

DATA ANALYSIS

Data analysis is the process of inspecting, cleansing, transforming, and modeling data with the goal of discovering useful information, informing conclusions, and supporting decision-making.



Maven Toys

Problem Statement Summary:

The **Sales/Growth Head** of Maven Toys, a chain of toy stores in Mexico, needs a data-driven strategy to optimize sales performance and drive business growth. The core challenge is to leverage historical **sales data** (units, revenue, profit across products, stores, and cities, including time-series trends) to identify **actionable insights** that can inform strategic decisions.

Important Points:

Owner/User: Sales/Growth Head of Maven Toys.

Context: Chain of toy stores operating in Mexico.

Consumer of Analysis: The Sales/Growth Head themselves.

Expectation:

- Analysis:** Deep dive into sales, revenue, and profit metrics.
- Insight Identification:** Uncover trends, top/bottom performers (products, stores, cities), profitability gaps, and seasonal patterns.
- Strategic Recommendation:** Provide concrete, actionable strategies derived from insights to facilitate business growth and optimize sales performance.

Key Challenge Areas Revealed by Analysis:

- Optimizing performance of highly seasonal business with significant Q4 peaks and Q1 dips.
- Maximizing the contribution of top-performing products, stores, and cities.
- Addressing the underperformance and potential inefficiency of certain products, stores, and categories (e.g., "Sports & Outdoors").
- Leveraging hyper-local opportunities by understanding city/store-specific product preferences.
- Improving profitability for high-volume, lower-margin products.
- Replicating success factors from high-performing entities across the chain.



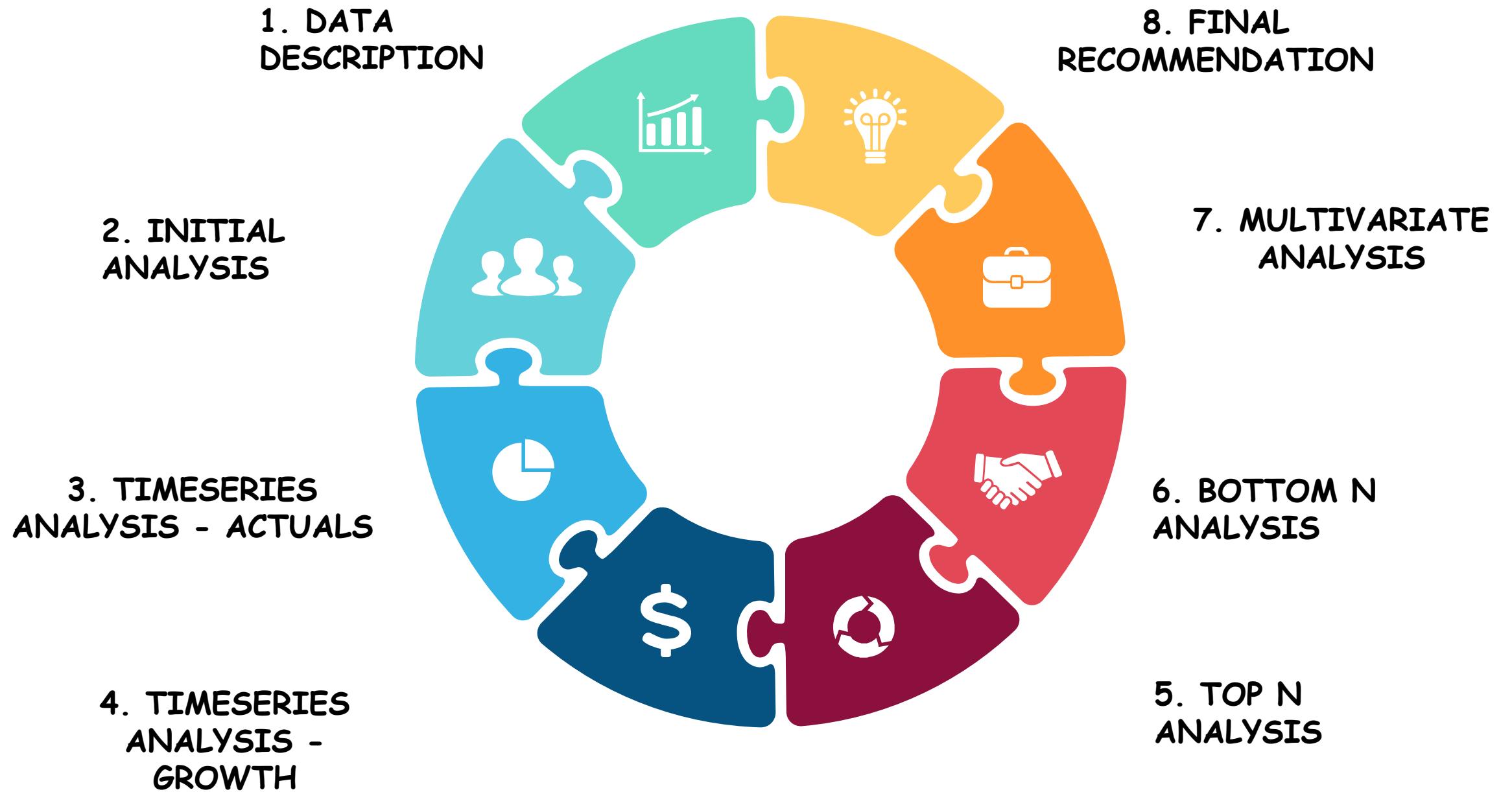


Table Structures

Data Description

	Table	Field	Description
0	Products	Product_ID	Product ID
1	Products	Product_Name	Product name
2	Products	Product_Category	Product Category
3	Products	Product_Cost	Product cost (\$USD)
4	Products	Product_Price	Product retail price (\$USD)
5	Inventory	Store_ID	Store ID
6	Inventory	Product_ID	Product ID
7	Inventory	Stock_On_Hand	Stock quantity of the product in the store (in...)
8	Stores	Store_ID	Store ID
9	Stores	Store_Name	Store name
10	Stores	Store_City	City in Mexico where the store is located
11	Stores	Store_Location	Location in the city where the store is located
12	Stores	Store_Open_Date	Date when the store was opened
13	Sales	Sale_ID	Sale ID
14	Sales	Date	Date of the transaction
15	Sales	Store_ID	Store ID
16	Sales	Product_ID	Product ID
17	Sales	Units	Units sold
18	Calendar	Date	Calendar date

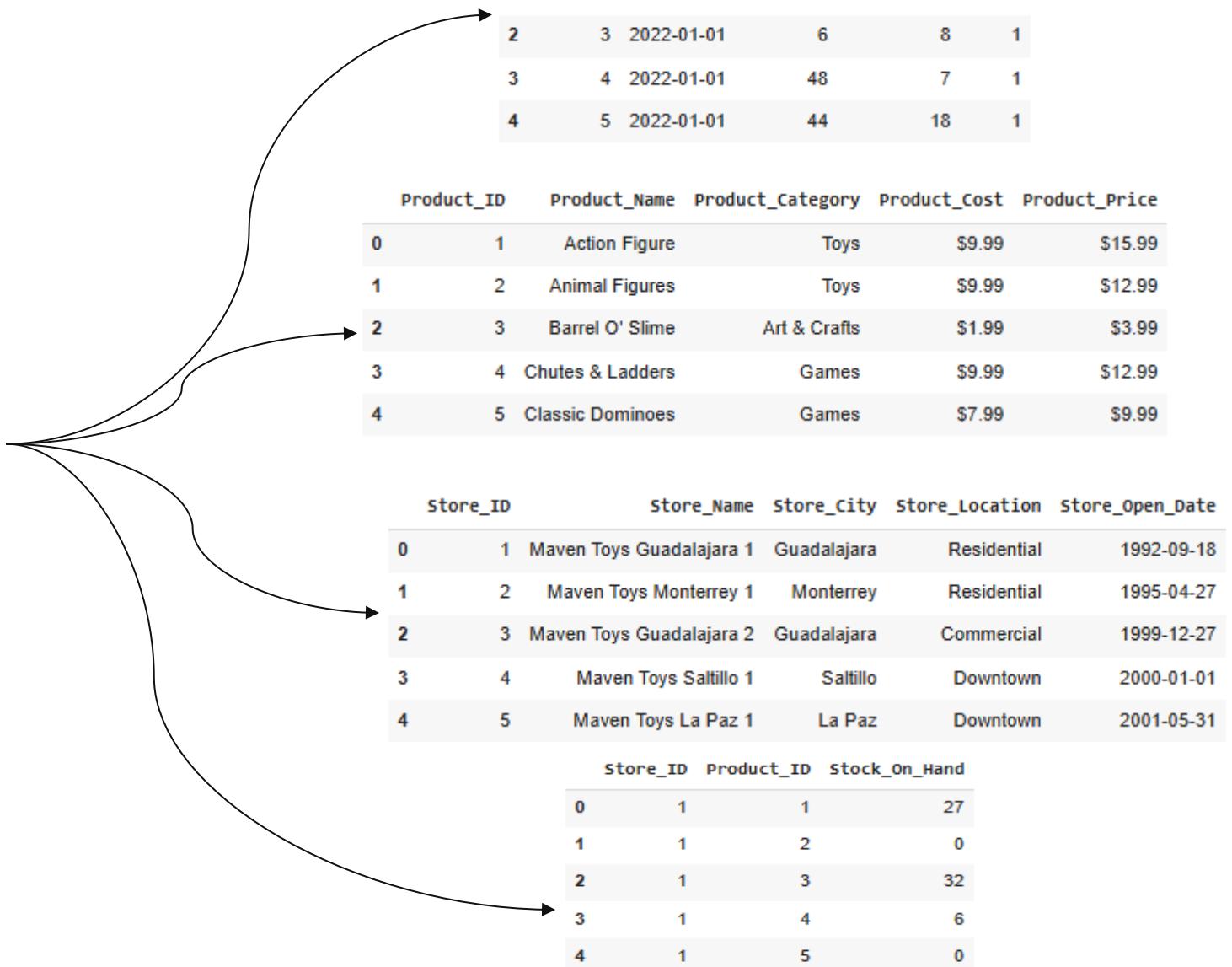


Table Structures

	Sale_ID	Date	Store_ID	Product_ID	Units
0	1	2022-01-01	24	4	1
1	2	2022-01-01	28	1	1
2	3	2022-01-01	6	8	1
3	4	2022-01-01	48	7	1
4	5	2022-01-01	44	18	1

	Product_ID	Product_Name	Product_Category	Product_Cost	Product_Price
0	1	Action Figure	Toys	\$9.99	\$15.99
1	2	Animal Figures	Toys	\$9.99	\$12.99
2	3	Barrel O' Slime	Art & Crafts	\$1.99	\$3.99
3	4	Chutes & Ladders	Games	\$9.99	\$12.99
4	5	Classic Dominoes	Games	\$7.99	\$9.99

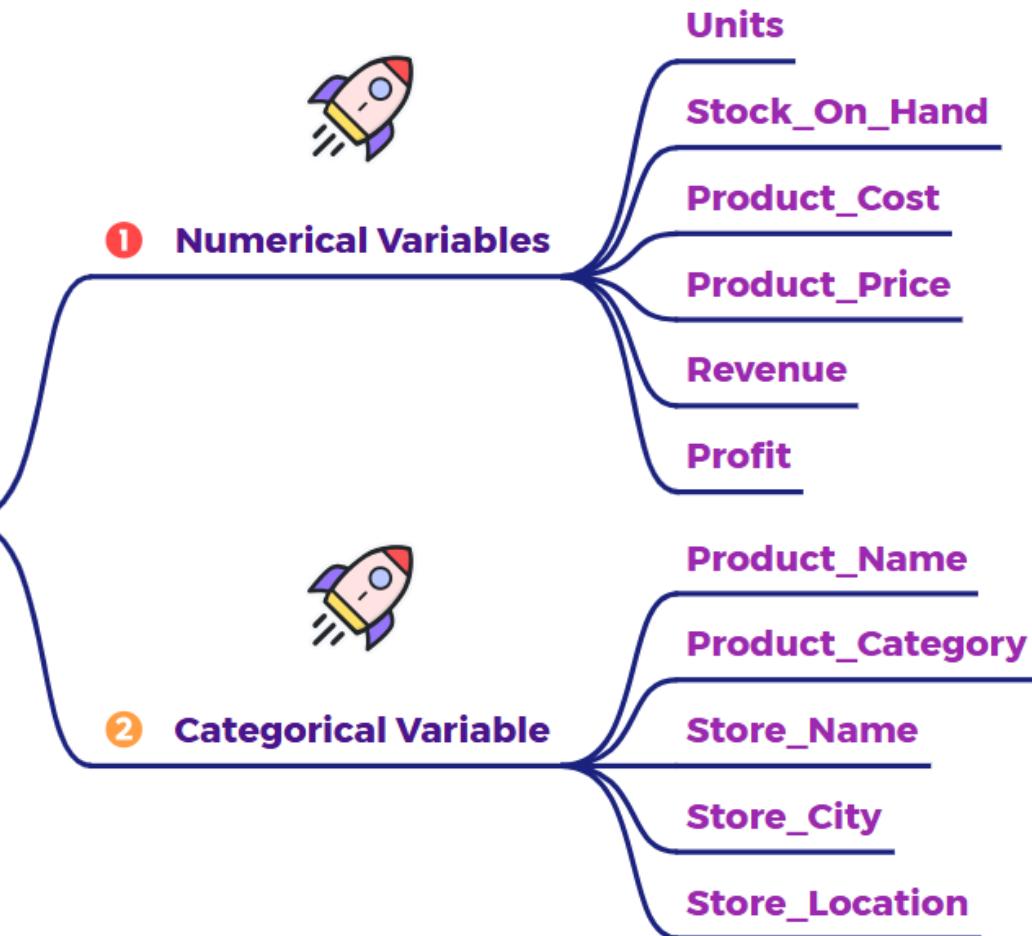
	Sale_ID	Date	Store_ID	Product_ID	Units	Product_Name	Product_Category	Product_Cost	Product_Price	Store_Name	Store_City	Store_Location	Store_Open_Date	Stock_On_Hand
0	1	2022-01-01	24	4	1	Chutes & Ladders	Games	\$9.99	\$12.99	Maven Toys Aguascalientes 1	Aguascalientes	Downtown	2010-07-31	1
1	2	2022-01-01	28	1	1	Action Figure	Toys	\$9.99	\$15.99	Maven Toys Puebla 2	Puebla	Downtown	2011-04-01	6
2	3	2022-01-01	6	8	1	Deck Of Cards	Games	\$3.99	\$6.99	Maven Toys Mexicali 1	Mexicali	Commercial	2003-12-13	50
3	4	2022-01-01	48	7	1	Dart Gun	Sports & Outdoors	\$11.99	\$15.99	Maven Toys Saltillo 2	Saltillo	Commercial	2016-03-23	28
4	5	2022-01-01	44	18	1	Lego Bricks	Toys	\$34.99	\$39.99	Maven Toys Puebla 3	Puebla	Residential	2014-12-27	117

	Store_ID	Store_Name	Store_City	Store_Location	Store_Open_Date
0	1	Maven Toys Guadalajara 1	Guadalajara	Residential	1992-09-18
1	2	Maven Toys Monterrey 1	Monterrey	Residential	1995-04-27
2	3	Maven Toys Guadalajara 2	Guadalajara	Commercial	1999-12-27
3	4	Maven Toys Saltillo 1	Saltillo	Downtown	2000-01-01
4	5	Maven Toys La Paz 1	La Paz	Downtown	2001-05-31

	Store_ID	Product_ID	Stock_On_Hand
0	1	1	27
1	1	2	0
2	1	3	32
3	1	4	6
4	1	5	0

Final DataFrames





Statistical Summary of Numerical Variables

1. Central Tendency of 'Units' sold per transaction:

Mean Units: 1.32

Median Units: 1.00

Mode Units: [1]

4. Total and Average 'Revenue' and 'Profit' per transaction:

Total Revenue: 14,375,257.09

Average Revenue per Transaction: 17.47

Total Profit: 3,967,329.00

Average Profit per Transaction: 4.82

2. Statistics for 'Stock_On_Hand':

Mean Stock On Hand: 25.32

Median Stock On Hand: 18.00

Minimum Stock On Hand: 0.00

Maximum Stock On Hand: 139.00

5. Skewness and Kurtosis of 'Units', 'Revenue', and 'Profit':

Skewness of Units: 4.4901

Kurtosis of Units: 47.8224

Skewness of Revenue: 5.6874

Kurtosis of Revenue: 120.5313

Skewness of Profit: 4.2468

Kurtosis of Profit: 46.8556

3. Distribution of 'Product_Cost' and 'Product_Price':

Product_Cost Description:

```
count    823030.000000
mean      10.026130
std       7.824972
min       1.990000
25%      3.990000
50%      7.990000
75%     13.990000
max      34.990000
Name: Product_Cost, dtype: float64
```

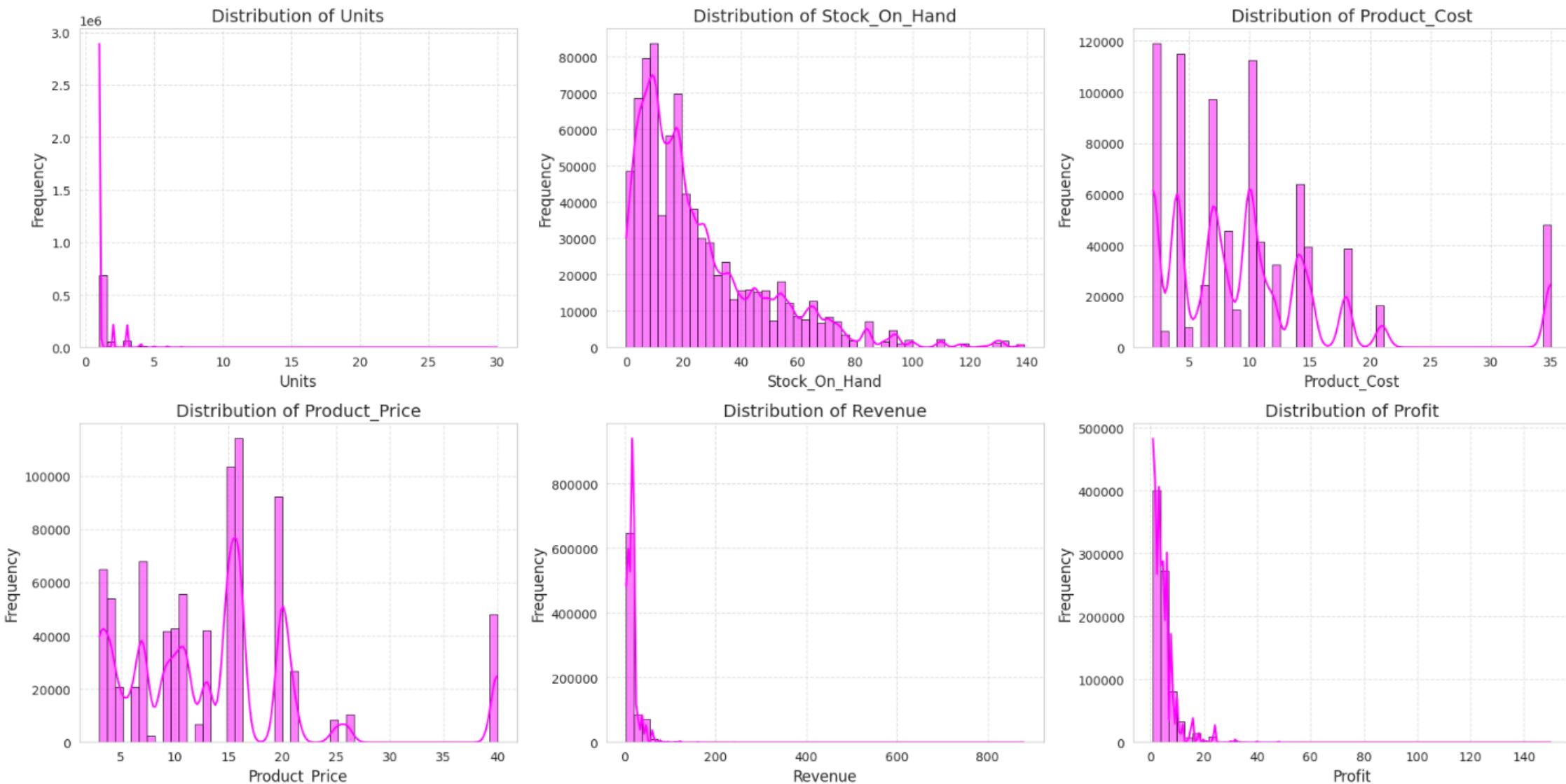
Product_Price Description:

```
count    823030.000000
mean     13.797757
std       8.690296
min       2.990000
25%      6.990000
50%     12.990000
75%     15.990000
max      39.990000
Name: Product_Price, dtype: float64
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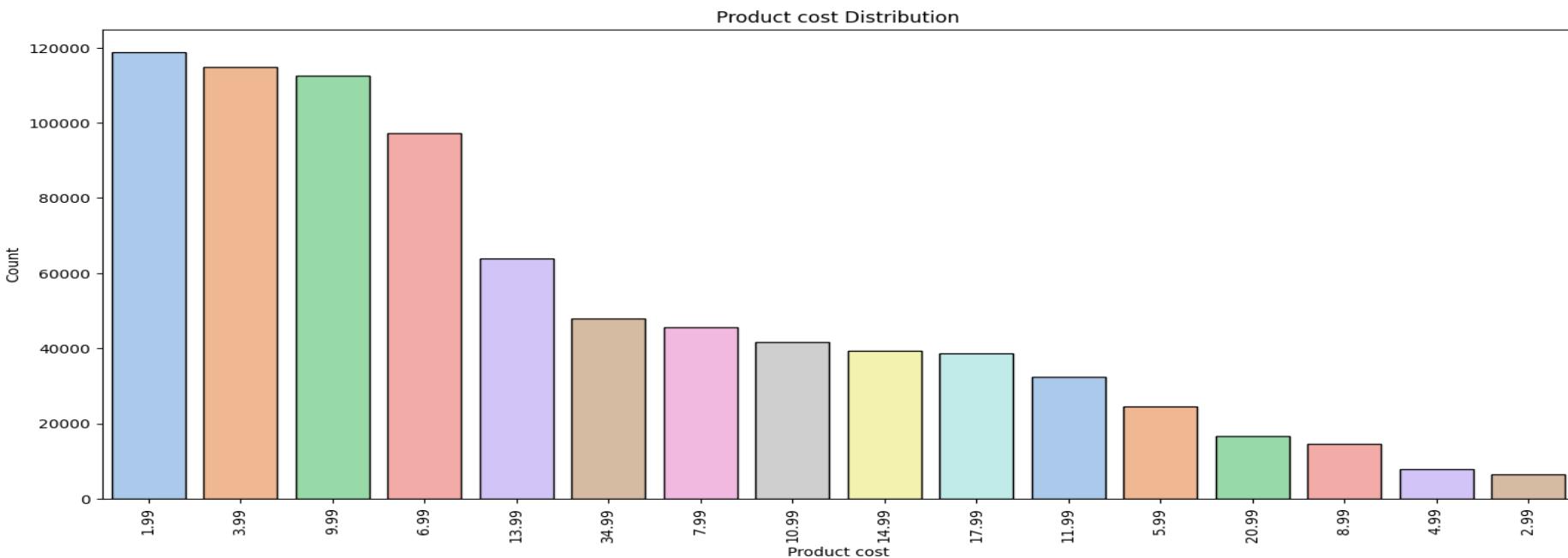
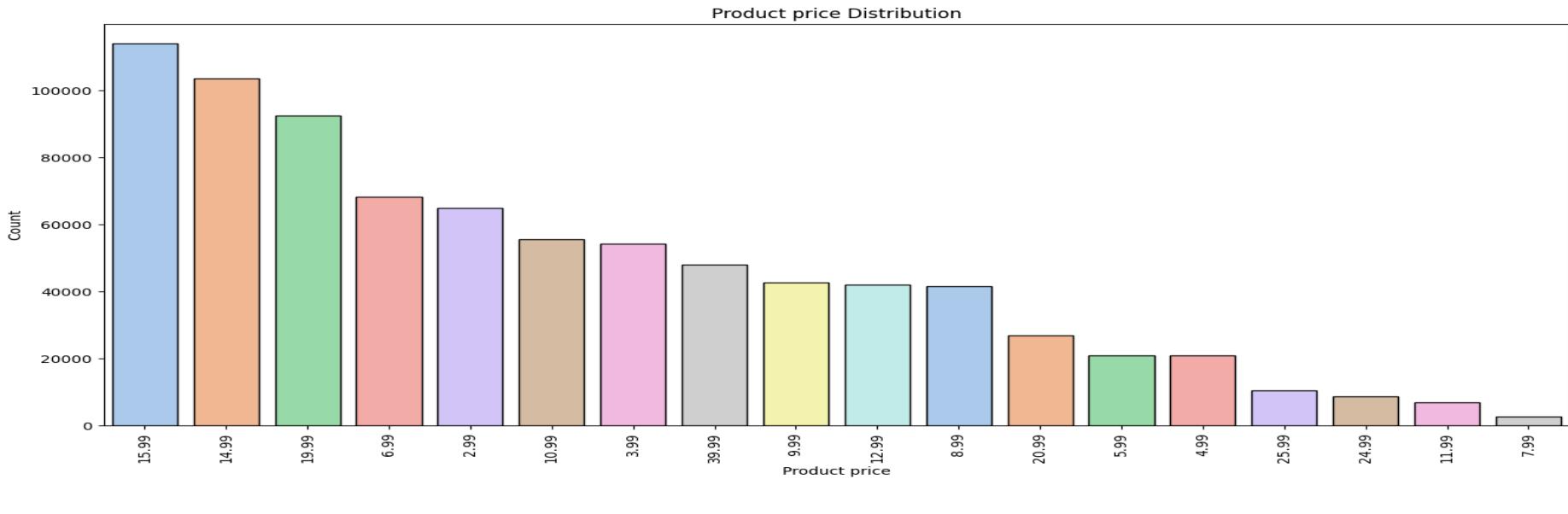
Product_Price	count		Product_Cost	count	
	15.99	113993		1.99	118912
14.99	103387	3.99	114950	3.99	114950
19.99	92276	9.99	112575	9.99	112575
6.99	68083	6.99	97366	6.99	97366
2.99	64834	10.99	63879	10.99	63879
10.99	55500	3.99	48030	3.99	48030
3.99	54078	39.99	45705	7.99	45705
39.99	48030	9.99	41550	10.99	41550
9.99	42698	12.99	39252	14.99	39252
12.99	41931	8.99	38703	17.99	38703
8.99	41559	20.99	32291	11.99	32291
20.99	26748	5.99	24507	5.99	24507
5.99	20776	4.99	16561	20.99	16561
4.99	20736	25.99	14575	8.99	14575
25.99	10494	24.99	7804	4.99	7804
24.99	8552	11.99	6370	2.99	6370
11.99	6812	7.99			
7.99	2543				

Visual Analysis of the Numerical Variables

Distribution of Key Numerical Variables (Histograms with KDE)



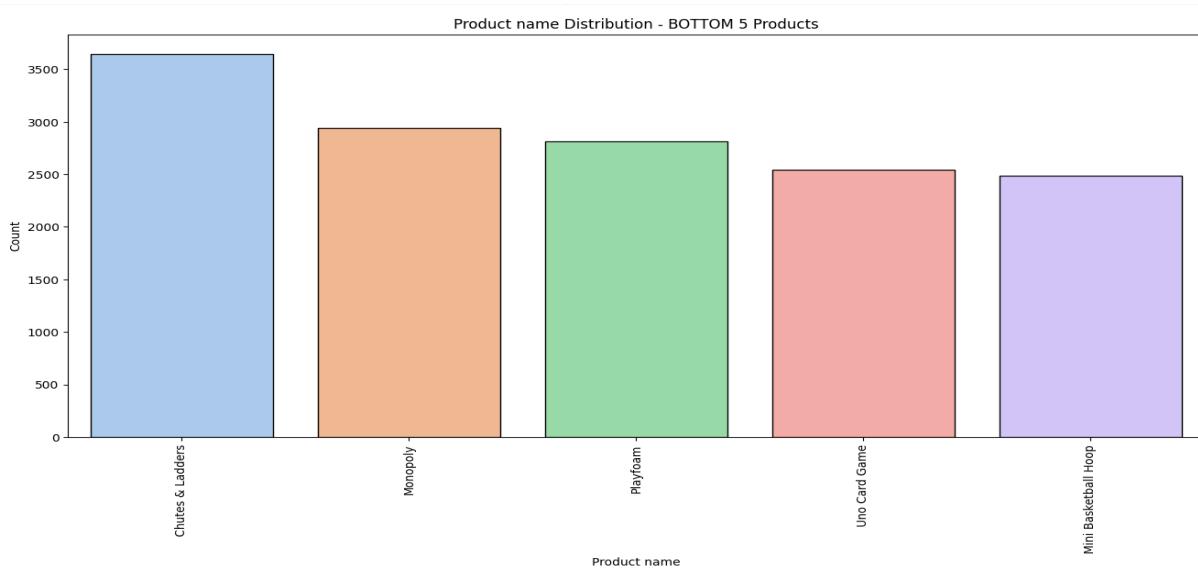
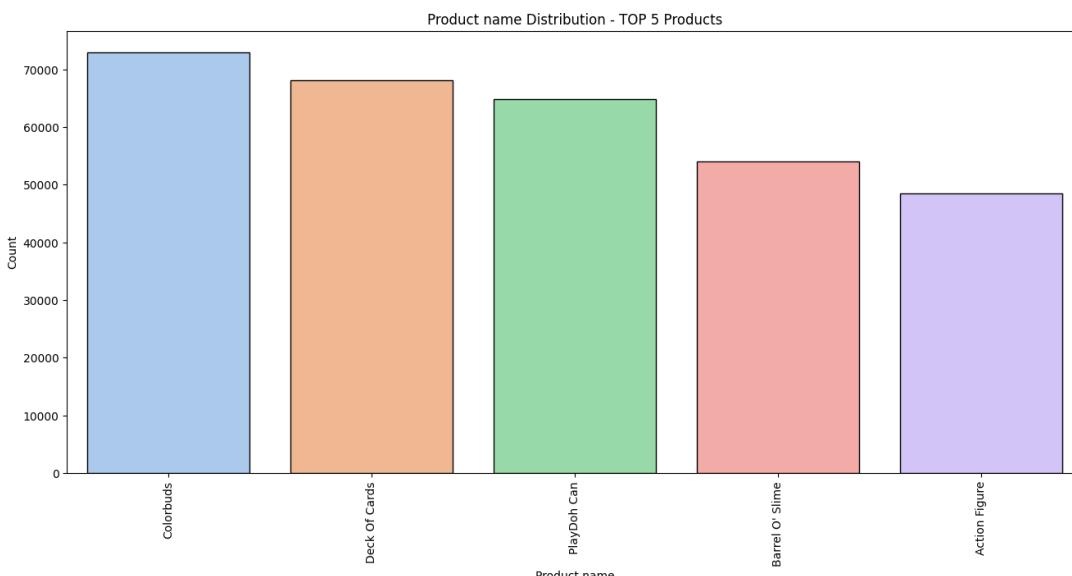
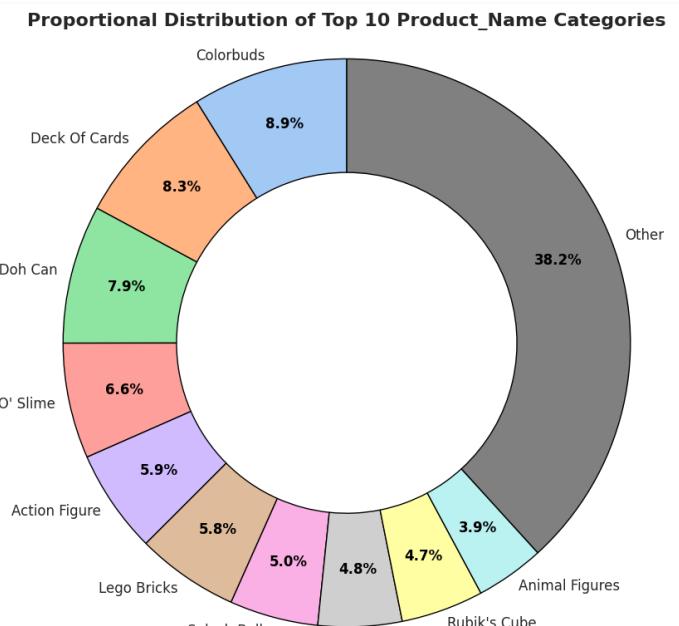
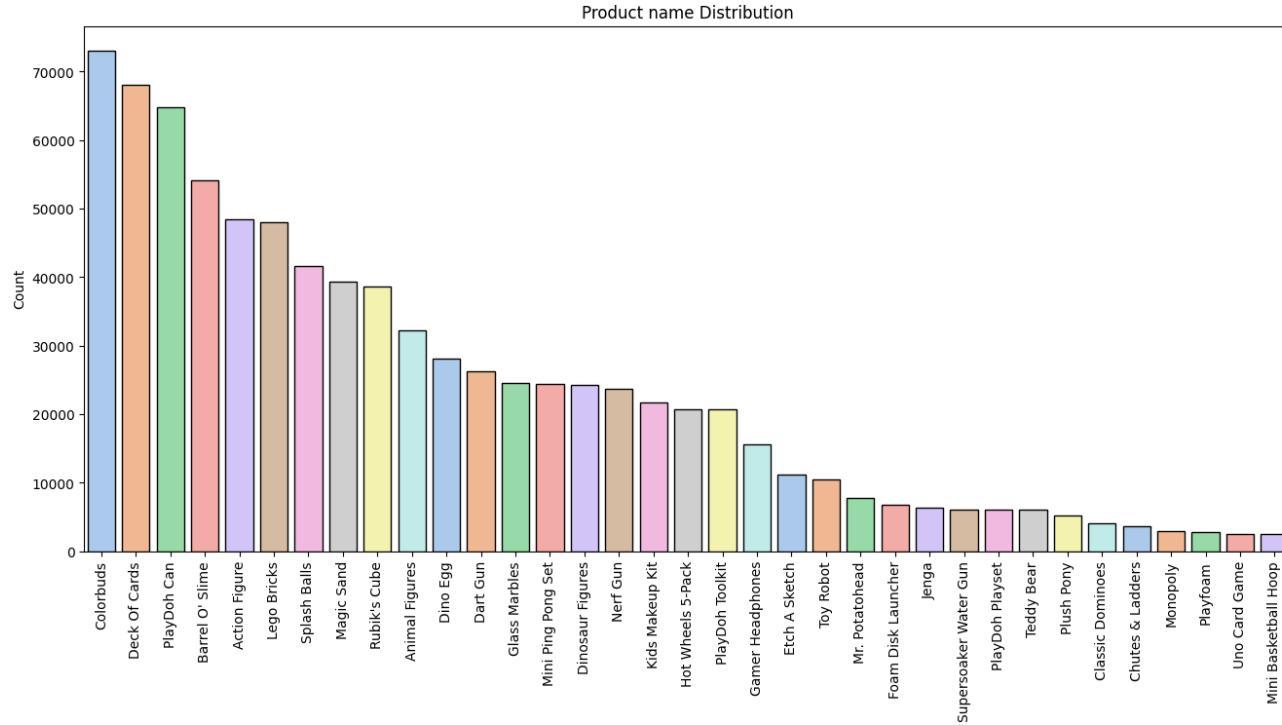
Visual Analysis of Discrete Numerical Variables



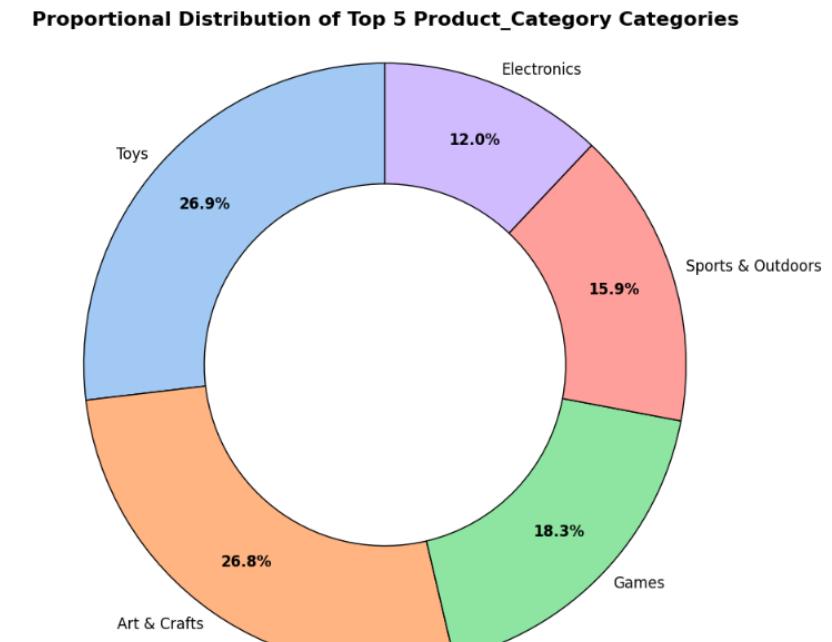
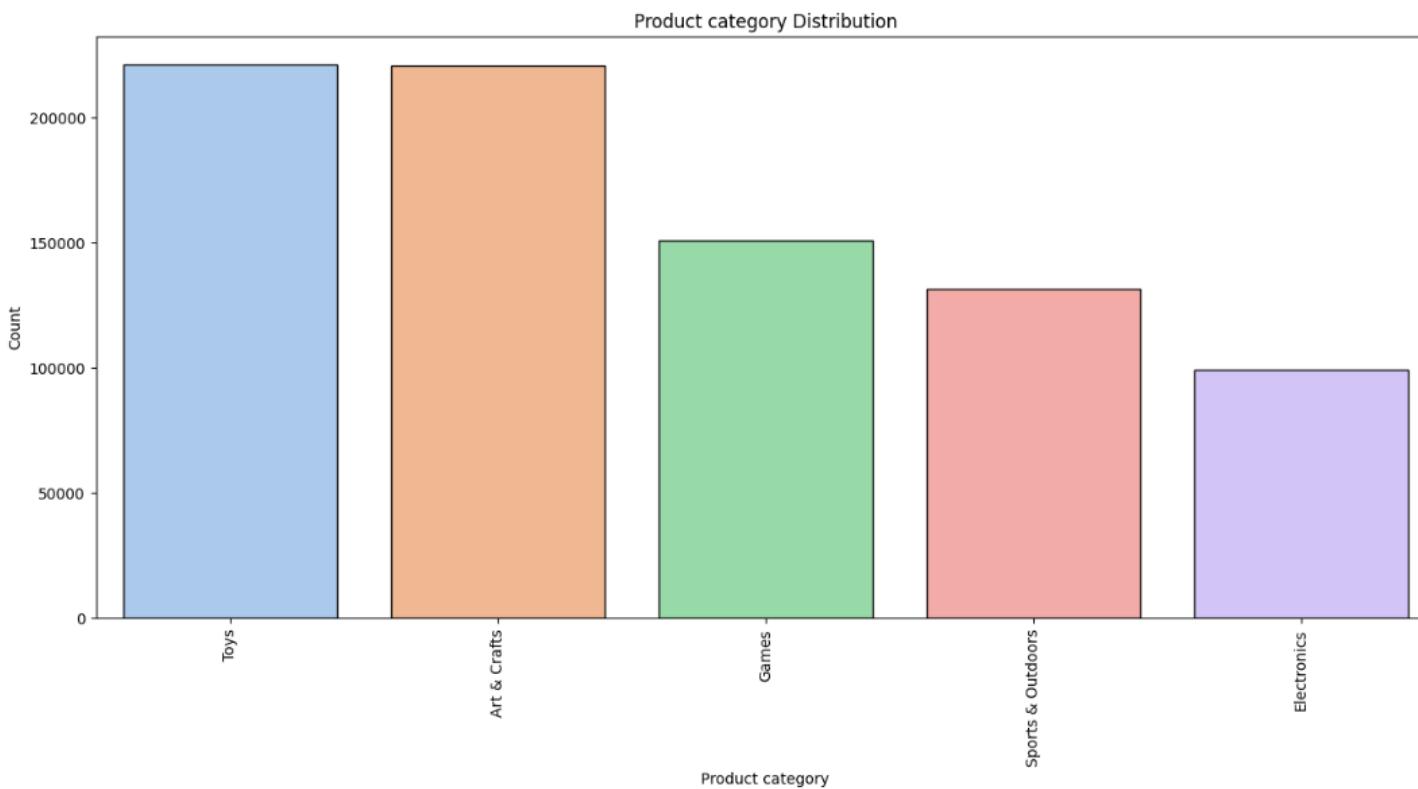
Summary of the histogram plots :

- **Units Distribution:** The "Distribution of Units" plot shows a highly right-skewed distribution, with a vast majority of transactions involving a very low number of units (likely 1 or 2 units), and frequency rapidly decreasing as the number of units increases.
- **Stock On Hand Distribution:** The "Distribution of Stock_On_Hand" is also right-skewed, indicating that most products have lower stock levels, with fewer products having high stock on hand.
- **Product Cost Distribution:** The "Distribution of Product_Cost" appears multi-modal, with several distinct peaks, suggesting that products are priced at specific, common cost points rather than being continuously distributed.
- **Product Price Distribution:** Similar to product cost, the "Distribution of Product_Price" also exhibits a multi-modal pattern with multiple peaks, implying that products are sold at specific, common price points.
- **Revenue Distribution:** The "Distribution of Revenue" is heavily concentrated at lower revenue values, showing a steep decline in frequency as revenue increases, indicating that most transactions generate small amounts of revenue.
- **Profit Distribution:** The "Distribution of Profit" is also highly concentrated at lower profit values, with a long tail extending to higher profits, suggesting that while most transactions yield small profits, some contribute significantly more.

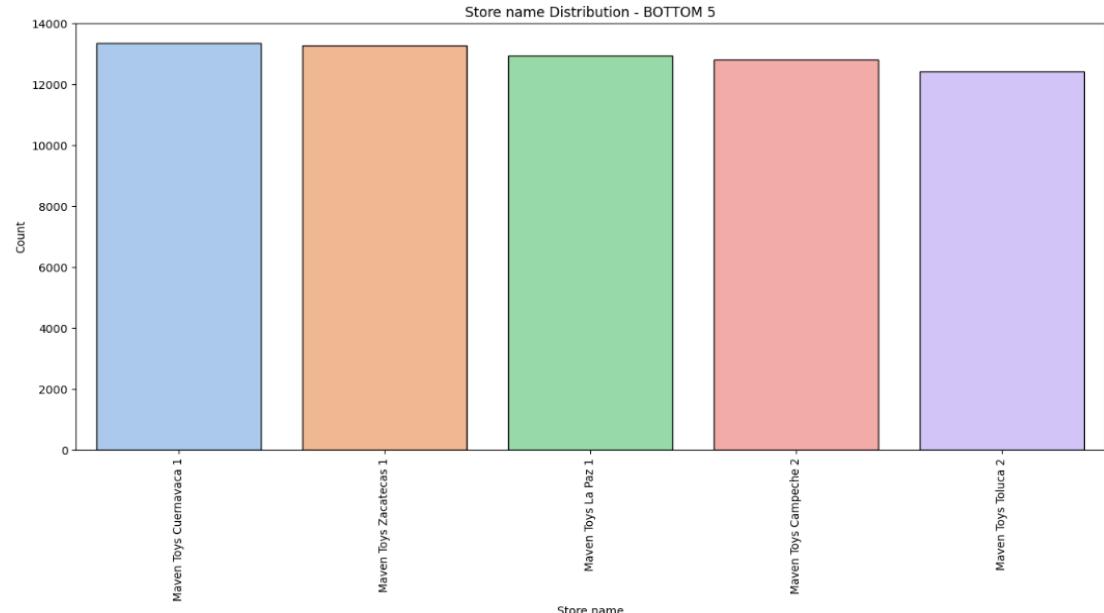
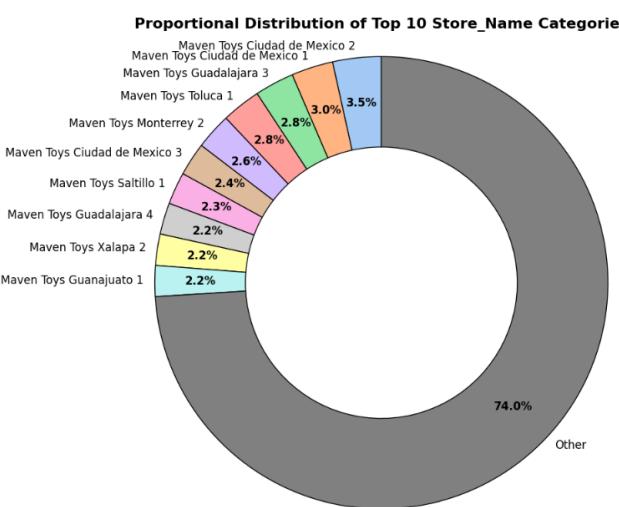
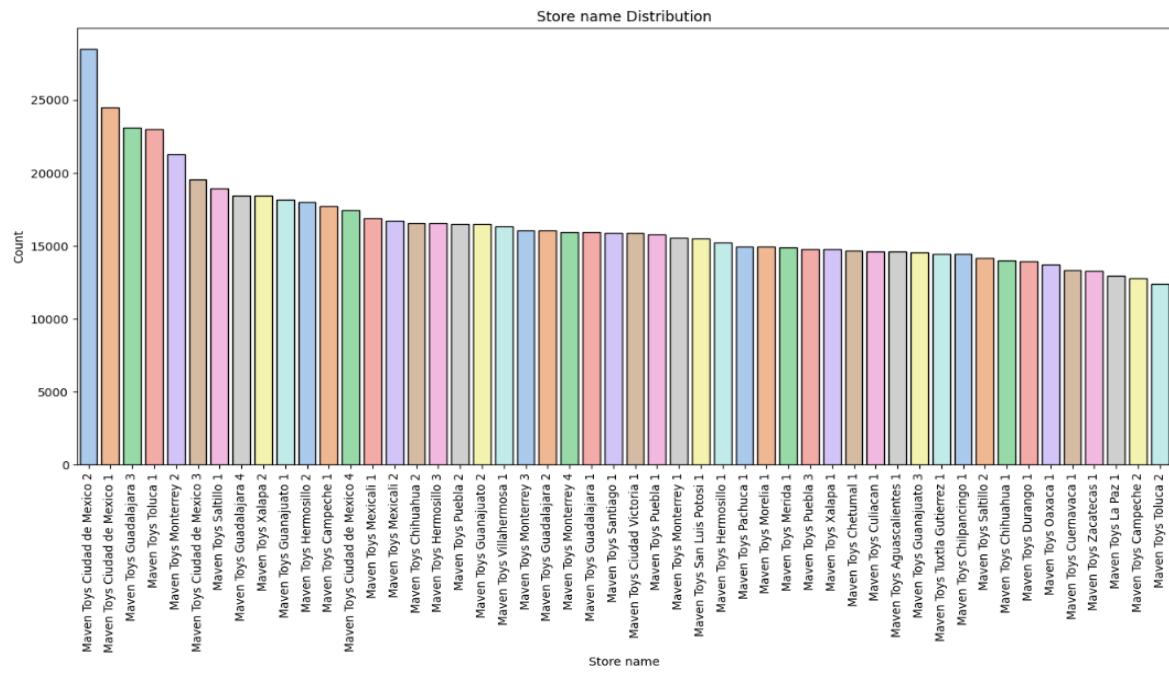
Visual Analysis of categorical variable – Product name



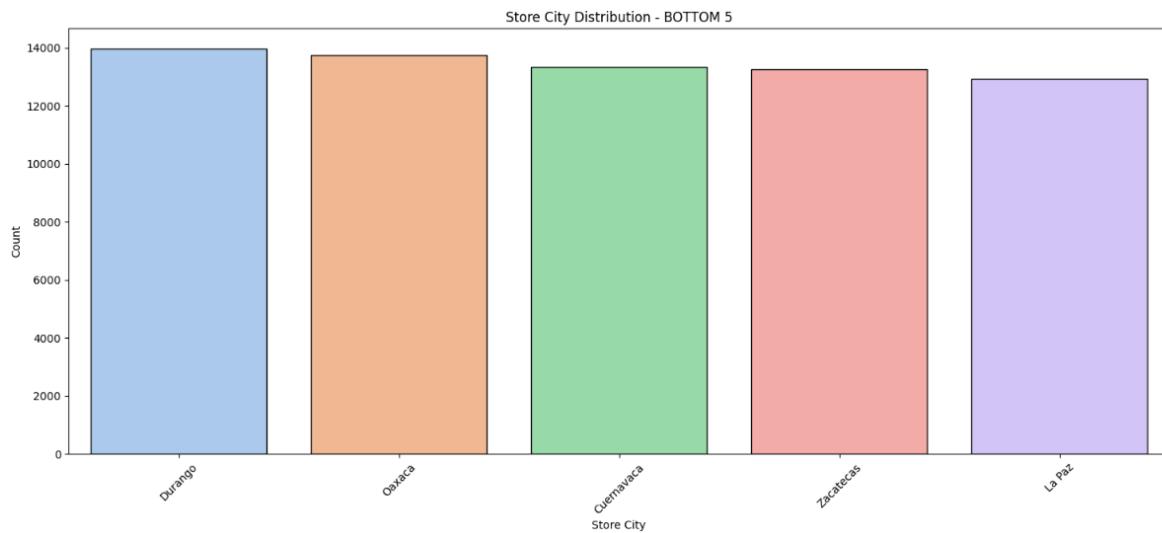
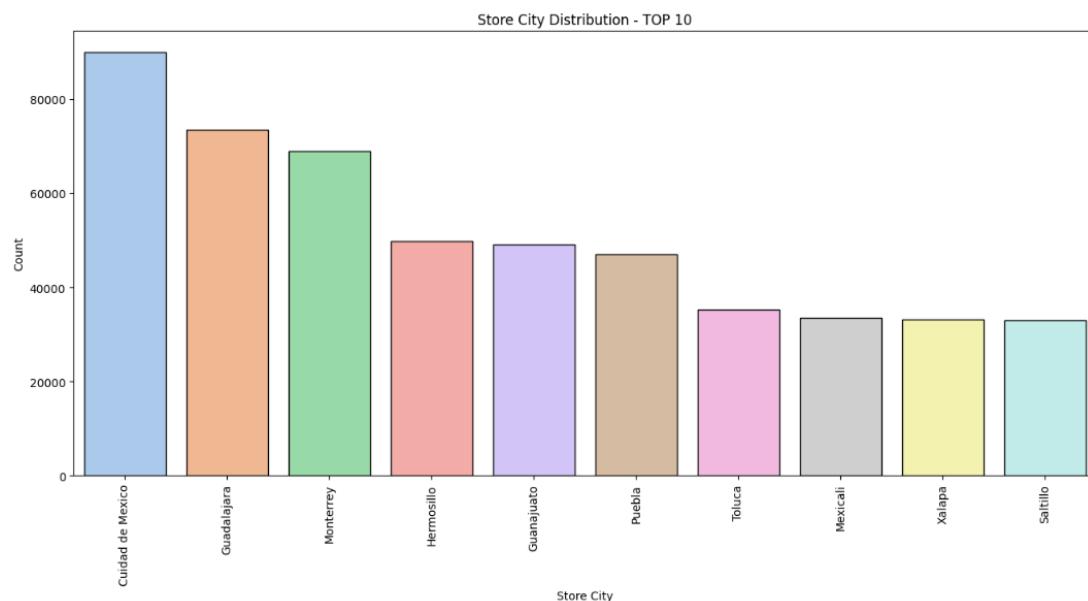
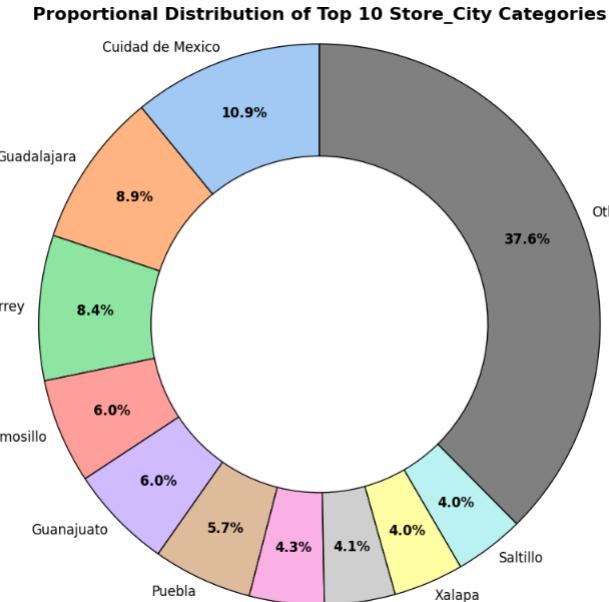
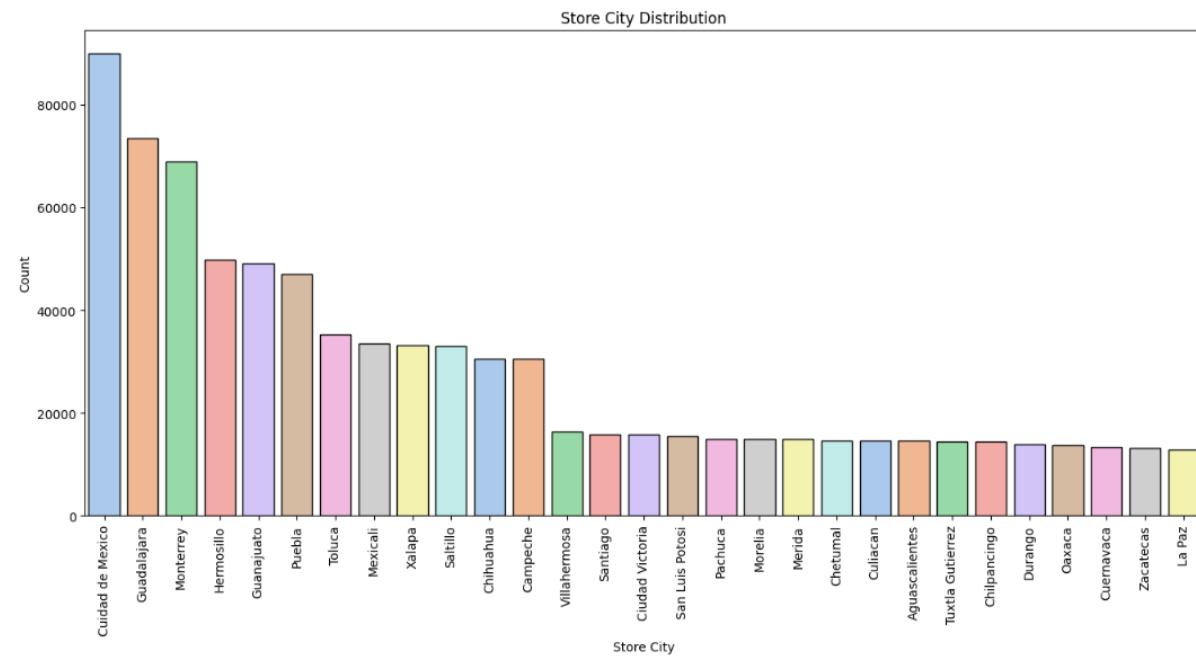
Visual Analysis of categorical variable – Product category



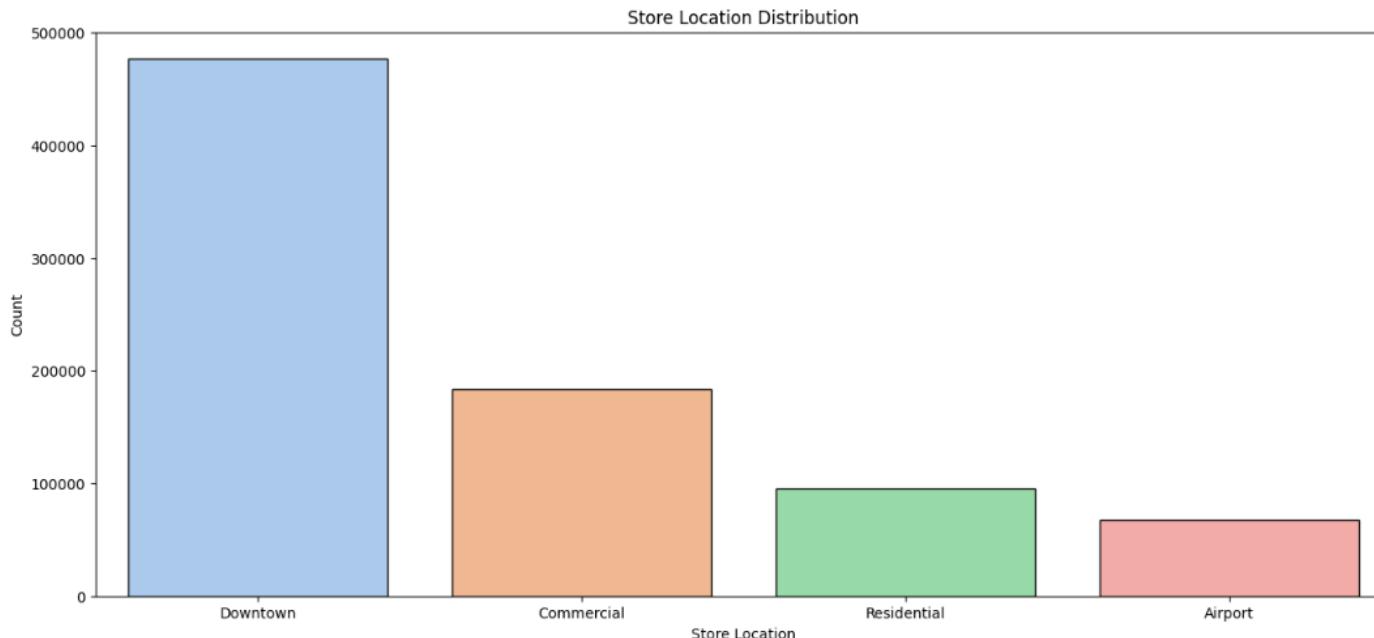
Visual Analysis of categorical variable – Store name



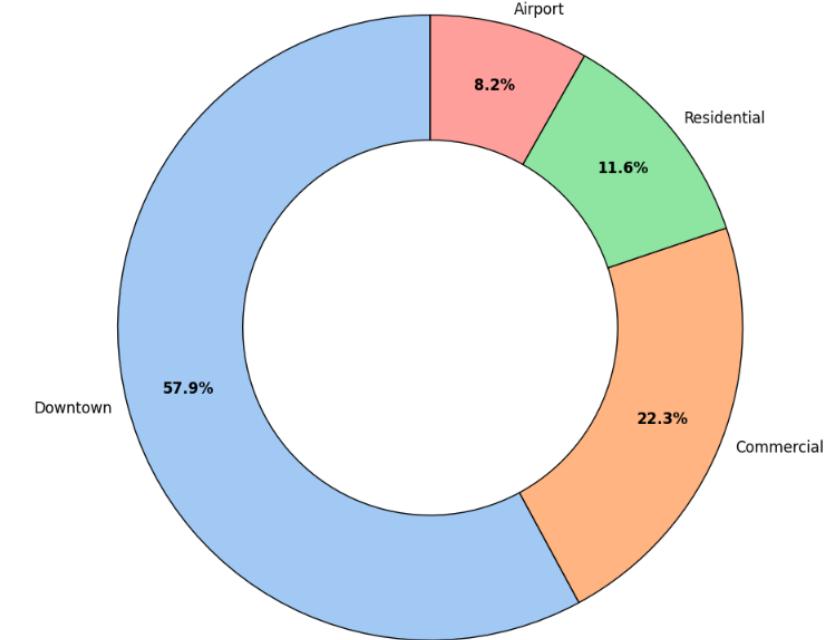
Visual Analysis of categorical variable – Store city



Visual Analysis of categorical variable – Store location

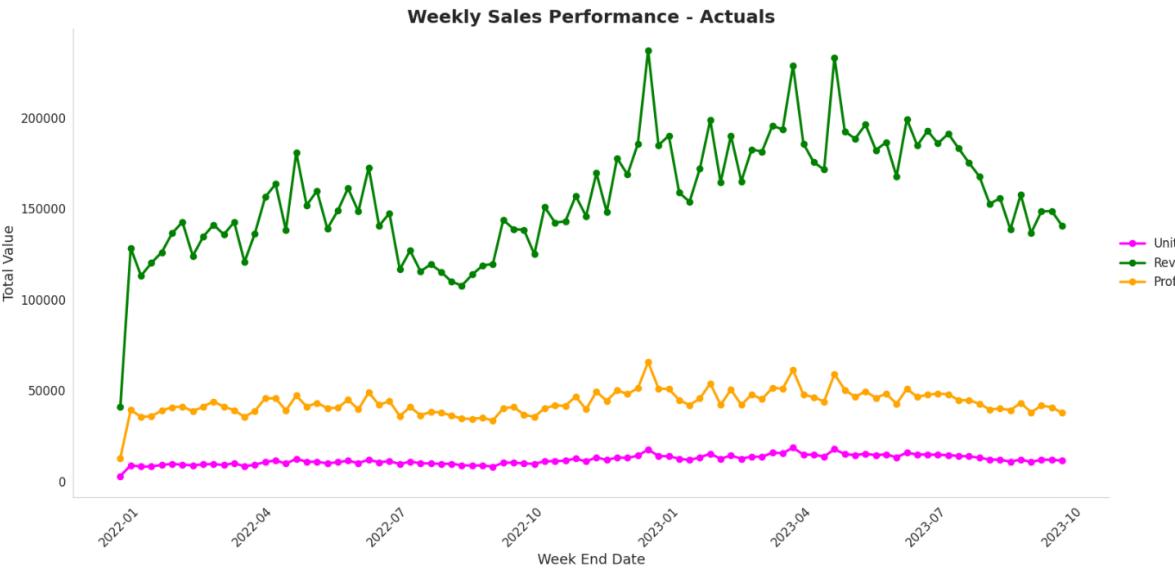


Proportional Distribution of Top 4 Store_Location Categories

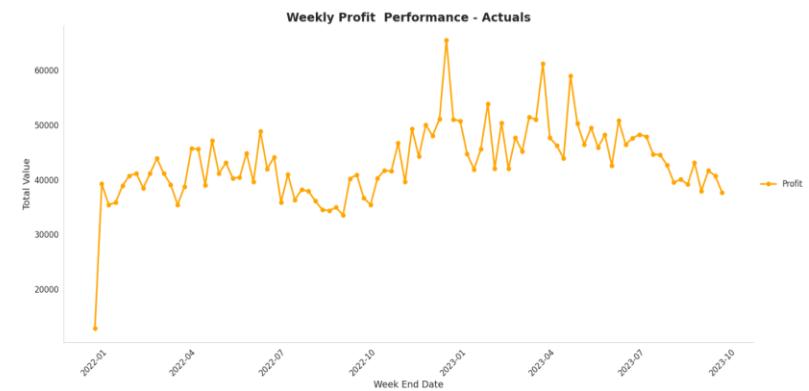
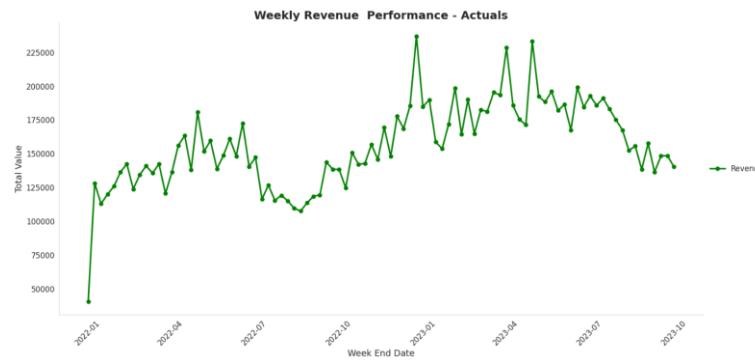
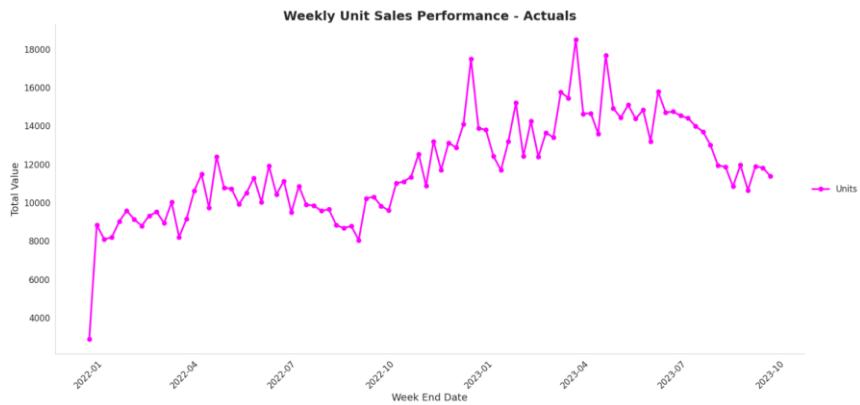




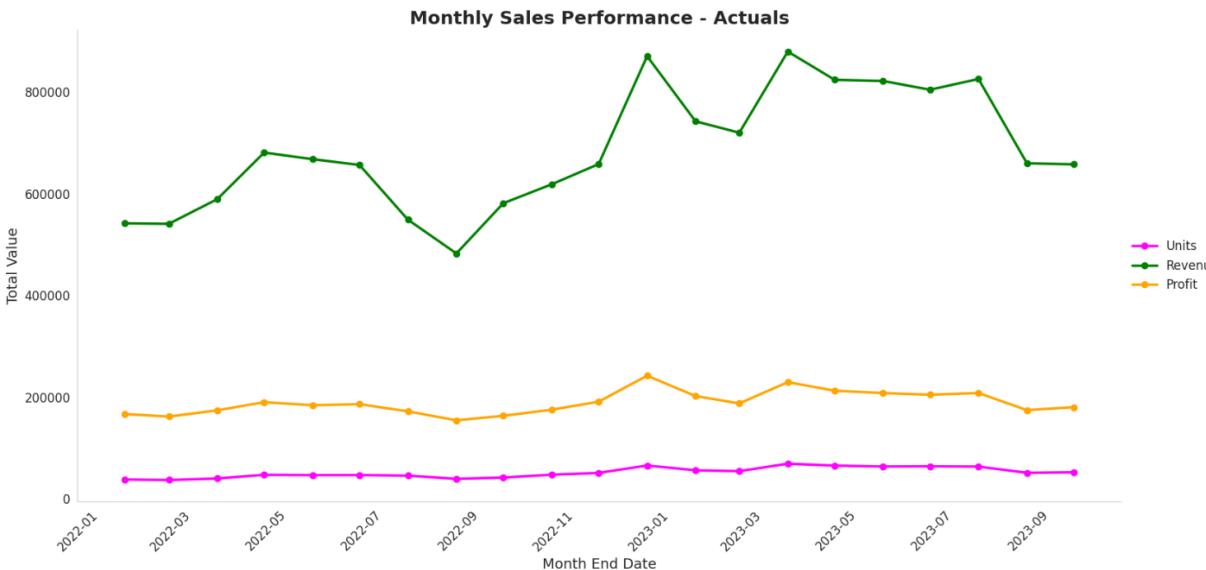
Timeseries weekly analysis – units sold , revenue and profit



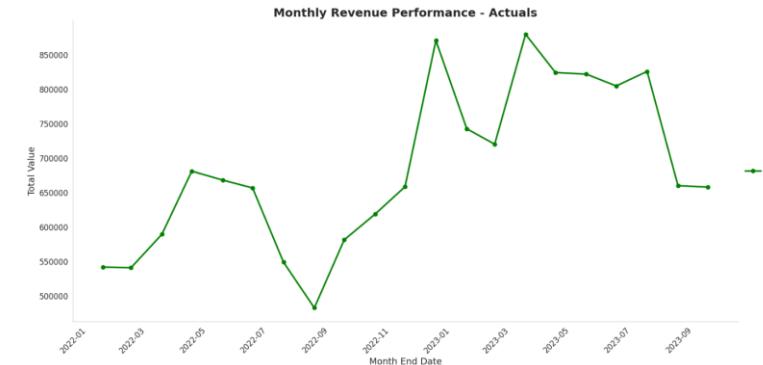
- Units Sold :** Unit sales show a general upward trend from early 2022 to mid-2023, with noticeable weekly fluctuations and a clear peak around late 2022/early 2023, followed by a slight decline.
- Revenue :** Revenue mirrors the pattern of units sold, demonstrating consistent growth from early 2022, peaking around late 2022/early 2023, and then showing a slight decrease into mid-2023, indicating a strong correlation with unit volume.
- Profit :** Profit also follows the overall sales trend, showing growth and a peak in late 2022/early 2023, but it maintains a relatively stable proportion to revenue, suggesting consistent margins.
- Overall Time-Series Comparison:** All three metrics (Units, Revenue, Profit) exhibit strong seasonality, peaking towards the end of the year (likely holiday season) and showing similar weekly volatility, confirming that sales volume directly drives both revenue and profit.



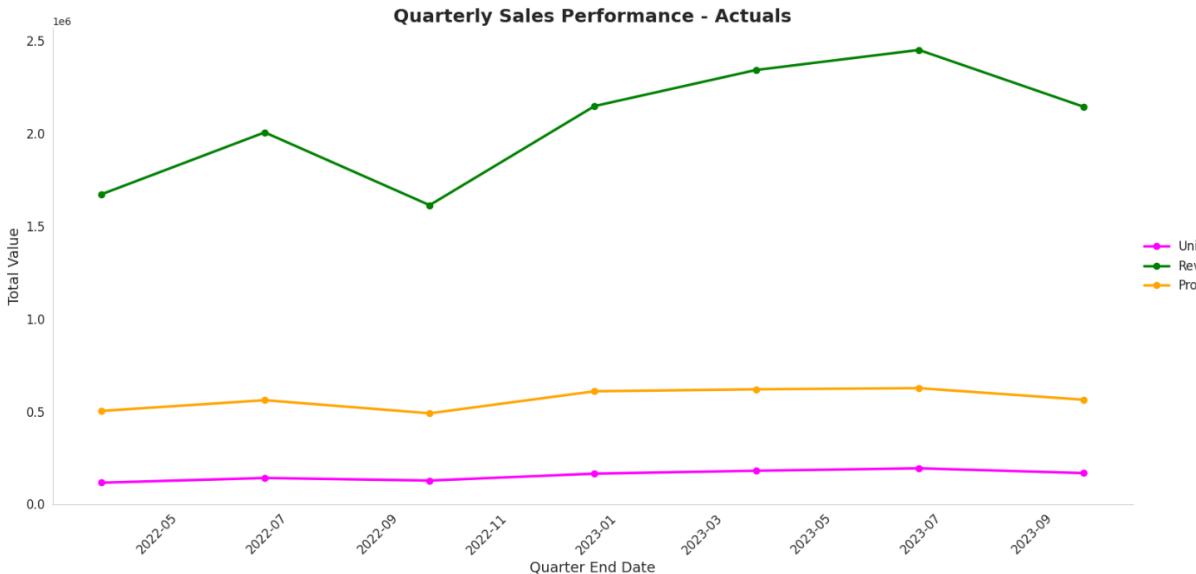
Timeseries monthly analysis – units sold , revenue and profit



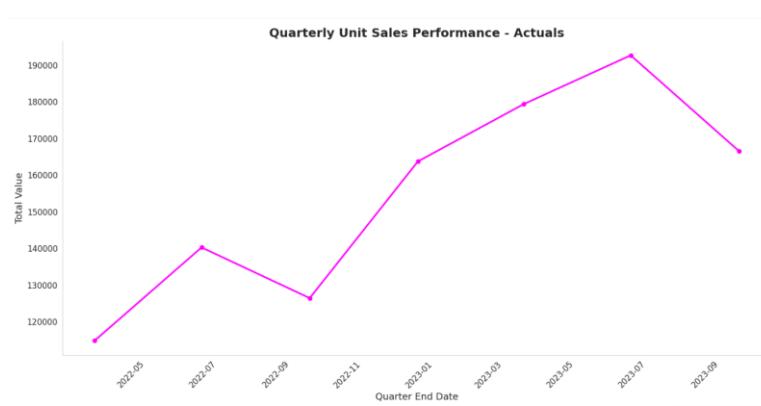
- **Units Sold :** Monthly unit sales show a clear upward trend throughout 2022, peaking significantly in late 2022 (likely December), followed by a decline and stabilization in 2023 at levels higher than early 2022.
- **Revenue :** Monthly revenue closely tracks unit sales, exhibiting strong growth through 2022 with a prominent peak in late 2022, and then a subsequent decrease and leveling off in 2023, consistently reflecting the volume fluctuations.
- **Profit :** Monthly profit also mirrors the revenue and unit trends, peaking in late 2022, and generally maintaining a consistent proportional relationship to revenue, indicating stable profit margins relative to sales.
- **Overall Monthly Time-Series Comparison:** All three metrics (Units, Revenue, Profit) demonstrate strong annual seasonality with a distinct peak towards the end of the year (Q4), confirming that sales volume is the primary driver of both revenue and profit on a monthly basis..



Timeseries quarterly analysis – units sold , revenue and profit

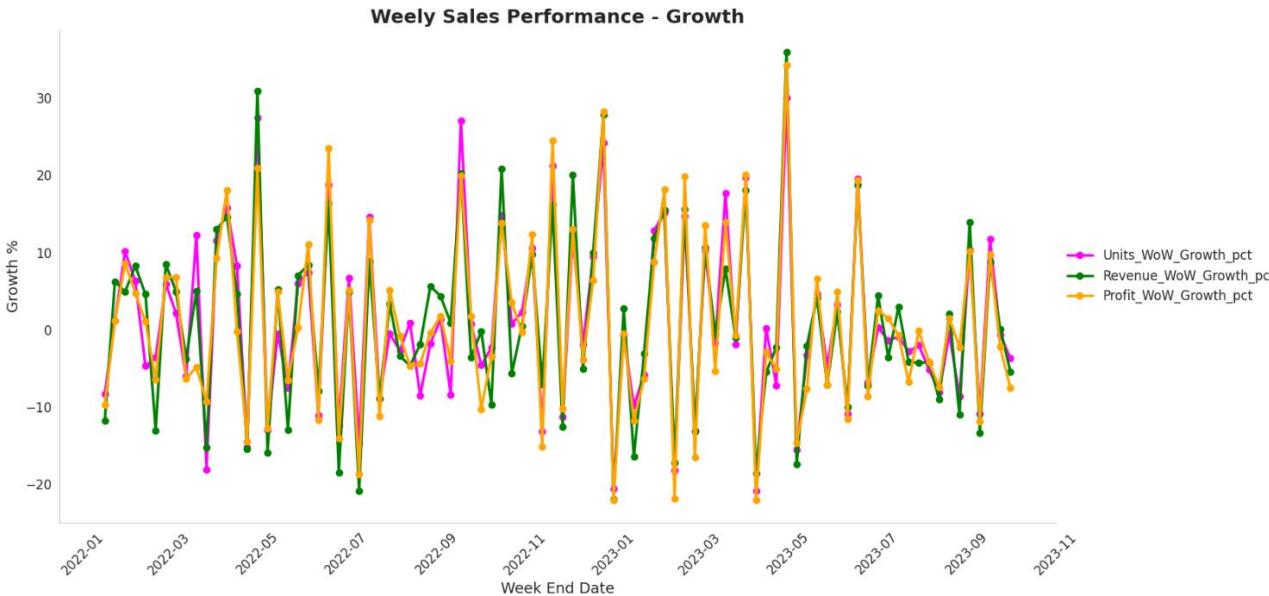


- Units Sold** : Quarterly unit sales show a strong growth trend from Q1 2022 to Q4 2022, reaching a peak, followed by a decline in Q1 2023 and a slight recovery in Q2 2023.
- Revenue** : Quarterly revenue mirrors the unit sales pattern, demonstrating robust growth throughout 2022, peaking in Q4 2022, and then experiencing a decline in Q1 2023 with some recovery in Q2 2023.
- Profit** : Quarterly profit generally follows the revenue trend, showing a significant increase from Q1 2022 to Q4 2022, and then a decrease in Q1 2023, indicating that profit is directly tied to sales volume and revenue.
- Overall Quarterly Time-Series Comparison**: All three metrics (Units, Revenue, Profit) exhibit clear annual seasonality, with Q4 consistently being the strongest quarter, and a noticeable dip in Q1 of the following year, confirming the significant impact of year-end sales periods on overall performance.

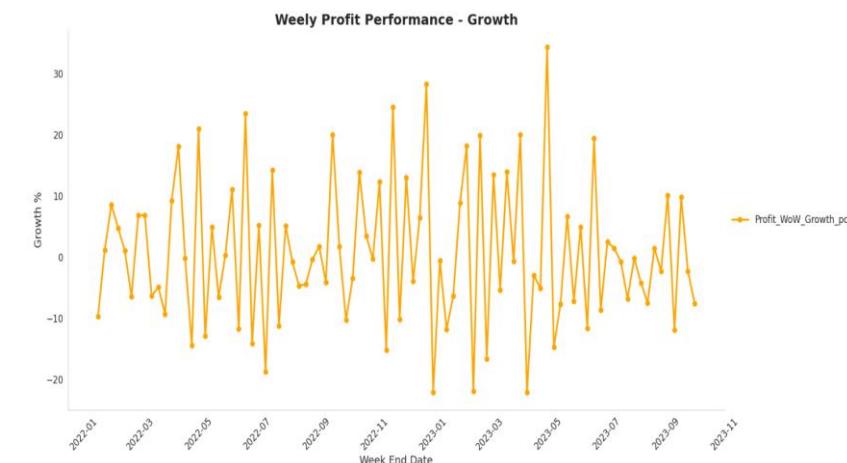
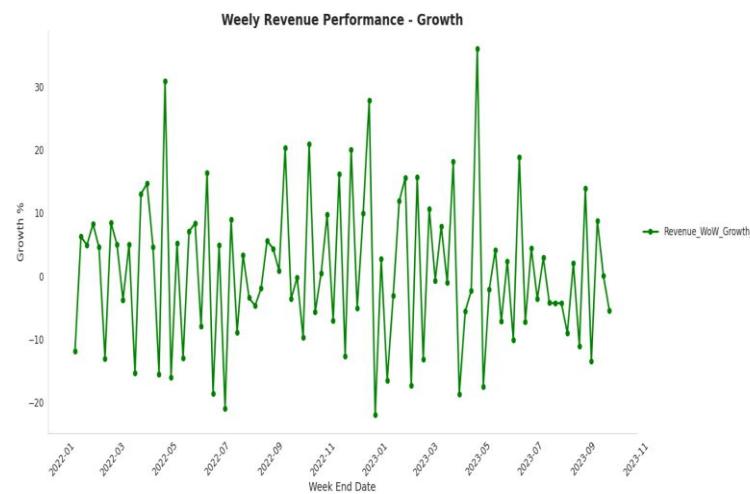
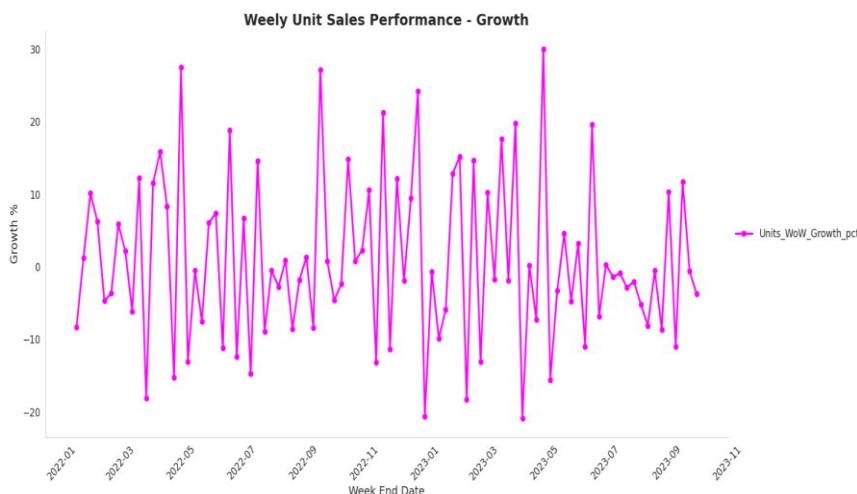




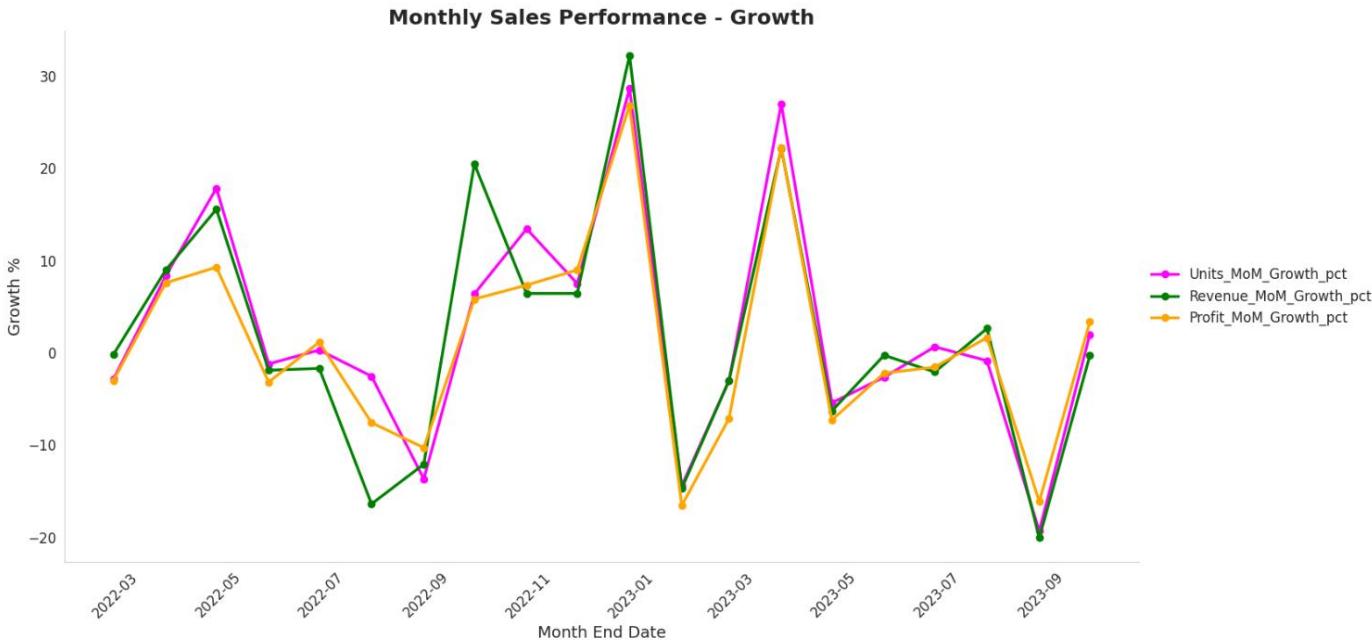
Timeseries WOW growth analysis – units sold , revenue and profit



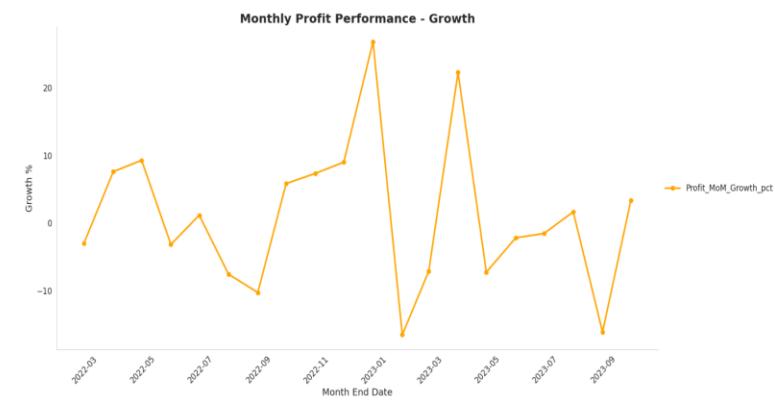
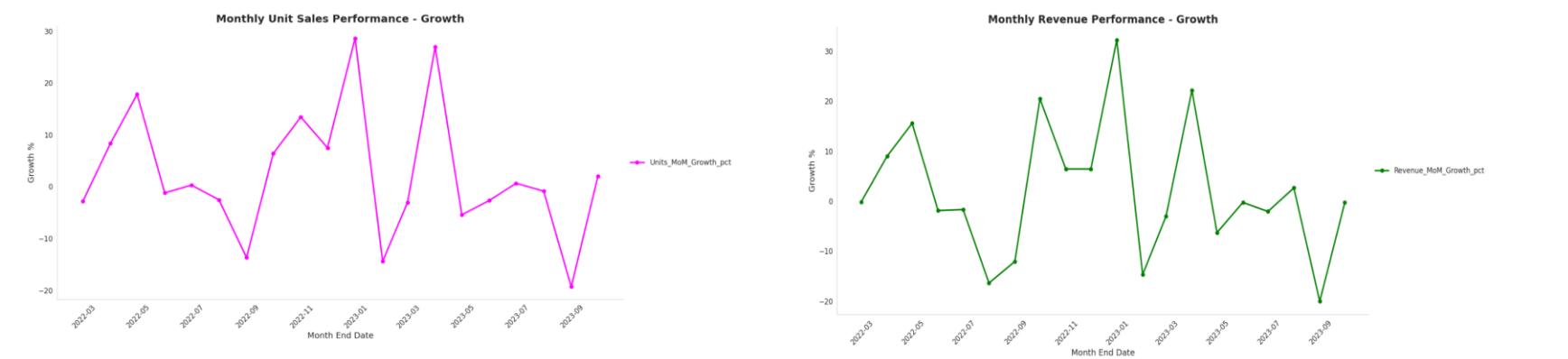
- Units Sold Growth :** Weekly unit growth shows high volatility, frequently fluctuating between positive and negative growth, with several peaks around +20-30% and dips below -10%, indicating inconsistent week-over-week performance.
- Revenue Growth :** Weekly revenue growth mirrors unit growth's high volatility, with similar peaks and troughs, suggesting that changes in revenue are primarily driven by fluctuations in unit sales rather than significant price changes.
- Profit Growth :** Weekly profit growth also exhibits high week-over-week volatility, closely tracking both unit and revenue growth, indicating that profit margins remain relatively stable despite weekly sales fluctuations.
- Overall Growth Comparison:** All three growth metrics (Units, Revenue, Profit) are highly correlated and show significant week-over-week swings, emphasizing the dynamic and somewhat unpredictable nature of short-term sales performance, likely driven by promotions, events, or external factors.



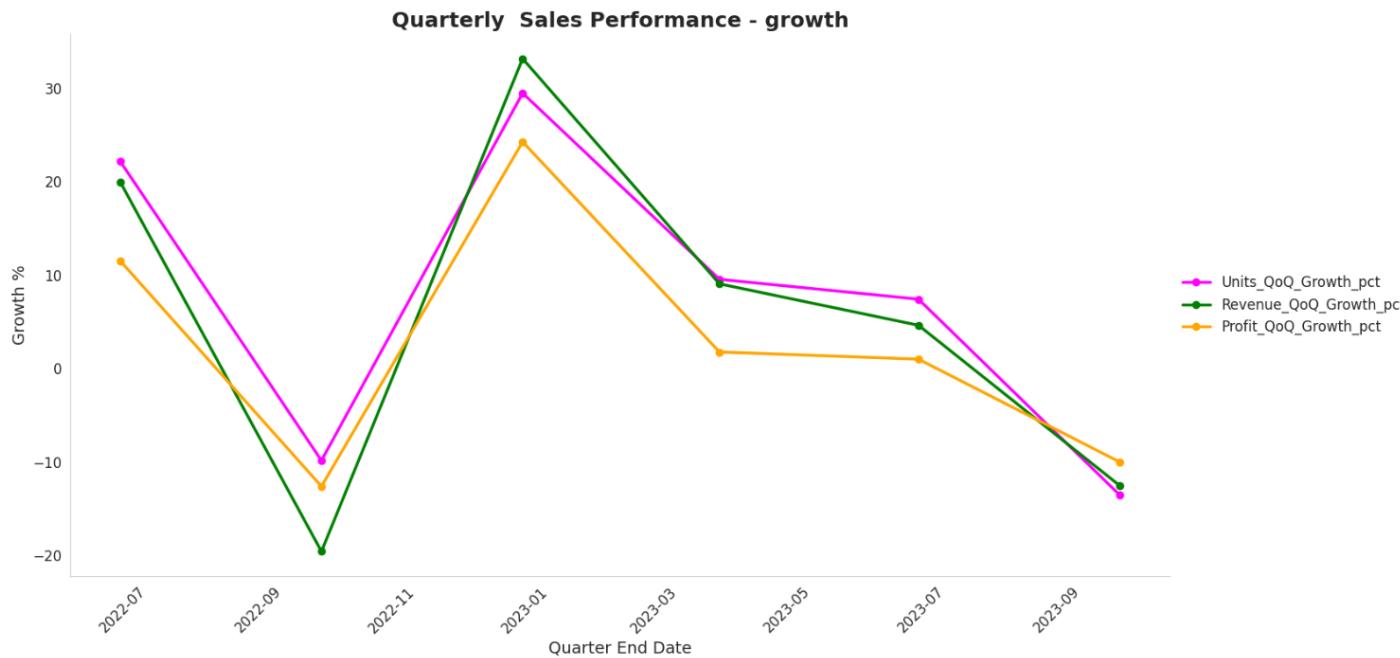
Timeseries MOM growth analysis – units sold , revenue and profit



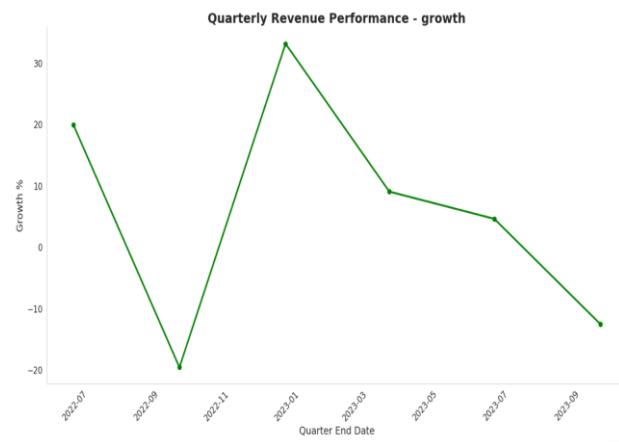
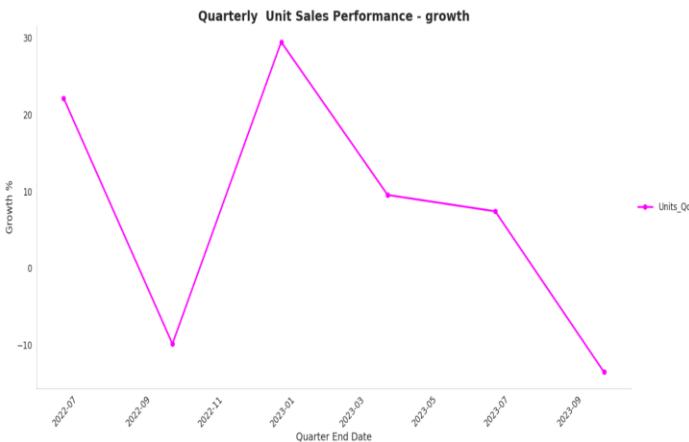
- Units Sold Growth :** Monthly unit growth shows significant volatility, with a strong positive spike (around +25%) in late 2022 (likely Nov/Dec), followed by a sharp decline in early 2023, and then fluctuating between positive and negative growth.
- Revenue Growth :** Monthly revenue growth closely mirrors unit growth, displaying similar sharp increases and decreases, with a peak in late 2022, indicating that revenue fluctuations are primarily driven by changes in unit volume.
- Profit Growth :** Monthly profit growth also tracks the trends of units and revenue, showing high volatility and a peak in late 2022, suggesting that profit margins remain relatively consistent despite month-to-month sales swings.
- Overall Monthly Growth Comparison:** All three-growth metrics (Units, Revenue, Profit) are highly correlated, and exhibit pronounced month-over-month fluctuations, highlighting strong seasonality (especially year-end surge and post-holiday dip) and the direct impact of sales volume on profitability.



Timeseries QoQ growth analysis – units sold , revenue and profit

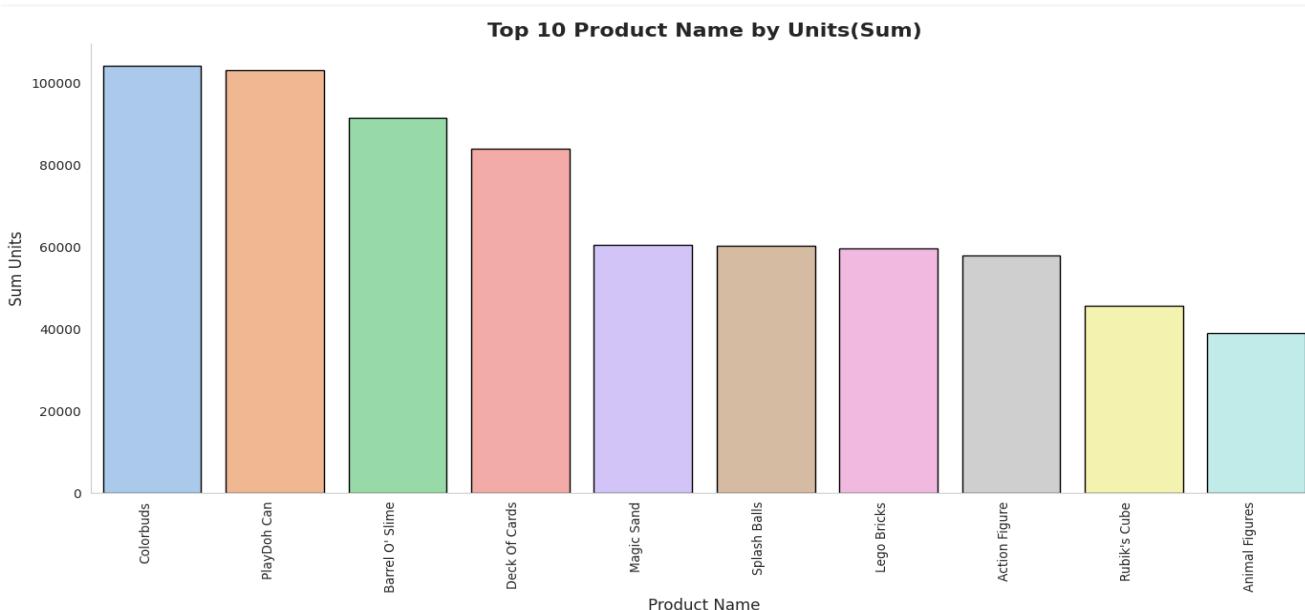


- **Units Sold Growth :** Quarterly unit growth shows significant volatility, with a strong positive growth in Q3 2022, followed by a sharp negative dip in Q4 2022, and then a recovery in Q1 2023 before declining again.
- **Revenue Growth :** Quarterly revenue growth closely mirrors unit growth, with a large positive spike in Q4 2022, followed by a sharp decline in Q1 2023, indicating that revenue changes are primarily driven by unit volume.
- **Profit Growth :** Quarterly profit growth also tracks the trends of units and revenue, showing a similar sharp positive peak in Q4 2022 and a subsequent decline, suggesting that profit margins remain relatively consistent despite quarter-to-quarter sales swings.
- **Overall Quarterly Growth Comparison:** All three-growth metrics (Units, Revenue, Profit) are highly correlated, and exhibit pronounced quarter-over-quarter fluctuations, highlighting strong seasonality with Q4 being a period of significant growth followed by a substantial decline in Q1.

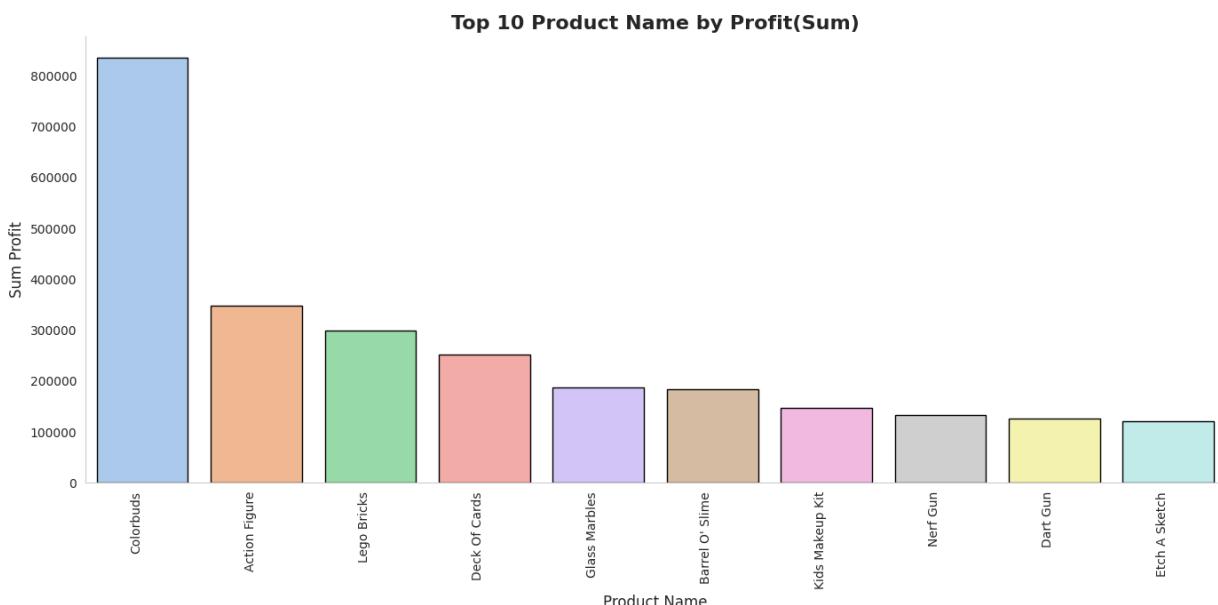
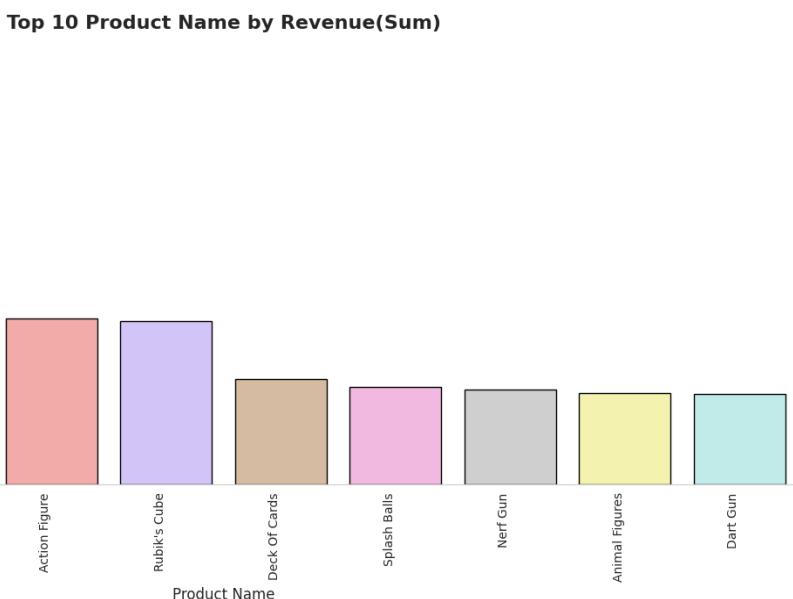




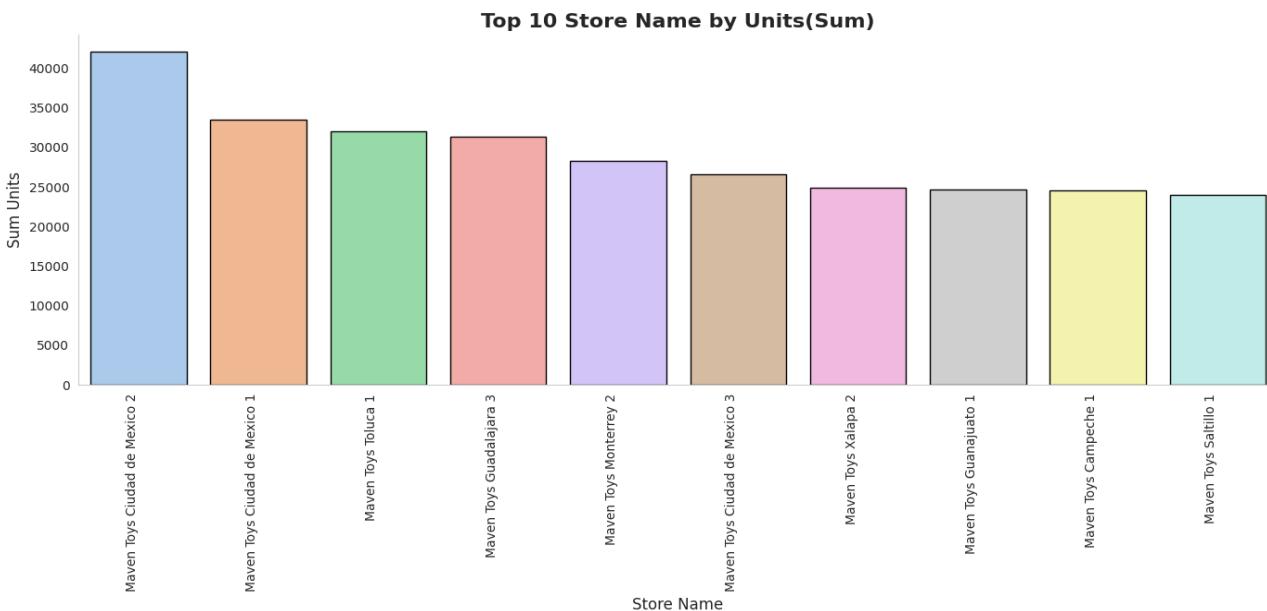
TOP N Products by Units sold , Revenue and Profit



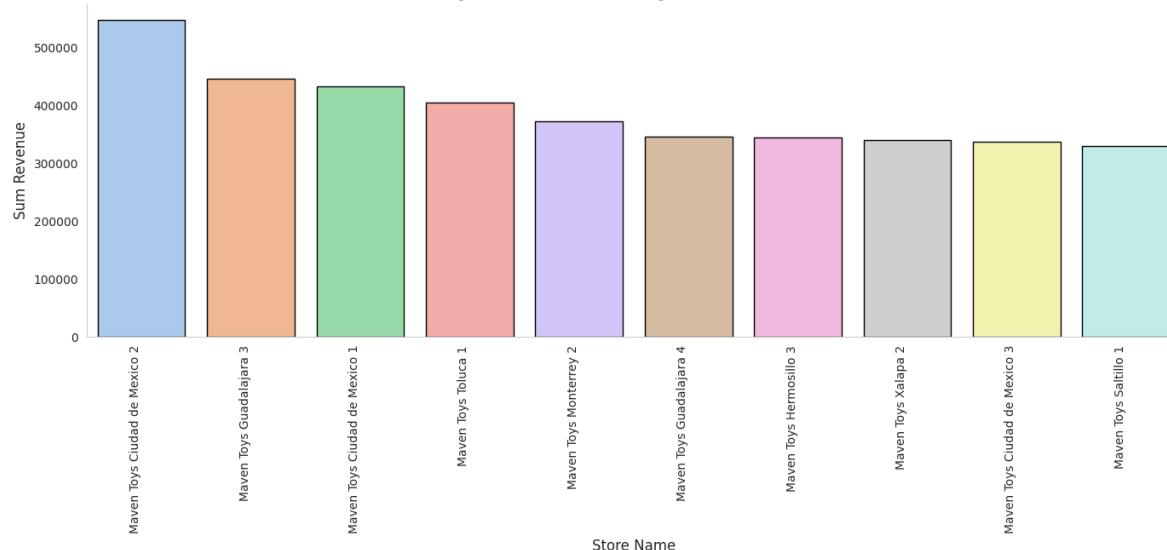
- Prioritize "Colorbuds" and "Lego Bricks" for Volume & Profit: "Colorbuds" and "Lego Bricks" consistently rank highest or near-highest in Units Sold, Revenue, and Profit.
- Investigate "PlayDoh Can" & "Barrel O' Slime" for Profitability Gap: While "PlayDoh Can" and "Barrel O' Slime" are top sellers by Units, their Revenue and especially Profit rankings are significantly lower.
- Leverage "Action Figure" and "Rubik's Cube" for Balanced Growth: "Action Figure" and "Rubik's Cube" show strong, balanced performance across all three metrics (Units, Revenue, Profit) within the top 10.
- Review Lower-Tier Top 10 Products for Efficiency: Products like "Nerf Gun," "Animal Figures," and "Etch-A-Sketch" are in the top 10 but generally at the lower end across all metrics.



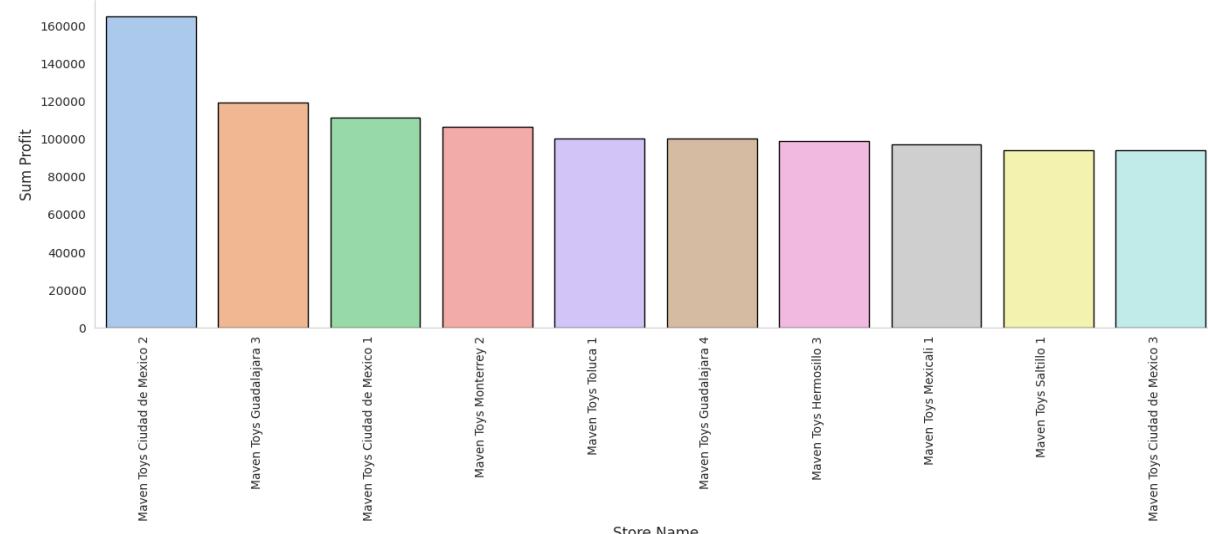
TOP N Stores by Units sold , Revenue and Profit



Top 10 Store Name by Revenue(Sum)



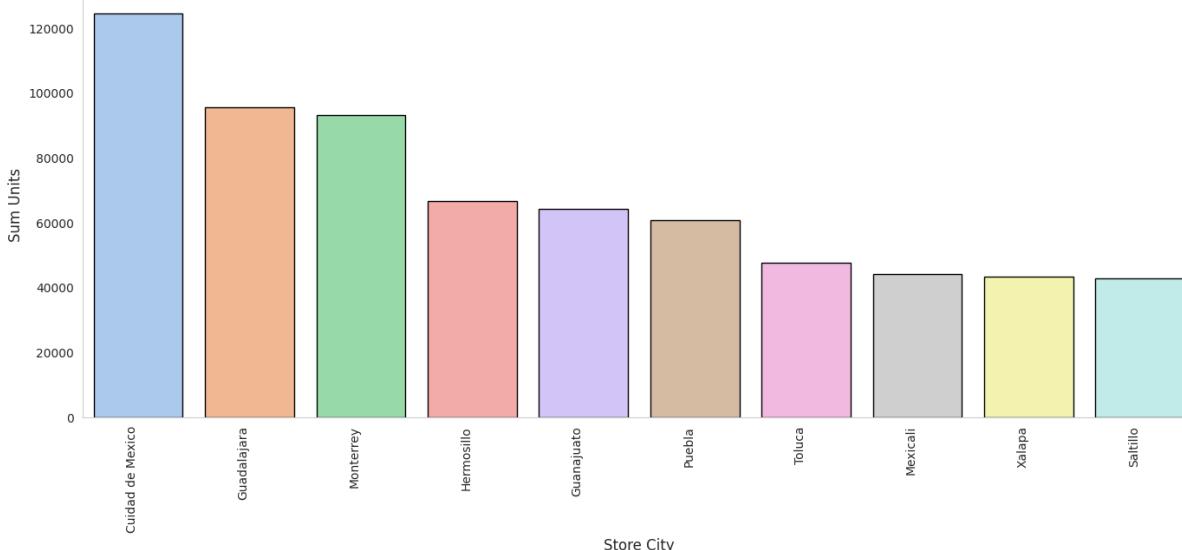
Top 10 Store Name by Profit(Sum)



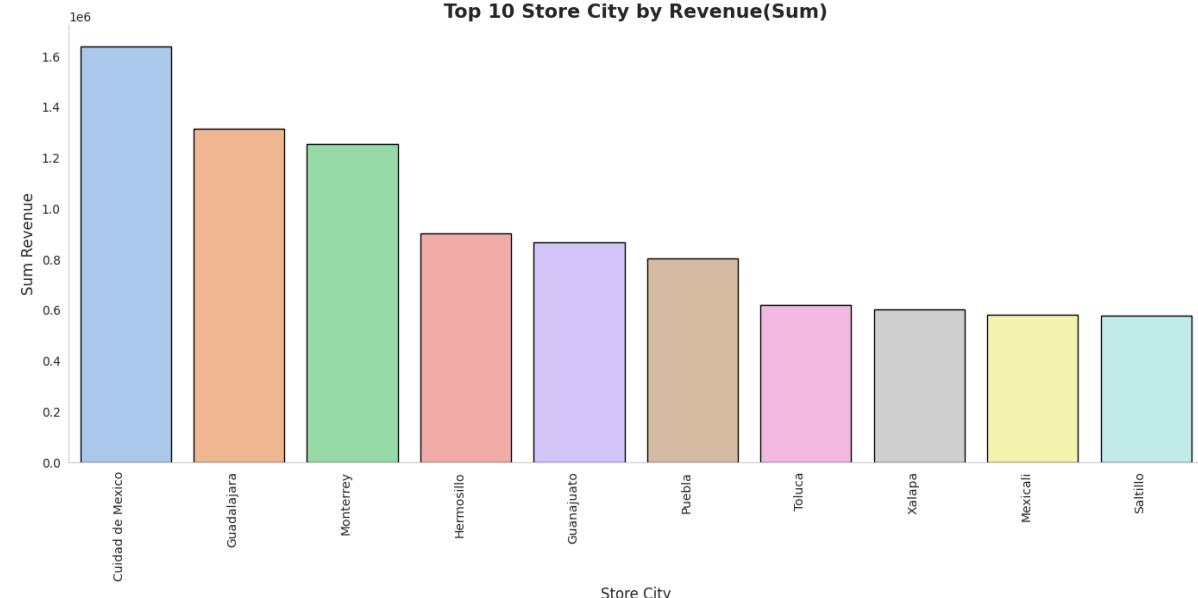
- Replicate "Haven Toys Ciudad de Mexico 2" Success:** This store consistently ranks as the top performer across Units Sold, Revenue, and Profit.
- Optimize "Haven Toys Guadalajara 3" and "Haven Toys Toluca 1" for Profit:** While "Haven Toys Guadalajara 3" and "Haven Toys Toluca 1" are strong in Units Sold and Revenue, their Profit ranking is slightly lower relative to their sales volume.
- Boost Performance of Lower-Tier Top 10 Stores:** Stores like "Haven Toys Xalapa 2," "Haven Toys Hermosillo 1," and "Haven Toys Saltillo 1" are in the top 10 but consistently at the lower end across all metrics.
- Leverage Store Performance for Future Expansion:** The consistent top performers provide a blueprint for new store locations.

TOP N City by Units sold , Revenue and Profit

Top 10 Store City by Units(Sum)



Top 10 Store City by Revenue(Sum)



Top 10 Store City by Profit(Sum)

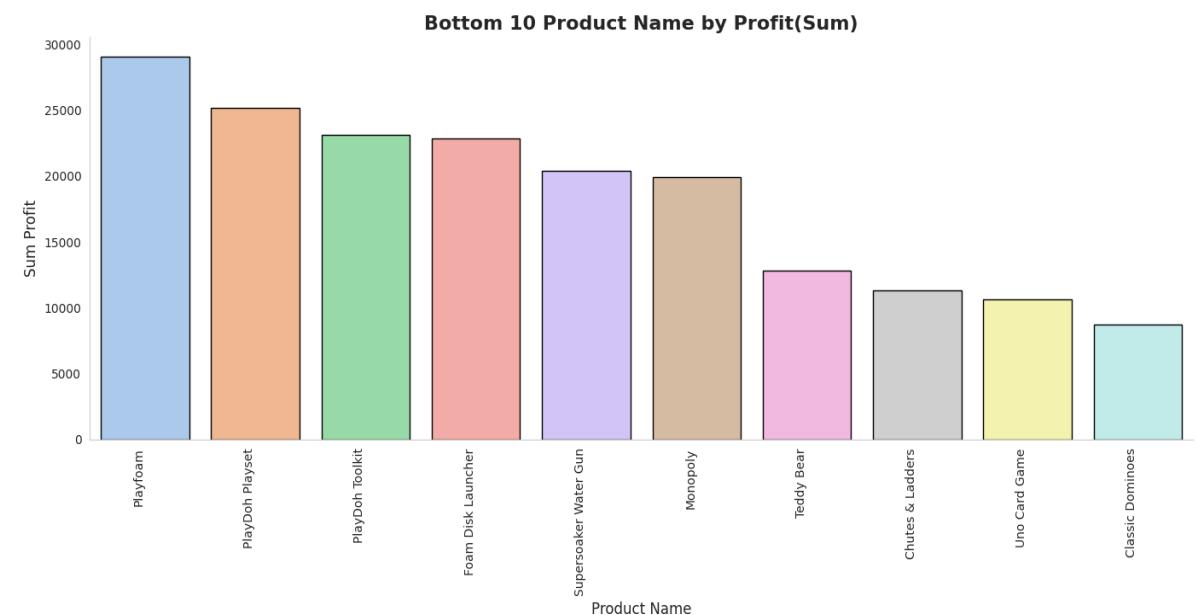
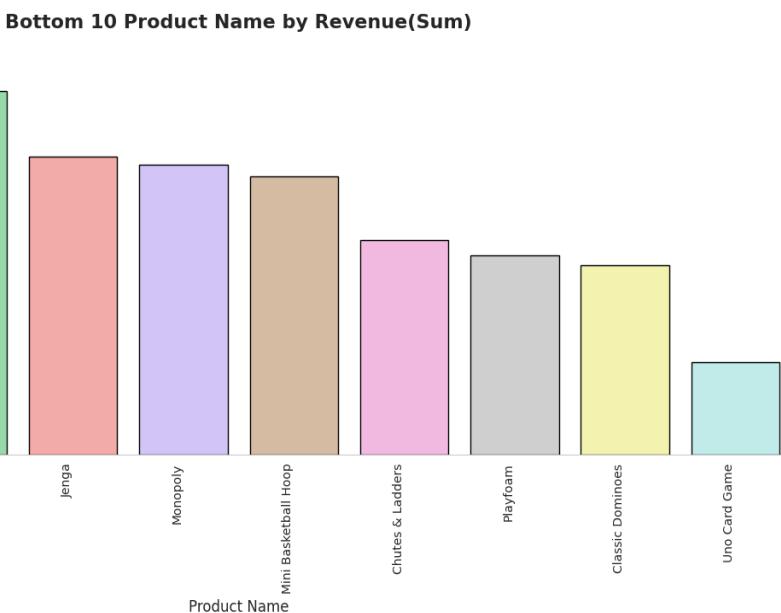
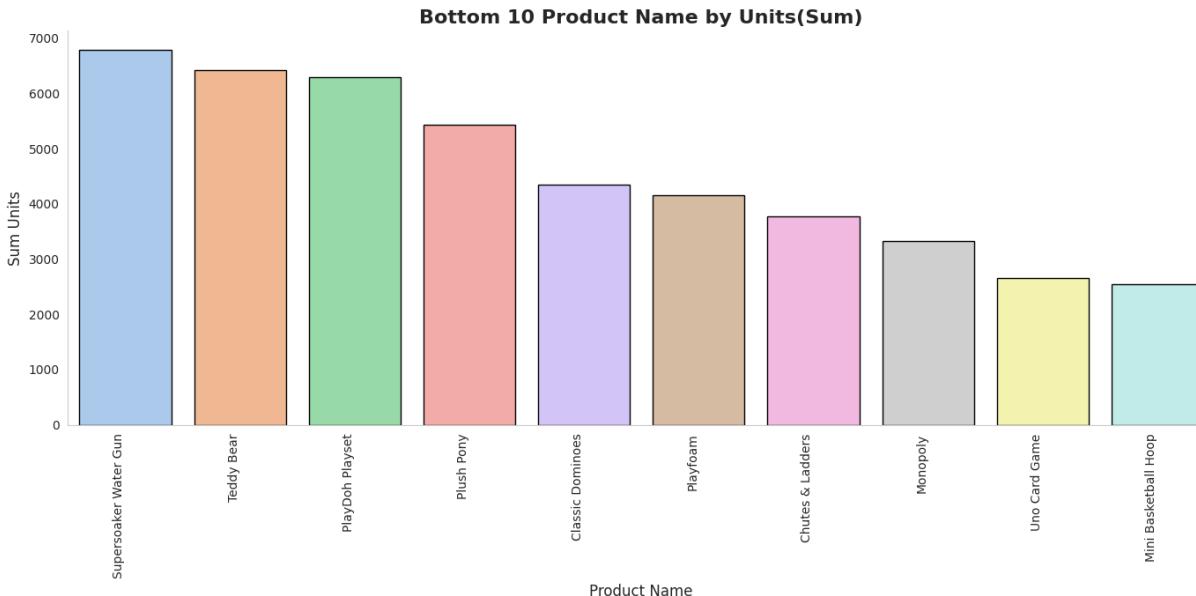


- Prioritize "Ciudad de Mexico" for Maximum Impact:** "Ciudad de Mexico" is the undisputed leader across Units Sold, Revenue, and Profit.
- Replicate Success Factors from "Guadalajara" and "Monterrey":** "Guadalajara" and "Monterrey" consistently rank as strong second and third performers across all metrics.
- Investigate and Boost Mid-Tier Cities:** Cities like "Hermosillo" and "Puebla" show solid performance but have room for growth to catch up to the top three.
- Strategic Evaluation for Lower-Tier Cities:** Cities such as "Toluca," "Mexicali," "Xalapa," and "Saltillo" are in the top 10 but contribute significantly less.

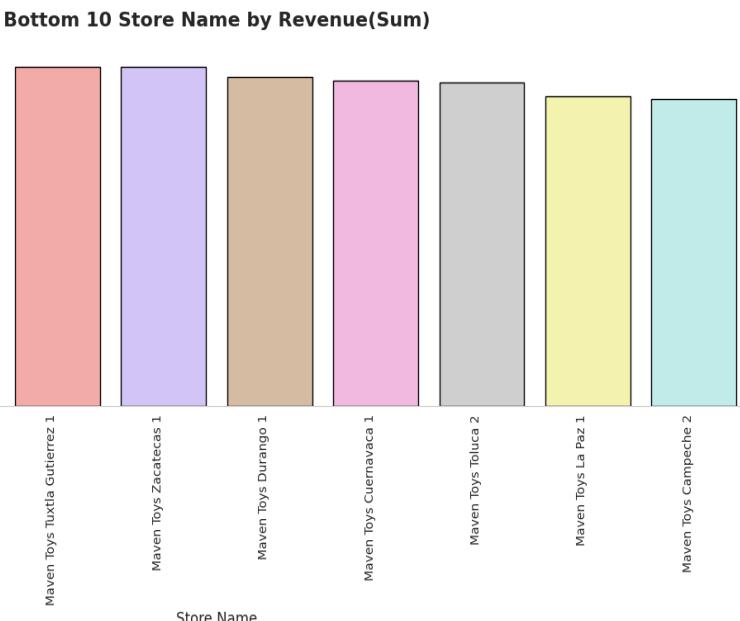
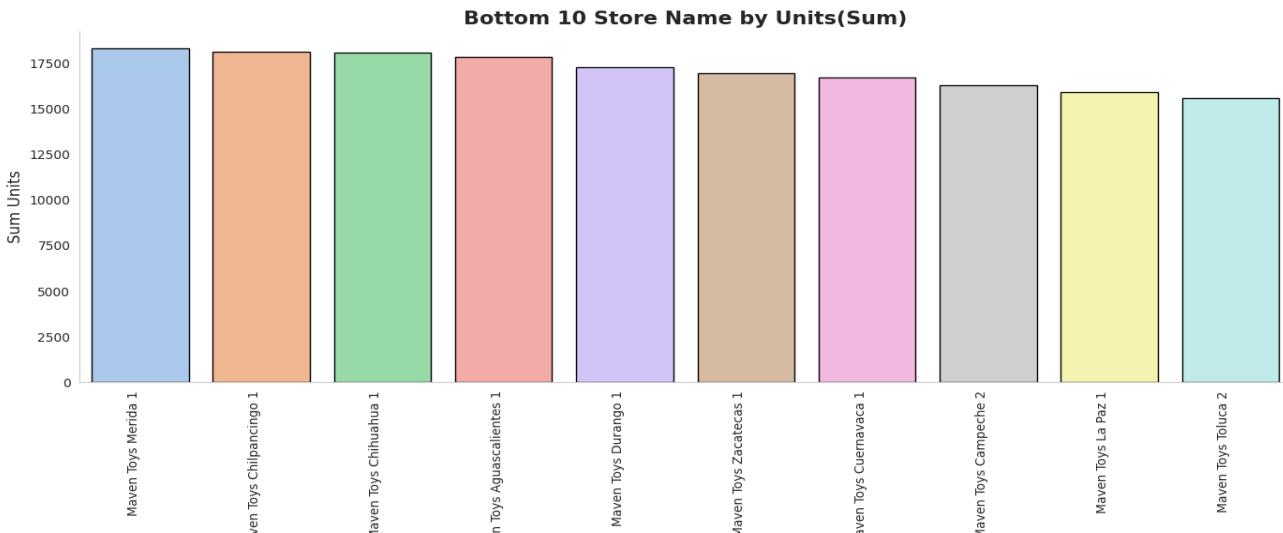


Bottom N Products by Units sold , Revenue and Profit

- Prioritize Discontinuation/Deep Discounting for "Classic Dominos" and "Uno Card Game":** These products consistently rank at the very bottom across Units, Revenue, and Profit.
- Evaluate Profitability of "Supersoaker Water Gun" and "Teddy Bear":** While "Supersoaker Water Gun" and "Teddy Bear" have relatively higher unit sales among the bottom 10, their revenue and profit contributions are disproportionately lower.
- Identify Niche Potential for "PlayDoh Playset" and "PlayDoh Toolkit":** These products show a relatively better profit contribution compared to their unit sales within the bottom 10.
- Review Inventory and Marketing for All Bottom 10:** The overall low performance across these products indicates potential issues with demand, pricing, or visibility.



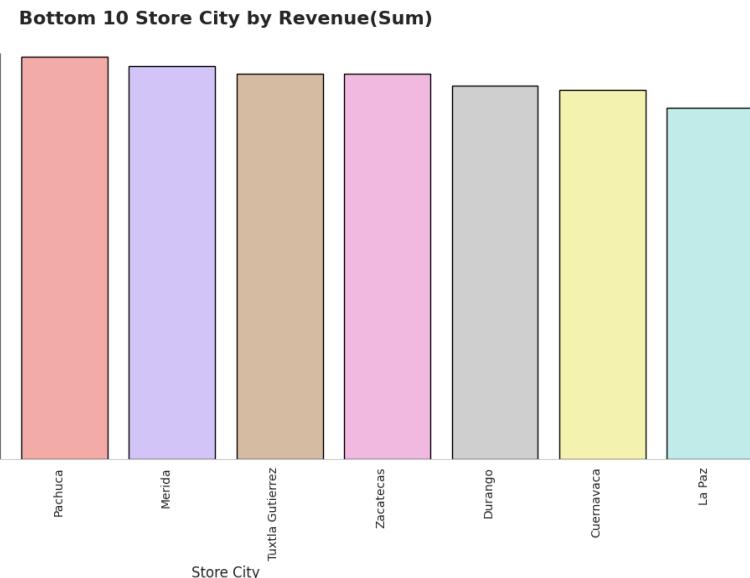
Bottom N Stores by Units sold , Revenue and Profit



- Prioritize Performance Improvement for All Bottom 10 Stores:** The relatively flat performance across all metrics for these stores suggests a systemic issue rather than isolated outliers.
- Investigate "Haven Toys Pachuca 1" and "Haven Toys Hermosillo 1" for Revenue/Profit Efficiency:** While these stores are among the lowest in units, their revenue and profit contributions are comparatively better within this bottom group.
- Address "Haven Toys Toluca 2" and "Haven Toys La Paz 1" as High-Risk:** These stores consistently appear at the very bottom across all three metrics (Units, Revenue, Profit), indicating the most severe underperformance.
- Implement Targeted Support Based on Local Context:** While the overall trend is low, there might be subtle differences in why each store is underperforming (e.g., specific local competition, demographic shifts).

Bottom N Cities by Units sold , Revenue and Profit

- Prioritize Targeted Intervention for All Bottom Cities:** Given the relatively flat and low performance across all metrics for these 10 cities, a blanket strategy of focused intervention is required rather than isolated actions.
- Investigate Profitability Discrepancies in "Pachuca" and "Chetumal":** While "Pachuca" and "Chetumal" are among the highest in units sold within this bottom group, their profit contribution appears disproportionately lower compared to some others (e.g., "Chilpancingo" or "Tuxtla Gutierrez" which have similar profit with fewer units).
- Evaluate "La Paz" for Viability/Restructuring:** "La Paz" consistently ranks at the very bottom across all three metrics (Units, Revenue, and Profit), indicating it's the most challenging city in this group.
- Leverage Relative Strengths for Incremental Gains:** Within this bottom 10, cities like "Chilpancingo" and "Tuxtla Gutierrez" show slightly better profit efficiency relative to their unit sales, suggesting a more favorable product mix or operational cost structure.

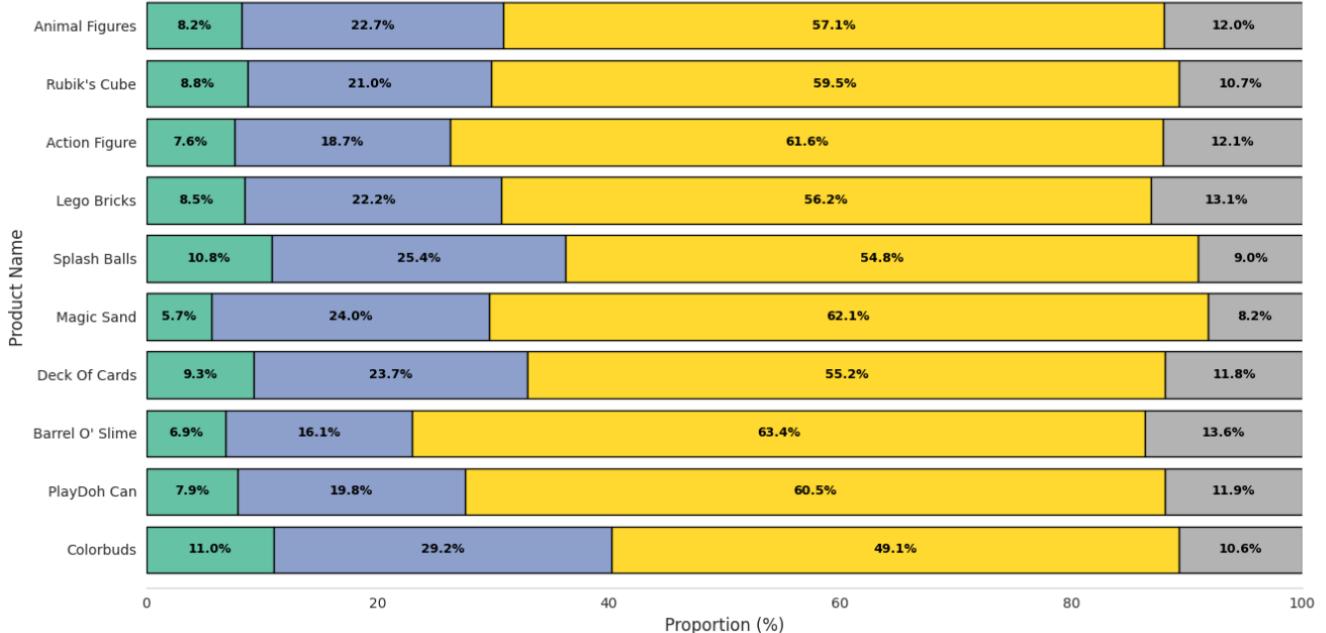




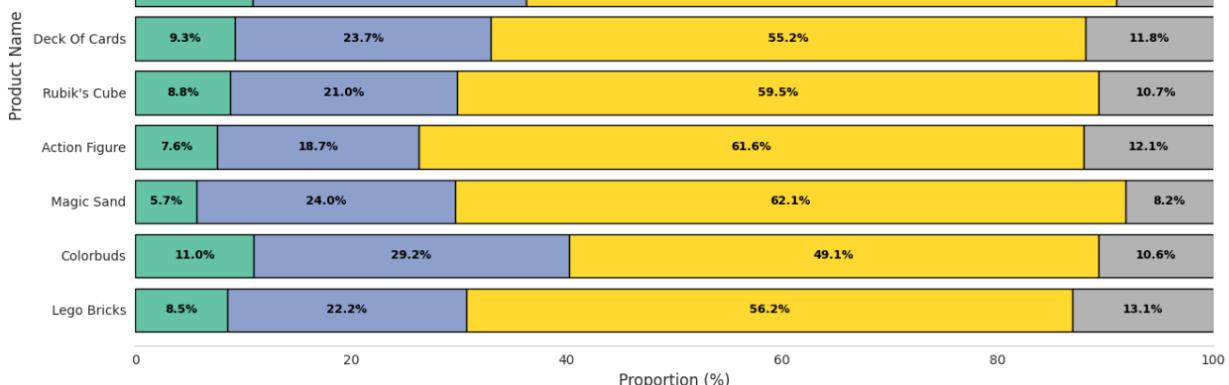
TOP N Products by Units sold , Revenue and Profit and distribution by location

Store Location
Airport
Commercial
Downtown
Residential

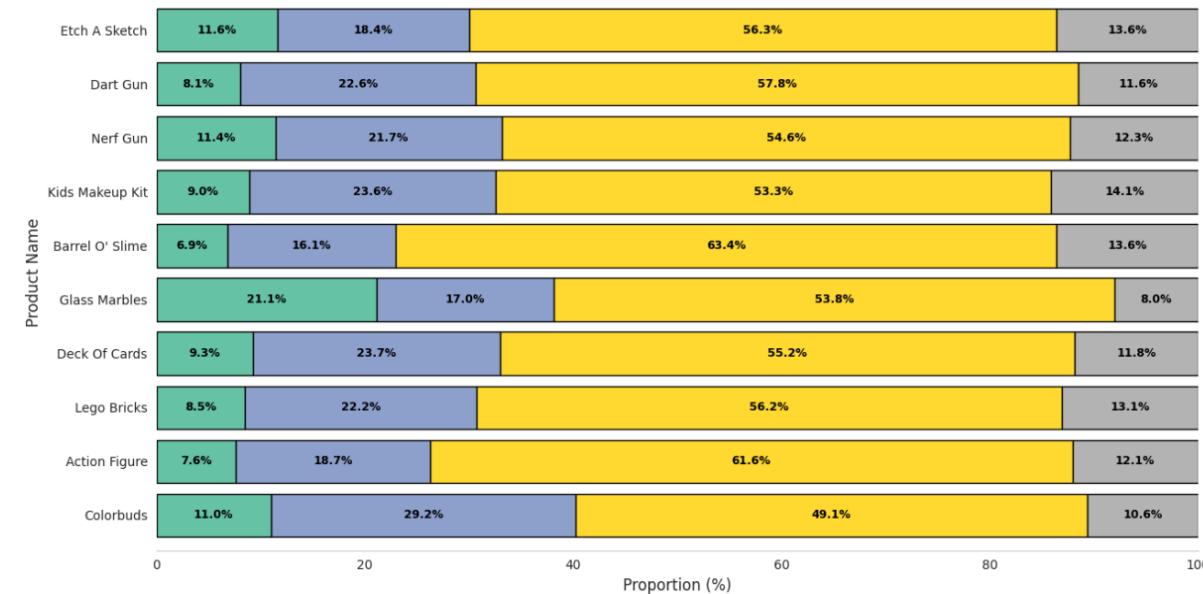
Top 10 Products : Unit Sold Distribution by Store Location



Top 10 Products : Revenue Distribution by Store Location



Top 10 Products : Profit Distribution by Store Location

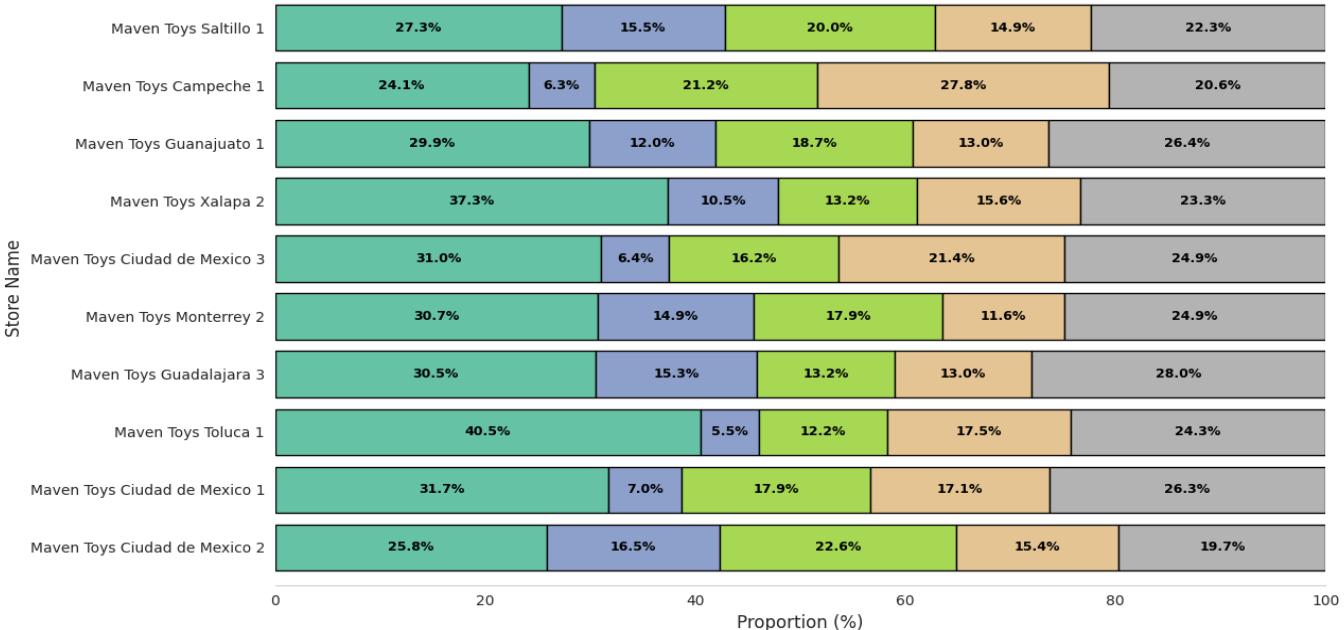


- Amplify "Commercial" and "Downtown" Dominance:** "Commercial" and "Downtown" locations are the overwhelming drivers of units, revenue, and profit for almost all top 10 products.
- Strategize for "Airport" and "Residential" Locations:** These locations consistently contribute the lowest proportion of sales and profit for the top products.
- Leverage Product-Specific Location Strengths (Micro-Targeting):** While "Commercial" and "Downtown" dominate, some products show slight variations (e.g., "Colorbuds" has a relatively higher "Airport" share in units, "Etch-A-Sketch" has a higher "Downtown" share in profit).
- Ensure Profitability Alignment Across Locations for Top Products:** For most top products, the proportional contribution from each store location type is consistent across Units, Revenue, and Profit.

TOP N Stores by Units sold , Revenue and Profit and distribution by Product Category

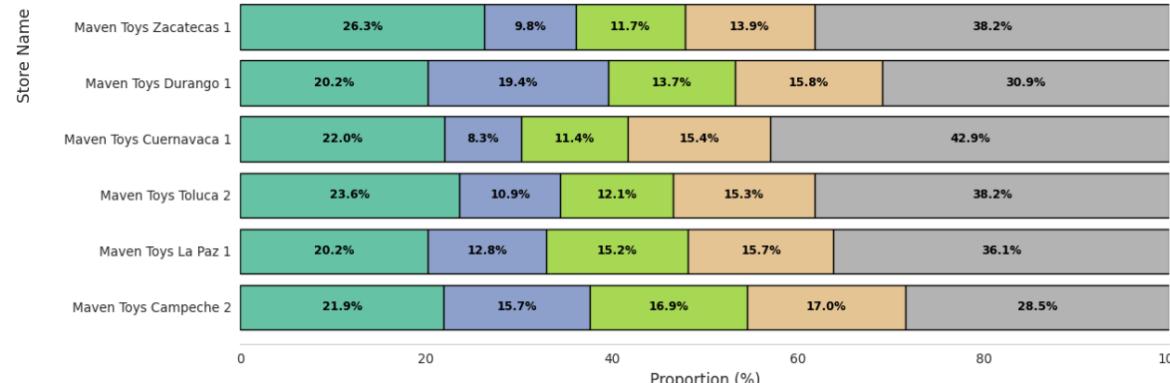
Product Category
Art & Crafts
Electronics
Games
Sports & Outdoors
Toys

Top 10 Stores: Unit Sales Distribution by Product Category

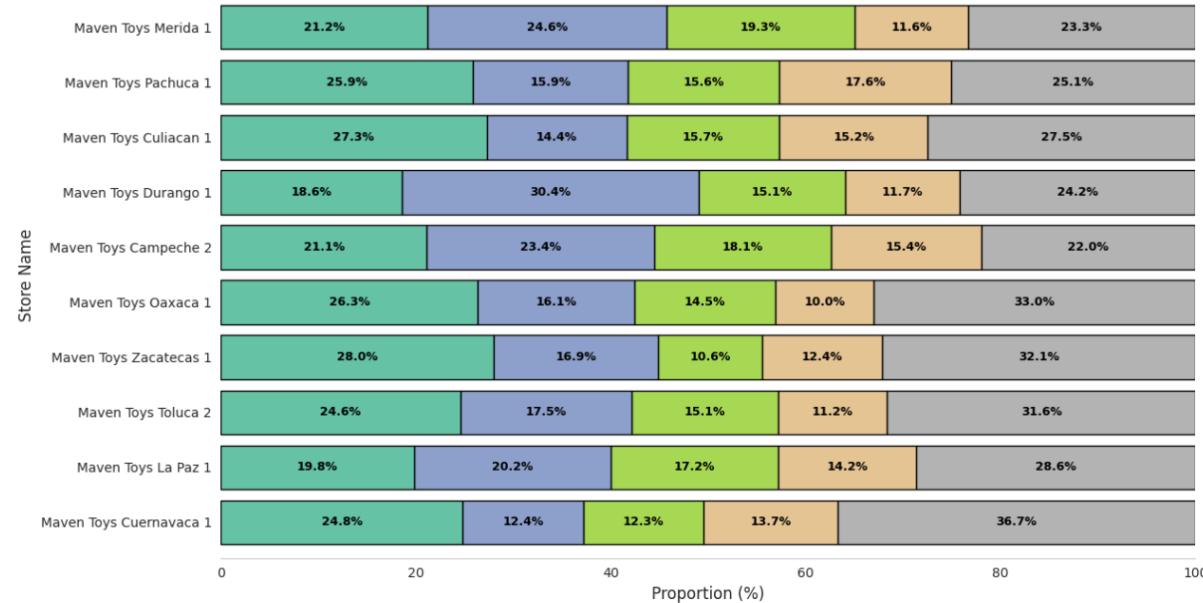


- Reinforce "Arts & Crafts" and "Toys" as Core Drivers:** "Arts & Crafts" (green) and "Toys" (gray) are consistently the largest or second-largest contributing categories across most top stores for Units, Revenue, and Profit.
- Identify and Leverage Store-Specific Category Strengths:** While "Arts & Crafts" and "Toys" dominate, some stores show unique proportional strengths in other categories (e.g., "Haven Toys Campeche 1" has a higher "Sports & Outdoors" share; "Haven Toys Monterrey 2" has a notable "Electronics" share in units).
- Strategically Address "Sports & Outdoors" Underperformance:** "Sports & Outdoors" (orange) consistently represents the smallest proportion of sales and profit across almost all top 10 stores.
- Monitor Profitability Alignment for "Electronics" and "Games":** While "Electronics" (blue) and "Games" (light green) are strong contributors, ensure their profit contribution is proportional to their unit sales and revenue across stores.

Top 10 Stores: Revenue Distribution by Product Category

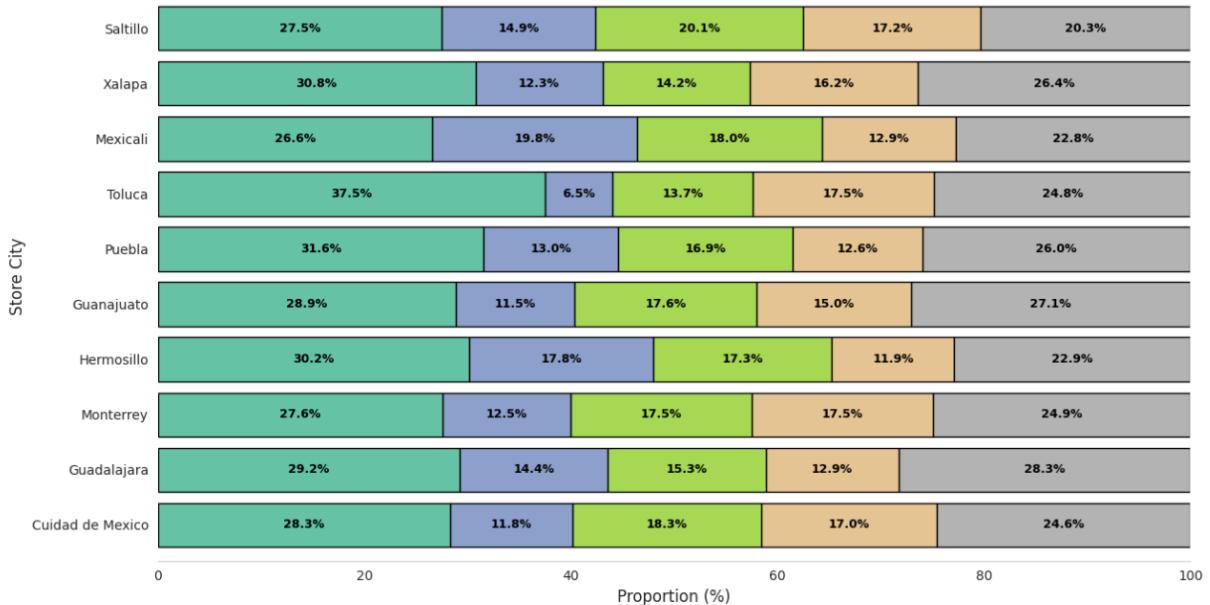


Top 10 Stores: Profit Distribution by Product Category



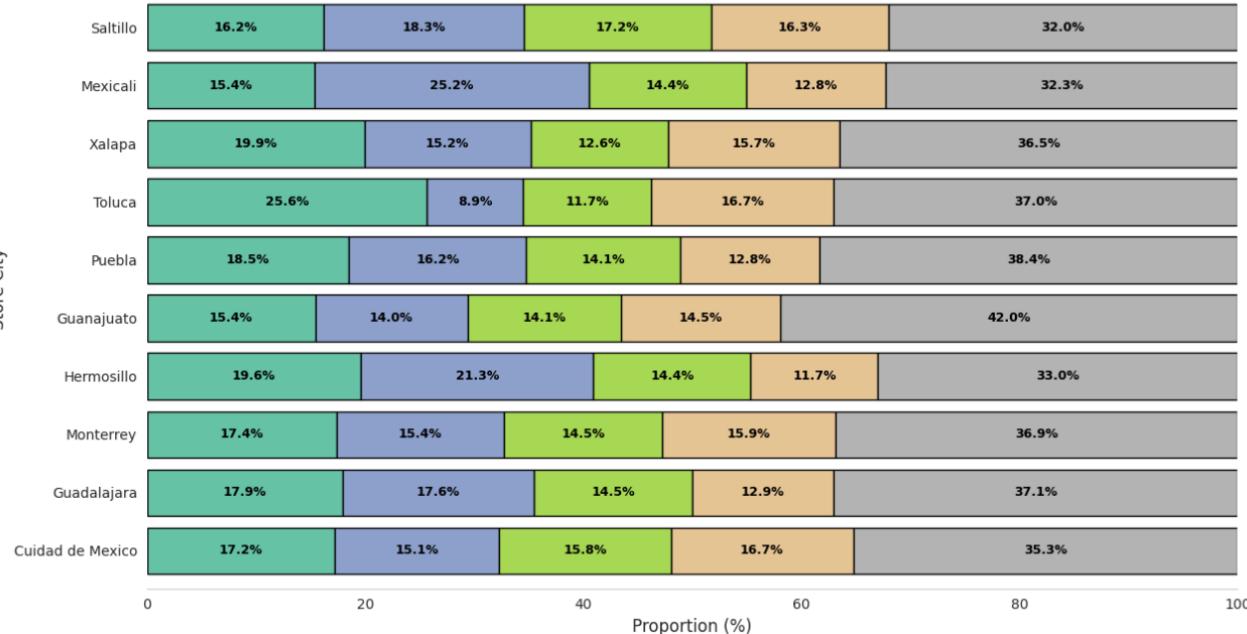
TOP N Cities by Units sold , Revenue and Profit and distribution by Product Category

Top 10 City : Unit Sold Distribution by Product Category

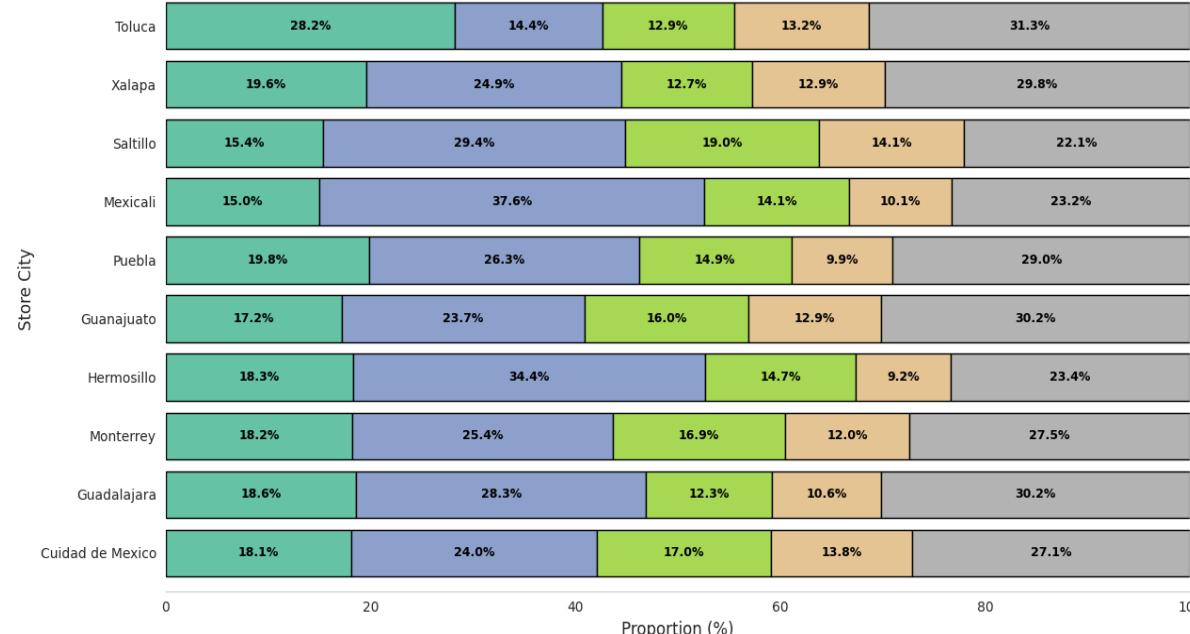


Top 10 City : Revenue Distribution by Product Category

Store City

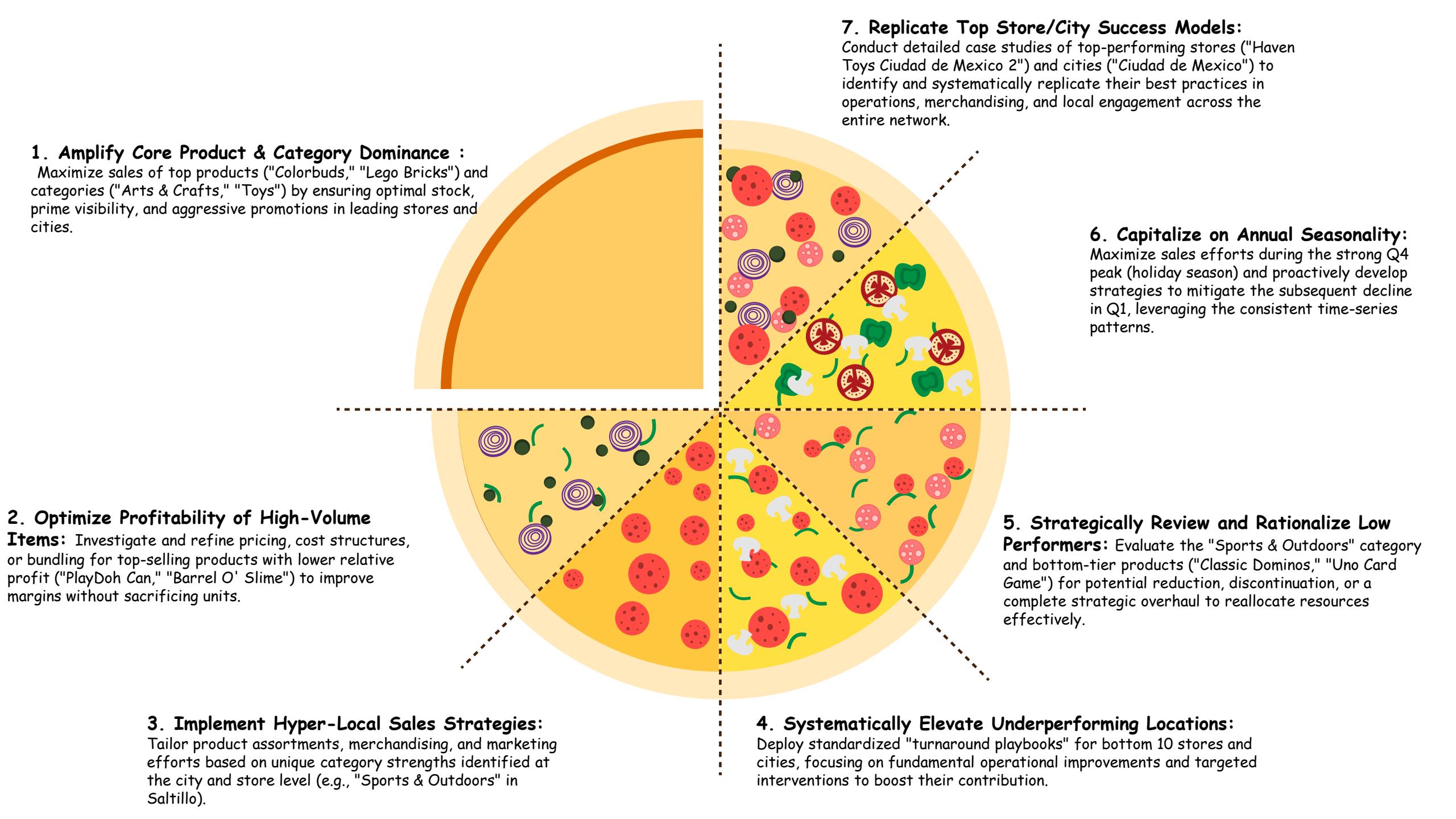


Top 10 City : Profit Distribution by Product Category



- Double Down on "Arts & Crafts" and "Toys" as Core Drivers:** "Arts & Crafts" (green) and "Toys" (gray) are consistently the largest or second-largest contributing categories across all top 10 cities for Units, Revenue, and Profit.
- Optimize "Sports & Outdoors" for Low Contribution:** The "Sports & Outdoors" category (orange) consistently represents the smallest proportional contribution to sales and profit across nearly all top 10 cities.
- Leverage City-Specific Category Strengths for Hyper-Localization:** While "Arts & Crafts" and "Toys" are broadly strong, some cities show distinct proportional preferences (e.g., Saltillo has a higher "Sports & Outdoors" share; Mexicali leans more towards "Games").
- Ensure "Electronics" and "Games" Maintain Profitability Alignment:** "Electronics" (blue) and "Games" (light green) are significant secondary contributors. It's crucial that their profit contribution remains proportional to their sales volume.





THANK YOU

APPENDIX

--- Distribution for 'Store_Name' ---
Counts:
Store_Name
Maven Toys Ciudad de Mexico 2 28497
Maven Toys Ciudad de Mexico 1 24482
Maven Toys Guadalajara 3 23099
Maven Toys Toluca 1 22969
Maven Toys Monterrey 2 21300
Maven Toys Ciudad de Mexico 3 19551
Maven Toys Saltillo 1 18924
Maven Toys Guadalajara 4 18465
Maven Toys Xalapa 2 18418
Maven Toys Guanajuato 1 18139
Maven Toys Hermosillo 2 18018
Maven Toys Campeche 1 17695
Maven Toys Ciudad de Mexico 4 17439
Maven Toys Mexicali 1 16864
Maven Toys Mexicali 2 16732
Maven Toys Chihuahua 2 16580
Maven Toys Hermosillo 3 16553
Maven Toys Puebla 2 16501
Maven Toys Guanajuato 2 16494
Maven Toys Villahermosa 1 16324
Maven Toys Monterrey 3 16049
Maven Toys Guadalajara 2 16029
Maven Toys Monterrey 4 15953
Maven Toys Guadalajara 1 15926
Maven Toys Santiago 1 15873
Maven Toys Ciudad Victoria 1 15866
Maven Toys Puebla 1 15776
Maven Toys Monterrey 1 15571
Maven Toys San Luis Potosi 1 15499
Maven Toys Hermosillo 1 15202
Maven Toys Pachuca 1 14969
Maven Toys Morelia 1 14956
Maven Toys Merida 1 14875
Maven Toys Puebla 3 14802
Maven Toys Xalapa 1 14769
Maven Toys Chetumal 1 14644
Maven Toys Culiacan 1 14594
Maven Toys Aguascalientes 1 14588
Maven Toys Guanajuato 3 14569
Maven Toys Tuxtla Gutierrez 1 14441
Maven Toys Chilpancingo 1 14438
Maven Toys Saltillo 2 14166
Maven Toys Chihuahua 1 13998
Maven Toys Durango 1 13967
Maven Toys Oaxaca 1 13741
Maven Toys Cuernavaca 1 13335
Maven Toys Zacatecas 1 13264
Maven Toys La Paz 1 12924
Maven Toys Campeche 2 12805
Maven Toys Toluca 2 12397
Name: count, dtype: int64

Proportions (%):
Store_Name
Maven Toys Ciudad de Mexico 2 3.462450
Maven Toys Ciudad de Mexico 1 2.974618
Maven Toys Guadalajara 3 2.806581
Maven Toys Toluca 1 2.790785
Maven Toys Monterrey 2 2.587998
Maven Toys Ciudad de Mexico 3 2.375491
Maven Toys Saltillo 1 2.299309
Maven Toys Guadalajara 4 2.243539
Maven Toys Xalapa 2 2.237829
Maven Toys Guanajuato 1 2.203929
Maven Toys Hermosillo 2 2.189228
Maven Toys Campeche 1 2.149982
Maven Toys Ciudad de Mexico 4 2.118878
Maven Toys Mexicali 1 2.049014
Maven Toys Mexicali 2 2.032976
Maven Toys Chihuahua 2 2.014507
Maven Toys Hermosillo 3 2.011227
Maven Toys Puebla 2 2.004909
Maven Toys Guanajuato 2 2.004058
Maven Toys Villahermosa 1 1.983403
Maven Toys Monterrey 3 1.949990
Maven Toys Guadalajara 2 1.947560
Maven Toys Monterrey 4 1.938325
Maven Toys Guadalajara 1 1.935045
Maven Toys Santiago 1 1.928605
Maven Toys Ciudad Victoria 1 1.927755
Maven Toys Puebla 1 1.916820
Maven Toys Monterrey 1 1.891912
Maven Toys San Luis Potosi 1 1.883163
Maven Toys Hermosillo 1 1.847077
Maven Toys Pachuca 1 1.818767
Maven Toys Morelia 1 1.817188
Maven Toys Merida 1 1.807346
Maven Toys Puebla 3 1.798476
Maven Toys Xalapa 1 1.794467
Maven Toys Chetumal 1 1.779279
Maven Toys Culiacan 1 1.773204
Maven Toys Aguascalientes 1 1.772475
Maven Toys Guanajuato 3 1.770166
Maven Toys Tuxtla Gutierrez 1 1.754614
Maven Toys Chilpancingo 1 1.754250
Maven Toys Saltillo 2 1.721201
Maven Toys Chihuahua 1 1.700789
Maven Toys Durango 1 1.697022
Maven Toys Oaxaca 1 1.669562
Maven Toys Cuernavaca 1 1.620233
Maven Toys Zacatecas 1 1.611606
Maven Toys La Paz 1 1.570295
Maven Toys Campeche 2 1.555836
Maven Toys Toluca 2 1.506263
Name: proportion, dtype: float64



--- Distribution for 'Store_City' ---

Counts:

Store_City	count
Cuidad de Mexico	89969
Guadalajara	73519
Monterrey	68873
Hermosillo	49773
Guanajuato	49202
Puebla	47079
Toluca	35366
Mexicali	33596
Xalapa	33187
Saltillo	33090
Chihuahua	30578
Campeche	30500
Villahermosa	16324
Santiago	15873
Ciudad Victoria	15866
San Luis Potosi	15499
Pachuca	14969
Morelia	14956
Merida	14875
Chetumal	14644
Culiacan	14594
Aguascalientes	14588
Tuxtla Gutierrez	14441
Chilpancingo	14438
Durango	13967
Oaxaca	13741
Cuernavaca	13335
Zacatecas	13264
La Paz	12924

Name: count, dtype: int64

Proportions (%):

Store_City	proportion
Cuidad de Mexico	10.931436
Guadalajara	8.932724
Monterrey	8.368225
Hermosillo	6.047532
Guanajuato	5.978154
Puebla	5.720205
Toluca	4.297049
Mexicali	4.081990
Xalapa	4.032295
Saltillo	4.020510
Chihuahua	3.715296
Campeche	3.705819
Villahermosa	1.983403
Santiago	1.928605
Ciudad Victoria	1.927755
San Luis Potosi	1.883163
Pachuca	1.818767
Morelia	1.817188
Merida	1.807346
Chetumal	1.779279
Culiacan	1.773204
Aguascalientes	1.772475
Tuxtla Gutierrez	1.754614
Chilpancingo	1.754250
Durango	1.697022
Oaxaca	1.669562
Cuernavaca	1.620233
Zacatecas	1.611606
La Paz	1.570295

Name: proportion, dtype: float64



--- Distribution for 'Store_Location' ---

Counts:

Store_Location

Downtown 476521

Commercial 183243

Residential 95621

Airport 67645

Name: count, dtype: int64

Proportions (%):

Store_Location

Downtown 57.898376

Commercial 22.264438

Residential 11.618167

Airport 8.219020

Name: proportion, dtype: float64



1. Frequency and Percentage of 'Product_Name':

Product_Name	count
Colorbuds	72988
Deck Of Cards	68083
PlayDoh Can	64834
Barrel O' Slime	54078
Action Figure	48497
Lego Bricks	48030
Splash Balls	41559
Magic Sand	39293
Rubik's Cube	38703
Animal Figures	32250
Dino Egg	28181
Dart Gun	26203
Glass Marbles	24507
Mini Ping Pong Set	24378
Dinosaur Figures	24311
Nerf Gun	23709
Kids Makeup Kit	21648
Hot Wheels 5-Pack	20776
PlayDoh Toolkit	20736
Gamer Headphones	15543
Etch A Sketch	11205
Toy Robot	10494
Mr. Potatohead	7804
Foam Disk Launcher	6812
Jenga	6370
Supersoaker Water Gun	6088
PlayDoh Playset	6067
Teddy Bear	6034
Plush Pony	5278
Classic Dominoes	4146
Chutes & Ladders	3647
Monopoly	2938
Playfoam	2812
Uno Card Game	2543
Mini Basketball Hoop	2485

Name: count, dtype: int64

Percentage of 'Product_Name':

Product_Name	proportion
Colorbuds	8.868207
Deck Of Cards	8.272238
PlayDoh Can	7.877477
Barrel O' Slime	6.570599
Action Figure	5.892495
Lego Bricks	5.835753
Splash Balls	5.049512
Magic Sand	4.774188
Rubik's Cube	4.702502
Animal Figures	3.918448
Dino Egg	3.424055
Dart Gun	3.183724
Glass Marbles	2.977656
Mini Ping Pong Set	2.961982
Dinosaur Figures	2.953841
Nerf Gun	2.880697
Kids Makeup Kit	2.630281
Hot Wheels 5-Pack	2.524331
PlayDoh Toolkit	2.519471
Gamer Headphones	1.888510
Etch A Sketch	1.361433
Toy Robot	1.275045
Mr. Potatohead	0.948204
Foam Disk Launcher	0.827673
Jenga	0.773969
Supersoaker Water Gun	0.739706
PlayDoh Playset	0.737154
Teddy Bear	0.733145
Plush Pony	0.641289
Classic Dominoes	0.503748
Chutes & Ladders	0.443119
Monopoly	0.356974
Playfoam	0.341664
Uno Card Game	0.308980
Mini Basketball Hoop	0.301933

Name: proportion, dtype: float64



Frequency and Percentage of 'Product_Category':

Product_Category

Toys	221161
Art & Crafts	220673
Games	150937
Sports & Outdoors	131234
Electronics	99025

Name: count, dtype: int64

Percentage of 'Product_Category':

Product_Category

Toys	26.871560
Art & Crafts	26.812267
Games	18.339186
Sports & Outdoors	15.945227
Electronics	12.031761

Name: proportion, dtype: float64



Aggregation of Units sold , revenue and profit on different frequency

--- Weekly Aggregation (Units, Revenue, Profit) ---				
	Week_End_Date	Units	Revenue	Profit
0	2022-01-02	2891	40827.09	12843.0
1	2022-01-09	8827	128218.73	39223.0
2	2022-01-16	8089	112999.11	35413.0
3	2022-01-23	8184	120047.16	35805.0
4	2022-01-30	9013	125938.87	38881.0
..
87	2023-09-03	11958	157664.42	43081.0
88	2023-09-10	10645	136453.55	37936.0
89	2023-09-17	11892	148422.08	41638.0
90	2023-09-24	11817	148564.83	40692.0
91	2023-10-01	11375	140443.25	37605.0

[92 rows x 4 columns]

Total weeks: 92

--- Monthly Aggregation (Units, Revenue, Profit) ---				
	Month_End_Date	Units	Revenue	Profit
0	2022-01-31	37971	541800.29	166700.0
1	2022-02-28	36894	540867.06	161709.0
2	2022-03-31	39970	589375.30	173970.0
3	2022-04-30	47097	681033.03	190079.0
4	2022-05-31	46524	668055.76	184017.0
5	2022-06-30	46659	656675.41	186120.0
6	2022-07-31	45469	548981.31	171996.0
7	2022-08-31	39243	482599.57	154283.0
8	2022-09-30	41747	581358.53	163254.0
9	2022-10-31	47351	618680.49	175216.0
10	2022-11-30	50902	658413.98	190939.0
11	2022-12-31	65472	870680.28	242133.0
12	2023-01-31	56032	742536.68	202037.0
13	2023-02-28	54330	720125.70	187618.0
14	2023-03-31	68990	879709.10	229379.0
15	2023-04-30	65242	824184.58	212639.0
16	2023-05-31	63504	821852.96	207918.0
17	2023-06-30	63911	804662.89	204664.0
18	2023-07-31	63357	825781.43	208008.0
19	2023-08-31	51104	659987.96	174415.0
20	2023-09-30	52122	657894.78	180235.0

Total months: 21

--- Quarterly Aggregation (Units, Revenue, Profit) ---				
	Quarter_End_Date	Units	Revenue	Profit
0	2022-03-31	114835	1672042.65	502379.0
1	2022-06-30	140280	2005764.20	560216.0
2	2022-09-30	126459	1612939.41	489533.0
3	2022-12-31	163725	2147774.75	608288.0
4	2023-03-31	179352	2342371.48	619034.0
5	2023-06-30	192657	2450700.43	625221.0
6	2023-09-30	166583	2143664.17	562658.0

Total quarters: 7



Growth of Units sold , revenue and profit on different frequency

	Week_End_Date	Units	Revenue	Profit	Units_WoW_Growth_pct	\
0	2022-01-09	8827	128218.73	39223.0	205.326877	
1	2022-01-16	8089	112999.11	35413.0	-8.360711	
2	2022-01-23	8184	120047.16	35805.0	1.174434	
3	2022-01-30	9013	125938.87	38881.0	10.129521	
4	2022-02-06	9577	136330.23	40724.0	6.257628	
..	
86	2023-09-03	11958	157664.42	43081.0	10.323831	
87	2023-09-10	10645	136453.55	37936.0	-10.980097	
88	2023-09-17	11892	148422.08	41638.0	11.714420	
89	2023-09-24	11817	148564.83	40692.0	-0.630676	
90	2023-10-01	11375	140443.25	37605.0	-3.740374	
		Revenue_WoW_Growth_pct	Profit_WoW_Growth_pct			
0		214.053071	205.403722			
1		-11.870044	-9.713688			
2		6.237262	1.106938			
3		4.907830	8.590979			
4		8.251114	4.740104			
..				
86		13.885962	10.111182			
87		-13.453175	-11.942620			
88		8.771139	9.758541			
89		0.096178	-2.271963			
90		-5.466691	-7.586258			

[91 rows x 7 columns]

Total rows: 91

	Quarter_End_Date	Units	Revenue	Profit	Units_QoQ_Growth_pct	\
0	2022-06-30	140280	2005764.20	560216.0	22.157879	
1	2022-09-30	126459	1612939.41	489533.0	-9.852438	
2	2022-12-31	163725	2147774.75	608288.0	29.468840	
3	2023-03-31	179352	2342371.48	619034.0	9.544663	
4	2023-06-30	192657	2450700.43	625221.0	7.418373	
5	2023-09-30	166583	2143664.17	562658.0	-13.533897	
		Revenue_QoQ_Growth_pct	Profit_QoQ_Growth_pct			
0		19.958914	11.512623			
1		-19.584794	-12.617098			
2		33.159047	24.258834			
3		9.060388	1.766597			
4		4.624755	0.999460			
5		-12.528510	-10.006542			

Total rows: 6

	Month_End_Date	Units	Revenue	Profit	Units_MoM_Growth_pct	\
0	2022-02-28	36894	540867.06	161709.0	-2.836375	
1	2022-03-31	39970	589375.30	173970.0	8.337399	
2	2022-04-30	47097	681033.03	190079.0	17.830873	
3	2022-05-31	46524	668055.76	184017.0	-1.216638	
4	2022-06-30	46659	656675.41	186120.0	0.290173	
5	2022-07-31	45469	548981.31	171996.0	-2.550419	
6	2022-08-31	39243	482599.57	154283.0	-13.692846	
7	2022-09-30	41747	581358.53	163254.0	6.380756	
8	2022-10-31	47351	618680.49	175216.0	13.423719	
9	2022-11-30	50902	658413.98	190939.0	7.499314	
10	2022-12-31	65472	870680.28	242133.0	28.623630	
11	2023-01-31	56032	742536.68	202037.0	-14.418377	
12	2023-02-28	54330	720125.70	187618.0	-3.037550	
13	2023-03-31	68990	879709.10	229379.0	26.983251	
14	2023-04-30	65242	824184.58	212639.0	-5.432671	
15	2023-05-31	63504	821852.96	207918.0	-2.663928	
16	2023-06-30	63911	804662.89	204664.0	0.640905	
17	2023-07-31	63357	825781.43	208008.0	-0.866830	
18	2023-08-31	51104	659987.96	174415.0	-19.339615	
19	2023-09-30	52122	657894.78	180235.0	1.992016	
		Revenue_MoM_Growth_pct	Profit_MoM_Growth_pct			
0		-0.172246	-2.994001			
1		8.968607	7.582138			
2		15.551675	9.259642			
3		-1.905527	-3.189200			
4		-1.703503	1.142829			
5		-16.399898	-7.588652			
6		-12.091803	-10.298495			
7		20.463955	5.814639			
8		6.419784	7.327232			
9		6.422296	8.973496			
10		32.239033	26.811704			
11		-14.717641	-16.559494			
12		-3.018165	-7.136812			
13		22.160492	22.258525			
14		-6.311691	-7.297965			
15		-0.282900	-2.220195			
16		-2.091624	-1.565040			
17		2.624520	1.633898			
18		-20.077161	-16.149860			
19		-0.317154	3.336869			

Total rows: 20



TOP N Products by Units sold , Revenue and Profit – Insight & action

1. Prioritize "Colorbuds" and "Lego Bricks" for Volume & Profit: "Colorbuds" and "Lego Bricks" consistently rank highest or near-highest in Units Sold, Revenue, and Profit.

Action: Ensure these products have optimal stock levels, prime in-store and online visibility, and are central to all major promotional campaigns to maximize their already strong performance.

2. Investigate "PlayDoh Can" & "Barrel O' Slime" for Profitability Gap: While "PlayDoh Can" and "Barrel O' Slime" are top sellers by Units, their Revenue and especially Profit rankings are significantly lower.

Action: Conduct a deep dive into the cost structure, pricing strategy, and promotional effectiveness of these products. Explore opportunities to increase their profitability (e.g., bundle deals, slight price adjustments, or reduced promotional intensity) without sacrificing sales volume.

3. Leverage "Action Figure" and "Rubik's Cube" for Balanced Growth: "Action Figure" and "Rubik's Cube" show strong, balanced performance across all three metrics (Units, Revenue, Profit) within the top 10.

Action: Maintain consistent marketing and merchandising support for these products. Explore cross-selling opportunities with other top performers and consider them as reliable anchor products in various sales initiatives.

4. Review Lower-Tier Top 10 Products for Efficiency: Products like "Nerf Gun," "Animal Figures," and "Etch-A-Sketch" are in the top 10 but generally at the lower end across all metrics.

Action: Analyze their individual profit margins and inventory turnover. Consider if resources allocated to these products could be better utilized by shifting focus towards higher-performing items, or if specific, targeted micro-campaigns could boost their efficiency.



TOP N Stores by Units sold , Revenue and Profit – Insight and Action

1. Replicate "Haven Toys Ciudad de Mexico 2" Success: This store consistently ranks as the top performer across Units Sold, Revenue, and Profit.

Action: Conduct a detailed case study of "Haven Toys Ciudad de Mexico 2" to identify best practices in inventory management, merchandising, staffing, and local marketing. Systematically apply these learnings to other stores, especially those in similar urban environments.

2. Optimize "Haven Toys Guadalajara 3" and "Haven Toys Toluca 1" for Profit: While "Haven Toys Guadalajara 3" and "Haven Toys Toluca 1" are strong in Units Sold and Revenue, their Profit ranking is slightly lower relative to their sales volume.

Action: Analyze their cost structures, product mix profitability, and operational efficiencies. Implement targeted strategies to improve their profit margins, such as optimizing inventory turns for high-margin products or reviewing local operational expenses.

3. Boost Performance of Lower-Tier Top 10 Stores: Stores like "Haven Toys Xalapa 2," "Haven Toys Hermosillo 1," and "Haven Toys Saltillo 1" are in the top 10 but consistently at the lower end across all metrics.

Action: Implement performance improvement plans for these stores. This could include tailored marketing campaigns, specific product pushes based on local demographics, or additional sales training for staff to increase average transaction value or unit sales.

4. Leverage Store Performance for Future Expansion: The consistent top performers provide a blueprint for new store locations.

Action: When evaluating new store sites, prioritize locations that share characteristics (e.g., city size, commercial density, demographics) with "Haven Toys Ciudad de Mexico 2" and other top revenue/profit generators to increase the probability of successful expansion.



TOP N City by Units sold , Revenue and Profit – Insight and action

1. Prioritize "Ciudad de Mexico" for Maximum Impact: "Ciudad de Mexico" is the undisputed leader across Units Sold, Revenue, and Profit.

Action: Allocate disproportionately higher marketing spend, inventory, and strategic focus to Ciudad de Mexico. Explore opportunities for additional store openings or expanding existing store footprints within this city to capitalize on its immense potential.

2. Replicate Success Factors from "Guadalajara" and "Monterrey": "Guadalajara" and "Monterrey" consistently rank as strong second and third performers across all metrics.

Action: Conduct a detailed analysis of the operational and marketing strategies employed in Guadalajara and Monterrey. Identify and replicate their best practices (e.g., successful local promotions, effective product assortments, efficient store management) in other high-potential cities.

3. Investigate and Boost Mid-Tier Cities: Cities like "Hermosillo" and "Puebla" show solid performance but have room for growth to catch up to the top three.

Action: Develop targeted growth initiatives for these cities. This could involve increasing marketing presence, introducing localized product assortments based on observed preferences, or optimizing supply chain to ensure better product availability.

4. Strategic Evaluation for Lower-Tier Cities: Cities such as "Toluca," "Mexicali," "Xalapa," and "Saltillo" are in the top 10 but contribute significantly less.

Action: For these cities, evaluate the cost-effectiveness of current operations versus their contribution. Consider if a different store format, a more curated product mix, or specific local partnerships could significantly boost their performance, or if resources should be reallocated to higher-performing urban centers.



Bottom N Products by Units sold , Revenue and Profit – Insight and action

1. Prioritize Discontinuation/Deep Discounting for "Classic Dominos" and "Uno Card Game": These products consistently rank at the very bottom across Units, Revenue, and Profit.

Action: Initiate a review for immediate discontinuation or aggressive clearance sales to free up inventory space and capital for higher-performing products. Their low contribution suggests they are not worth the shelf space or operational effort.

2. Evaluate Profitability of "Supersoaker Water Gun" and "Teddy Bear": While "Supersoaker Water Gun" and "Teddy Bear" have relatively higher unit sales among the bottom 10, their revenue and profit contributions are disproportionately lower.

Action: Investigate the cost of goods sold and pricing strategy for these items. Determine if their low profitability is due to high costs, aggressive discounting, or low perceived value. Adjust pricing, explore cost-cutting measures, or consider bundling to improve margins.

3. Identify Niche Potential for "PlayDoh Playset" and "PlayDoh Toolkit": These products show a relatively better profit contribution compared to their unit sales within the bottom 10.

Action: Analyze the customer segments purchasing these items. They might appeal to a specific niche willing to pay more. Explore targeted marketing, premium positioning, or bundling with related "Arts & Crafts" items to leverage their higher profitability.

4. Review Inventory and Marketing for All Bottom 10: The overall low performance across these products indicates potential issues with demand, pricing, or visibility.

Action: Conduct a comprehensive review of inventory levels, marketing efforts, and in-store placement for all products in the bottom 10. For any products not slated for discontinuation, develop specific, data-backed strategies (e.g., targeted promotions, improved merchandising, or bundling with top sellers) to attempt to move them out of the bottom tier.



Bottom N Stores by Units sold , Revenue and Profit – Insight and action

1. Prioritize Performance Improvement for All Bottom 10 Stores: The relatively flat performance across all metrics for these stores suggests a systemic issue rather than isolated outliers.

Action: Implement a standardized "turnaround playbook" for all bottom 10 stores, focusing on fundamental improvements in merchandising, customer service, and local marketing. Avoid resource-intensive, highly customized strategies unless specific data points to a unique local challenge.

2. Investigate "Haven Toys Pachuca 1" and "Haven Toys Hermosillo 1" for Revenue/Profit Efficiency: While these stores are among the lowest in units, their revenue and profit contributions are comparatively better within this bottom group.

Action: Analyze their average transaction value and profit margins. Identify if they are successfully selling higher-priced or higher-margin items, despite lower foot traffic. Leverage these insights to potentially adjust product mix or sales techniques in other struggling stores.

3. Address "Haven Toys Toluca 2" and "Haven Toys La Paz 1" as High-Risk: These stores consistently appear at the very bottom across all three metrics (Units, Revenue, Profit), indicating the most severe underperformance.

Action: Conduct immediate, in-depth operational audits for these specific stores. Determine if issues stem from poor location, ineffective management, high operating costs, or insufficient local demand. Prepare for potential restructuring, relocation, or even closure if viability cannot be established.

4. Implement Targeted Support Based on Local Context: While the overall trend is low, there might be subtle differences in why each store is underperforming (e.g., specific local competition, demographic shifts).

Action: Empower regional managers to conduct local market analyses for each of these bottom 10 stores. Provide them with a small discretionary budget for localized promotions or community engagement initiatives to test specific hypotheses for improvement.



Bottom N Cities by Units sold , Revenue and Profit – Insight and action

1. Prioritize Targeted Intervention for All Bottom Cities: Given the relatively flat and low performance across all metrics for these 10 cities, a blanket strategy of focused intervention is required rather than isolated actions.

Action: Develop a standardized "Growth Playbook" for underperforming cities, including market analysis tools, specific promotional templates, and training modules for local store teams. Deploy this playbook across all cities in this bottom tier.

2. Investigate Profitability Discrepancies in "Pachuca" and "Chetumal": While "Pachuca" and "Chetumal" are among the highest in units sold within this bottom group, their profit contribution appears disproportionately lower compared to some others (e.g., "Chilpancingo" or "Tuxtla Gutierrez" which have similar profit with fewer units).

Action: Conduct a deeper analysis of the cost of sales, pricing strategies, and operational expenses specifically in "Pachuca" and "Chetumal." Identify if aggressive discounting, high local operating costs, or an unfavorable product mix are eroding their profitability despite decent volume.

3. Evaluate "La Paz" for Viability/Restructuring: "La Paz" consistently ranks at the very bottom across all three metrics (Units, Revenue, and Profit), indicating it's the most challenging city in this group.

Action: Initiate a comprehensive viability assessment for "La Paz." This should include a detailed market study, competitor analysis, and review of operational costs. Prepare a strategic decision on whether to invest heavily in a turnaround, consider a different store format, or potentially exit the market if sustained profitability is not feasible.

4. Leverage Relative Strengths for Incremental Gains: Within this bottom 10, cities like "Chilpancingo" and "Tuxtla Gutierrez" show slightly better profit efficiency relative to their unit sales, suggesting a more favorable product mix or operational cost structure.

Action: Analyze the product mix, pricing, and local operational strategies of these relatively better-performing bottom cities. Extract any transferable lessons or successful tactics that could be applied to the other underperforming cities to incrementally improve their revenue and profit contributions.



Top 10 Products by Unit Sold , Revenue and Profit

	Units
Product_Name	
Colorbuds	104368
PlayDoh Can	103128
Barrel O' Slime	91663
Deck Of Cards	84034
Magic Sand	60598
Splash Balls	60248
Lego Bricks	59737
Action Figure	57958
Rubik's Cube	45672
Animal Figures	39089
	Revenue
Product_Name	
Lego Bricks	2388882.63
Colorbuds	1564476.32
Magic Sand	968962.02
Action Figure	926748.42
Rubik's Cube	912983.28
Deck Of Cards	587397.66
Splash Balls	541629.52
Nerf Gun	530594.57
Animal Figures	507766.11
Dart Gun	505092.12
	Profit
Product_Name	
Colorbuds	834944.0
Action Figure	347748.0
Lego Bricks	298685.0
Deck Of Cards	252102.0
Glass Marbles	187590.0
Barrel O' Slime	183326.0
Kids Makeup Kit	146598.0
Nerf Gun	132715.0
Dart Gun	126352.0
Etch A Sketch	121680.0

Bottom 10 Products by Unit Sold , Revenue and Profit

	Units
Product_Name	
Supersoaker Water Gun	6793
Teddy Bear	6416
PlayDoh Playset	6298
Plush Pony	5438
Classic Dominoes	4348
Playfoam	4158
Chutes & Ladders	3776
Monopoly	3321
Uno Card Game	2654
Mini Basketball Hoop	2550
	Revenue
Product_Name	
Foam Disk Launcher	91363.80
Mr. Potatohead	85804.11
Teddy Bear	83343.84
Jenga	68321.61
Monopoly	66386.79
Mini Basketball Hoop	63724.50
Chutes & Ladders	49050.24
Playfoam	45696.42
Classic Dominoes	43436.52
Uno Card Game	21205.46
	Profit
Product_Name	
Playfoam	29106.0
PlayDoh Playset	25192.0
PlayDoh Toolkit	23128.0
Foam Disk Launcher	22860.0
Supersoaker Water Gun	20379.0
Monopoly	19926.0
Teddy Bear	12832.0
Chutes & Ladders	11328.0
Uno Card Game	10616.0
Classic Dominoes	8696.0

Distribution of Product category by Unit Sold , Revenue and Profit

Product_Category	Units
Art & Crafts	325574
Toys	267134
Games	188162
Sports & Outdoors	168946
Electronics	134075

Product_Category	Revenue
Toys	5092081.66
Art & Crafts	2705364.26
Electronics	2246771.25
Sports & Outdoors	2169935.54
Games	2161104.38

Product_Category	Profit
Toys	1078897.0
Electronics	1001437.0
Art & Crafts	753354.0
Games	629475.0
Sports & Outdoors	504166.0

Top 10 Stores by Unit Sold , Revenue and Profit

Units		
Store_Name		
Maven Toys Ciudad de Mexico 2	42086	
Maven Toys Ciudad de Mexico 1	33479	
Maven Toys Toluca 1	32066	
Maven Toys Guadalajara 3	31299	
Maven Toys Monterrey 2	28318	
Maven Toys Ciudad de Mexico 3	26634	
Maven Toys Xalapa 2	24869	
Maven Toys Guanajuato 1	24722	
Maven Toys Campeche 1	24556	
Maven Toys Saltillo 1	24010	

Revenue

Store_Name	Revenue
Maven Toys Ciudad de Mexico 2	547850.14
Maven Toys Guadalajara 3	446258.01
Maven Toys Ciudad de Mexico 1	433556.21
Maven Toys Toluca 1	405143.34
Maven Toys Monterrey 2	372998.82
Maven Toys Guadalajara 4	345729.38
Maven Toys Hermosillo 3	344846.64
Maven Toys Xalapa 2	340041.31
Maven Toys Ciudad de Mexico 3	337424.66
Maven Toys Saltillo 1	330408.90

Profit

Store_Name	Profit
Maven Toys Ciudad de Mexico 2	165159.0
Maven Toys Guadalajara 3	119401.0
Maven Toys Ciudad de Mexico 1	111296.0
Maven Toys Monterrey 2	106783.0
Maven Toys Toluca 1	100398.0
Maven Toys Guadalajara 4	100260.0
Maven Toys Hermosillo 3	98825.0
Maven Toys Mexicali 1	97206.0
Maven Toys Saltillo 1	94252.0
Maven Toys Ciudad de Mexico 3	94021.0

Bottom 10 Stores by Unit Sold , Revenue and Profit

Units		
Store_Name		
Maven Toys Merida 1	18328	
Maven Toys Chilpancingo 1	18146	
Maven Toys Chihuahua 1	18070	
Maven Toys Aguascalientes 1	17865	
Maven Toys Durango 1	17279	
Maven Toys Zacatecas 1	16959	
Maven Toys Cuernavaca 1	16741	
Maven Toys Campeche 2	16277	
Maven Toys La Paz 1	15924	
Maven Toys Toluca 2	15568	

Revenue

Store_Name	Revenue
Maven Toys Pachuca 1	237676.15
Maven Toys Hermosillo 1	234495.80
Maven Toys Merida 1	232097.72
Maven Toys Tuxtla Gutierrez 1	227662.04
Maven Toys Zacatecas 1	227615.41
Maven Toys Durango 1	220890.21
Maven Toys Cuernavaca 1	217990.59
Maven Toys Toluca 2	217353.32
Maven Toys La Paz 1	207520.76
Maven Toys Campeche 2	206055.23

Profit

Store_Name	Profit
Maven Toys Merida 1	64399.0
Maven Toys Pachuca 1	63989.0
Maven Toys Culiacan 1	63959.0
Maven Toys Durango 1	61672.0
Maven Toys Campeche 2	58091.0
Maven Toys Oaxaca 1	57987.0
Maven Toys Zacatecas 1	57501.0
Maven Toys Toluca 2	55539.0
Maven Toys La Paz 1	55406.0
Maven Toys Cuernavaca 1	54425.0

Top 10 Store cities by Unit Sold , Revenue and Profit

	Units
Store_City	
Ciudad de Mexico	124684
Guadalajara	95568
Monterrey	93229
Hermosillo	66754
Guanajuato	64299
Puebla	60808
Toluca	47634
Mexicali	44156
Xalapa	43567
Saltillo	42903

Revenue

	Revenue
Store_City	
Ciudad de Mexico	1640351.16
Guadalajara	1313248.32
Monterrey	1256741.71
Hermosillo	902769.46
Guanajuato	868876.01
Puebla	804583.92
Toluca	622496.66
Xalapa	603566.33
Mexicali	583588.44
Saltillo	579514.97

Profit

	Profit
Store_City	
Ciudad de Mexico	459153.0
Guadalajara	362728.0
Monterrey	343209.0
Hermosillo	263174.0
Guanajuato	234921.0
Puebla	226985.0
Mexicali	173235.0
Saltillo	163248.0
Xalapa	159128.0
Toluca	155937.0

Bottom 10 Store cities by Unit Sold , Revenue and Profit

	Units
Store_City	
Pachuca	19185
Chetumal	18965
Oaxaca	18331
Merida	18328
Chilpancingo	18146
Aguascalientes	17865
Durango	17279
Zacatecas	16959
Cuernavaca	16741
La Paz	15924

Revenue

	Revenue
Store_City	
Chilpancingo	240731.54
Aguascalientes	239997.35
Oaxaca	239826.69
Pachuca	237676.15
Merida	232097.72
Tuxtla Gutierrez	227662.04
Zacatecas	227615.41
Durango	220890.21
Cuernavaca	217990.59
La Paz	207520.76

Profit

	Profit
Store_City	
Chilpancingo	65291.0
Tuxtla Gutierrez	64531.0
Merida	64399.0
Pachuca	63989.0
Culiacan	63959.0
Durango	61672.0
Oaxaca	57987.0
Zacatecas	57501.0
La Paz	55406.0
Cuernavaca	54425.0

Distribution of Store Location by Unit Sold , Revenue and Profit

Store_Location	Units
Downtown	624180
Commercial	239103
Residential	125147
Airport	95461

Store_Location	Revenue
Downtown	8179717.20
Commercial	3262550.97
Residential	1653066.53
Airport	1279922.39

Store_Location	Profit
Downtown	2221455.0
Commercial	916257.0
Residential	458435.0
Airport	371182.0

TOP N Products by Units sold , Revenue and Profit and distribution by location

1. Amplify "Commercial" and "Downtown" Dominance: "Commercial" and "Downtown" locations are the overwhelming drivers of units, revenue, and profit for almost all top 10 products.

Action: Prioritize marketing spend, promotional activities, and inventory allocation to maximize sales in these high-performing location types. Explore opportunities for additional retail presence or larger formats in these areas.

2. Strategize for "Airport" and "Residential" Locations: These locations consistently contribute the lowest proportion of sales and profit for the top products.

Action: Conduct a detailed analysis to determine if "Airport" and "Residential" locations are viable for current top products. Consider if a different, highly curated product assortment (e.g., smaller, higher-margin impulse buys for Airport; family-oriented bundles for Residential) or alternative store formats are needed, or if resources should be reallocated.

3. Leverage Product-Specific Location Strengths (Micro-Targeting): While "Commercial" and "Downtown" dominate, some products show slight variations (e.g., "Colorbuds" has a relatively higher "Airport" share in units, "Etch-A-Sketch" has a higher "Downtown" share in profit).

Action: Implement micro-targeted merchandising and localized promotions. For example, increase "Colorbuds" visibility and promotions in Airport stores, or emphasize "Etch-A-Sketch" in Downtown locations where it shows higher relative profitability.

4. Ensure Profitability Alignment Across Locations for Top Products: For most top products, the proportional contribution from each store location type is consistent across Units, Revenue, and Profit.

Action: Continue to monitor this alignment. If any top product shows a significant discrepancy (e.g., high units in "Commercial" but disproportionately low profit), investigate the pricing, local operational costs, or promotional strategies in that specific location type to optimize margins.



TOP N Stores by Units sold , Revenue and Profit and distribution by Product Category

1. Reinforce "Arts & Crafts" and "Toys" as Core Drivers: "Arts & Crafts" (green) and "Toys" (gray) are consistently the largest or second-largest contributing categories across most top stores for Units, Revenue, and Profit.

Action: Ensure these categories receive priority in inventory allocation, visual merchandising, and promotional campaigns across all top 10 stores to maximize their proven high performance.

2. Identify and Leverage Store-Specific Category Strengths: While "Arts & Crafts" and "Toys" dominate, some stores show unique proportional strengths in other categories (e.g., "Haven Toys Campeche 1" has a higher "Sports & Outdoors" share; "Haven Toys Monterrey 2" has a notable "Electronics" share in units).

Action: Empower individual store managers to tailor their product assortment and local marketing efforts based on their store's specific category strengths. Provide flexibility for localized promotions or expanded displays for these unique high-performing categories.

3. Strategically Address "Sports & Outdoors" Underperformance: "Sports & Outdoors" (orange) consistently represents the smallest proportion of sales and profit across almost all top 10 stores.

Action: Conduct a focused review of the "Sports & Outdoors" category within these top stores. This could involve optimizing inventory (reducing slow-moving items), re-evaluating pricing, or exploring targeted seasonal promotions to improve its contribution, or consider reallocating its shelf space to higher-performing categories.

4. Profitability Alignment for "Electronics" and "Games": While "Electronics" (blue) and "Games" (light green) are strong contributors, ensure their profit contribution is proportional to their unit sales and revenue across stores.

Action: Regularly review the profit margins for "Electronics" and "Games" in each top store. If a store shows high unit sales for these categories but disproportionately low profit, investigate local discounting practices or operational costs that might be eroding margins.



TOP N Cities by Units sold , Revenue and Profit and distribution by Product Category

1. Double Down on "Arts & Crafts" and "Toys" as Core Drivers: "Arts & Crafts" (green) and "Toys" (gray) are consistently the largest or second-largest contributing categories across all top 10 cities for Units, Revenue, and Profit.

Action: Ensure these categories receive maximum inventory allocation, prominent visual merchandising, and are the primary focus of marketing and promotional campaigns in all top cities to capitalize on their proven high performance.

2. Optimize "Sports & Outdoors" for Low Contribution: The "Sports & Outdoors" category (orange) consistently represents the smallest proportional contribution to sales and profit across nearly all top 10 cities.

Action: Conduct a focused review of the "Sports & Outdoors" product assortment, pricing, and marketing within these cities. Consider reducing inventory for underperforming items, reallocating shelf space to higher-performing categories, or developing highly niche, targeted campaigns only if specific local demand justifies it.

3. Leverage City-Specific Category Strengths for Hyper-Localization: While "Arts & Crafts" and "Toys" are broadly strong, some cities show distinct proportional preferences (e.g., Saltillo has a higher "Sports & Outdoors" share; Mexicali leans more towards "Games").

Action: Empower city managers to tailor product assortments, local promotions, and merchandising strategies based on their city's unique category strengths. This hyper-local approach can unlock incremental growth by aligning with specific consumer preferences in each market.

4. Ensure "Electronics" and "Games" Maintain Profitability Alignment: "Electronics" (blue) and "Games" (light green) are significant secondary contributors. It's crucial that their profit contribution remains proportional to their sales volume.

Action: Regularly monitor the profit margins for "Electronics" and "Games" in each top city. If a city shows high unit sales for these categories but disproportionately low profit, investigate local discounting practices, high operational costs, or unfavorable product mix that might be eroding margins.

