Sales & inventory data for a fictitious chain of toy stores in Mexico called Maven Toys, including information about products, stores, daily transactions, and current inventory levels at each location.

**Recommended Analysis**

1. Which product categories drive the biggest profits? Is this the same across store locations?
2. Can you find any seasonal trends or patterns in the sales data?
3. How much money is tied up in inventory at the toy stores? How long will it last?
4. What is the financial condition of the company? Whether the adopted marketing strategy brings appropriate profits?
5. What can be changed for the better in the functioning of the company?

**Analysis:**

***What is the financial condition of the company? Whether the adopted marketing strategy brings appropriate profits?***

Profit Margin Ratio:

* The profit margin ratio is a profitability ratio that determines the percentage of a company’s sales that has been turned into profit.
* It decreases over time. It means that a company uses an ineffective cost structure and/or poor pricing strategies. If there are not changes the company will become unprofitable.
* Simultaneously the profit in 2022 year tends to remain at the same level, oscillating around the average value.
* It can be assumed that profit will not change in next year (Didn’t consider seasonality due to too short a period)

Total profit:

* The highest profits are for products from the toys and electronic categories.
* The highest profit gives: Colorbouds, Action Figure, Lego Bricks, Deck of Cards, Glass Marbles
* The lowest profits are for: Classic Dominoes, Uno Card Games, Chute’s & Ladder, Teddy Bear and Monopoly.
* The lowest profit is in airports and residential.
* However, looking at the changes in the profit margin ratio, it can be assumed that the profits achieved are not sufficient.

Units of sold products:

* The total value is 1,1 M and increases over time.
* It bigger is in the second part of the year 2022 and at the beginning of 2023 year.

Count of stores vs profit:

* The greatest profit is generated by stores located in downtown where are the most stores,

***How much money is tied up in inventory at the toy stores? How long will it last?***

The frozen money in stores:

* Is 410 K $
* The maximal time for selling it is about 57 Days.
* For products such as Monopoly, PlayFoam, Uno Card Game, Classic dominoes with the lowest profit, a long sales time and a large quantity in stock are observed

***Can you find any seasonal trends or patterns in the sales data?***

* The month of December generated the most revenue in 2022. This can be caused by the occurrence of many occasions like Christmas, Saint Nicolas’s Day.
* There was a noticeable dip in the month of August for both years. This can be attributed to finishing vacation and going back children to school. People are more likely to buy school supplies and clothes than toys.
* For both years, January was off to a slow start, though not as low as that of August. This can be attributed to post-holiday lulls and budget constraints as consumers become more budget conscious and recover from holiday expenses, thereby leading to reduced spending on non-essential items, in this case toys.
* Between April and June in 2022, there is an almost steady revenue generation rate. In this period, it is spring, early summer, so people spend a lot of free time on outdoor activities, leading to an increased demand for outdoor toys and recreational products.
* Based on this data certain relationships between profit and time can be noticed but it’s difficult to predict whether this will be the case every year. This requires more data from a period approximately 3 - 4 years.
* In 2023 year, the company has more profit than in 2022 year. However, looking at the changes in the profit margin ratio, it can be assumed that.

***Which product categories drive the biggest profits? Is this the same across store locations?***

The biggest profit drives Toys, Electronics, Arts & Crafts. However, this tendency is not the same for all categories (Games, Electronics) when we look at the location of stores. For these two categories there are more profits in airport than residential.

***What can be changed for the better in the functioning of the company?***

Recommendations:

* Resignation from sale of Classic Dominoes, Uno Card Games, Chute’s & Ladder, Teddy Bear and Monopoly which give a small profit but they are laying in store. It generates a big costs for stores.
* It may be worth considering giving up shops at the airport due to low profits and high maintenance costs.
* Investment in increasing the assortment in the toys, electronics and arts & crafts and the number of stores downtown and commercial.