection.
- Leverage B2B Partnerships for Wider Reach, Bulk and Corporate Sales, Wholesale and Boutique Partnerships
- Improve Customer Retention with a Comprehensive Loyalty Program such as
  - Personalize Marketing Efforts for Age-Specific Segments.
  - Enhance User experience on E-commerce Platforms.
  - Detailed Product Descriptions.
- Customer Feedback Loop
- Offer Flexible Payment and Financing Options like Flexible Payment Plans & EMI Options.
- Increase Presence on Social Media with Targeted Content

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