

Question	Finding	Cause
Total sales in 2020, 2021, and overall?	<p>Total Sales List :</p> <ol style="list-style-type: none"> 1. Total sales for 2020: \$252,355.38 2. Total sales for 2021: \$199,286.90 <p>Sales in 2021 decreased by about 21% compared to 2020, with a decline of \$53,068.48. Overall, total sales over these two years reached \$1,754,750.57.</p>	-
How is the sales trend for 2020 and 2021 on a monthly basis?	<p>Drastic Decline at Year-End: In 2020, total sales sharply declined from October to December, peaking in November (\$4,126.67) and December (\$10,748.44). A similar pattern occurred in 2021, where sales continued to decrease, with November (\$3,958.55) and December (\$2,245.56) showing very low figures.</p>	<p>COVID-19 Pandemic: Long-term effects, including restrictions on activities and the economy.</p> <p>Seasonal Changes: The influence of annual cycles that typically lead to lower sales at the end of the year.</p>
	<p>Peak Sales in Early Year: Sales were higher in the early months of the year, both in 2020 and 2021. For example, in January 2020 (\$27,745.05) and January 2021 (\$27,358.68). However, 2021 showed a decline compared to early 2020.</p>	<p>Market Adaptation: Businesses tend to increase sales after long holiday periods.</p> <p>New Year Promotions: Discount offers or special promotions at the beginning of the year may boost sales.</p>
	<p>Increase in March and September: Both in 2020 and 2021, there were spikes in sales in March and September. For instance, in March 2020 (\$32,389.78) and March 2021 (\$30,384.18), and September 2020 (\$37,046.71) compared to September 2021 (\$14,060.30).</p>	<p>Seasonal Events or Promotions: The increase this month may be related to special promotions or seasonal events such as back-to-school or end-of-quarter sales.</p>

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	<p>Significant Decline in 2021: Overall, sales in 2021 were lower than in 2020, especially in the second half of the year. This is clearly seen from July to December, where sales continued to decline. For instance, sales in December 2020 were \$10,748.44, while in December 2021, it was only \$2,245.56.</p>	<p>Economic Crisis or Pandemic: Purchasing power decreases due to economic conditions or prolonged pandemic effects.</p> <p>Supply Chain Crisis: Logistical disruptions cause delays or shortages of products.</p> <p>Increased Competition: The market is more competitive, leading to decreased demand for certain products.</p>
How is the sales trend for 2020 and 2021 on a quarterly basis?	<p>Q1 (2020 vs 2021): A decline of approximately ~8.39%. Sales in Q1 2021 were lower than in Q1 2020, consistent with the monthly trend where January to March 2021 experienced a decline.</p> <p>Q2 (2020 vs 2021): An increase of approximately ~15.6%. Sales in Q2 2021 were higher than in Q2 2020, in line with the monthly trend in May and June 2021 being better than the previous year.</p> <p>Q3 (2020 vs 2021): A decline of approximately ~48.3%. This quarter showed a drastic decline, consistent with the monthly analysis, especially due to the significant drop from July to September 2021.</p> <p>Q4 (2020 vs 2021): A decline of approximately ~48.6%. The last quarter of 2021 showed a sharp decline, consistent with the monthly trends for</p>	Possible causes include the impact of the pandemic in early year, economic recovery and successful promotional strategies in the middle of the year, declining purchasing power, intense market competition, and a lack of major promotions at the end of the year.

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	<p>October to December 2021.</p> <p>Overall, quarterly and monthly analyses are consistent. There are no contradictions between the two analyses. The declines and increases at the quarterly level correspond to the patterns that emerged in the monthly analysis.</p>	
Total sales/category	<p>Robots lead with total sales of \$743,505, far exceeding other categories.</p> <p>Drones rank second with \$477,447, indicating a strong interest in aerial technology products.</p> <p>Robot Kits and Drone Kits recorded lower sales at \$216,437 and \$161,242.5, respectively.</p> <p>Training Videos and eBooks had smaller sales figures, at \$80,716.15 and \$58,968.41.</p> <p>Blueprints had the lowest sales at \$16,434.51.</p>	<p>Robots are more expensive, contributing to higher total sales, but may also limit the audience since only consumers with larger budgets can afford to buy them.</p> <p>Drones are also appealing because they are often seen as innovative and versatile products, making them a popular choice among consumers.</p> <p>Robot Kits and Drone Kits are priced lower but tend to attract a smaller audience, primarily technology enthusiasts who enjoy the experience of building things themselves.</p> <p>Training Videos and eBooks have many buyers, but due to their more affordable prices, their total sales are not as high as physical products, although they still show good demand.</p> <p>Blueprints have low total sales, likely due to their low prices, even though many fans are interested in this</p>

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		product because of its potential applications.
Total Quantity/category	<p>eBooks had the highest total quantity sold with 3,123 units.</p> <p>Training Videos also showed good sales with 2,081 units.</p> <p>Blueprints sold 1,618 units.</p> <p>Drone Kits sold 1,515.</p> <p>Drones had sales of 1,227 units.</p> <p>Robots and Robot Kits sold 1,053 and 1,037 units, respectively.</p>	<p>eBooks and Training Videos have high sales volumes, likely because they offer valuable information at affordable prices, attracting many buyers.</p> <p>Blueprints show interest, but their total sales remain low due to their lower prices.</p> <p>Drone Kits and Drones have good sales, indicating consumer interest in technology-related products.</p> <p>Robots and Robot Kits, despite having lower sales volumes, generate higher total sales due to their higher prices, suggesting that consumers are willing to pay more for high-quality products.</p>
To validate the findings and arguments from the two questions above, let's look at the average product price per category.	<p>Robots have the highest average price at \$718.83, consistent with previous total sales results, where robots had the highest sales. This indicates that the high price significantly contributes to the total sales of these products.</p> <p>Robot Kits rank second with an average price of \$208.50. Despite the relatively high price, total sales for this category are lower than those for Robots, possibly due to differences in popularity or the number of units sold.</p> <p>Drones have an average price of \$385.43. This product category</p>	-

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	<p>has high total sales and a reasonably high price, contributing to its overall sales.</p> <p>Drone Kits have an average price of \$106.21. This price is quite competitive, and this product ranks mid-level in terms of total sales and the number of units sold.</p> <p>Training Videos have an average price of \$38.10. This product may be more affordable compared to others, and the high number of units sold indicates good demand.</p> <p>eBooks have an average price of \$18.87. Despite a relatively low average price, eBooks show the highest number of units sold, indicating that this low-priced product is in high demand.</p> <p>Blueprints have a very low average price of \$9.99. Although this category has the cheapest price, the number of units sold is quite large; however, this does not correspond to the low total sales, indicating that the low price is the primary factor for sales, not total value.</p>	
Top 10 Total sales vs Total Quantity per State	<p>California and Texas dominate sales with totals of \$237,295.59 and \$196,228.76, respectively, and have the highest number of cities, 51 and 34. This suggests that more cities tend to increase the chances of product sales.</p> <p>Other states like Florida and New York also show significant sales with \$121,018.31 and \$93,019.19. Florida has 36 cities and</p>	Overall, there is a relationship between the number of cities and total sales; however, economic factors, purchasing power, and local characteristics also play a significant role in influencing sales results in each state.

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	<p>New York has 16 cities, indicating that location diversity also contributes to sales.</p> <p>On the other hand, Pennsylvania, Virginia, and Ohio show lower sales despite having a fair number of cities. For instance, Pennsylvania with 12 cities reached \$61,034.69.</p> <p>The District of Columbia, despite having only one city, still shows high sales, reflecting strong purchasing power in that area. Meanwhile, Illinois and Colorado have sales below \$60,000, but Illinois has the same number of cities as Ohio, indicating that factors like purchasing power and population also significantly influence total sales.</p>	
Top 10 Total sales vs Total Quantity per City	<p>Washington leads with total sales of \$55,381.94 and 308 orders, indicating a strong market in both sales value and transaction volume.</p> <p>Houston (Texas State = Top 2) and Sacramento have nearly identical sales around \$33,000, but Houston has more orders (249 vs 153), indicating a lower average price in Houston.</p> <p>Albany (New York State = Top 4) and Springfield (Illinois State = Top 9) have total sales close to \$25,000, with Springfield recording a higher number of orders, indicating differences in price per order.</p> <p>Phoenix and Philadelphia are at the bottom of the list, with sales</p>	<p>From this analysis, it appears that the number of orders and sales value do not always align. Cities with a high number of orders do not necessarily have the highest sales, indicating that product pricing and marketing strategies also play an important role in determining sales success. Additionally, some cities that are not listed in the states suggest that not all markets can be measured in the same way, and there may be local factors affecting sales outcomes.</p>

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	around \$24,000 and similar order quantities, indicating market stability in both cities.	
What is the relationship between total sales per city and the number of product categories sold?	<p>Dominance of eBooks: Cities like Washington and Houston show significant sales figures for eBooks. For instance, Washington recorded 109 units sold, which is the highest among other categories, indicating that this product may have strong appeal in these cities.</p> <p>Sales Variation: The categories of products sold vary by city. For example, Drone Kits and Drones seem to be more popular in Houston and Philadelphia, while Robots have strong sales in Washington and Sacramento. This indicates that product preferences can differ based on location.</p> <p>Correlation Between Price and Sales Quantity: Although eBooks have the highest sales in terms of unit quantity, other product categories like Robots and Drone Kits may have higher prices. This suggests that cities with high sales for expensive products may also reflect greater sales value, as seen in Washington.</p> <p>Cities with Mid-Performance: Cities like Albany and Miami exhibit more balanced sales across several categories but do not reach the highest sales figures. This could be due to variations in product offerings or perhaps a lack of</p>	Overall, there is a relationship between the categories of products sold and sales performance in each city. Popular product categories such as eBooks and Drone Kits contribute significantly to total sales. However, higher-priced products, despite selling in smaller quantities, can also boost total sales. Therefore, it is important to consider both factors—the number of units sold and the average price—when analyzing sales performance in each city.

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	access to more expensive products.	
Conclusion	Total sales experienced a decrease of about 21% from 2020 to 2021, with total sales in 2020 reaching \$252,355.38 and \$199,286.90 in 2021. The decline amounted to \$53,068.48. Overall, total sales during these two years were \$1,754,750.57. This decline indicates that sales performance is unstable and requires attention to improve sales figures in the coming years.	