Provide Insights to Management in Consumer Goods Domain

Introduction:

The project aimed to fulfill the ad hoc querying requirements of Atliq Hardwares to extract valuable insights from their sales and financial data. Through a diverse array of queries, it addressed specific aspects such as market segmentation, sales performance, product analysis, and customer behavior, enabling a holistic understanding of the company's operations. By executing these queries, the project empowered Atliq Hardwares with actionable insights and data-driven recommendations, enhancing their competitive edge and strategic positioning in the market.

Data Source: Codebasics

Technical Aspects:

In this project, I utilized SQL to extract, manipulate, and analyze complex datasets, gaining significant expertise in several technical areas. I advanced my querying techniques by employing subqueries and Common Table Expressions (CTEs) to decompose complex problems into manageable parts. This approach facilitated the use of aggregate functions such as SUM, COUNT, AVG, and MAX, which helped summarize data and derive meaningful statistics, like product counts by segment and gross sales by channel.

Additionally, I utilized window functions to perform calculations across related table rows, essential for tasks like ranking products and computing running totals.

In terms of data filtering and transformation, I learned JOIN operations, including INNER JOIN, LEFT JOIN, and RIGHT JOIN, to combine data from multiple tables, enabling comprehensive analysis. I applied conditional logic through CASE statements to transform and categorize data based on specific criteria, such as determining sales quarters and categorizing product segments. I structured queries to retrieve only necessary data, using techniques like limiting result sets with LIMIT and early data filtering.

Access the SQL queries for the project [here](#).

1. 'Atliq Exclusive' Markets in the APAC region :

Created with mapchart.net

- The **Atliq Exclusive** has **8 markets** in APAC region as listed on the map *(Amazon and Atliq e Store has 9 markets).*

- **India** has the highest total sold quantity of 1.93M and uses both Direct and Retailer distribution methods *(other markets distribute by direct means).*
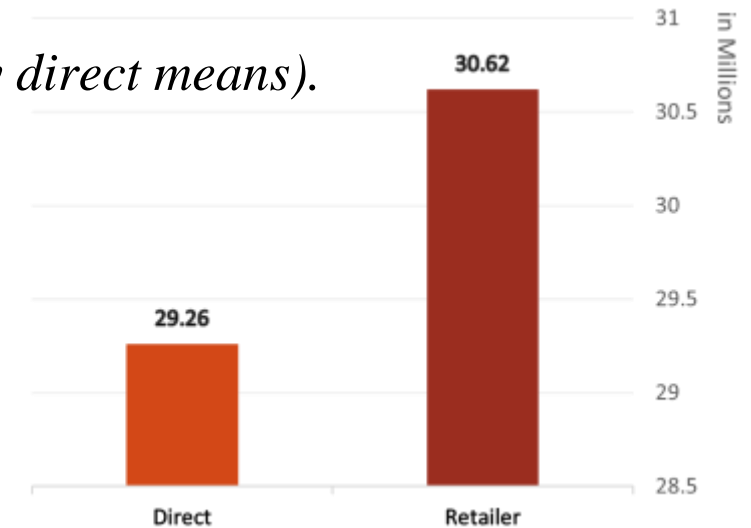

(Channel wise gross sales amount of Atliq Exclusive's Indian Market)

2. The Percentage of Product Increase in 2021 vs. 2020 :

- 13 unique products occurred in 2020.

- 102 unique products are in the fiscal year 2021.

- 232 products are recorded in both fiscal years.

- Fiscal year is unknown (NULL) for 50 products.

- **89 unique products** increased in 2021 fiscal year when compared to 2020.

- There is **36.33% percentage of increase** in products when compared to the previous year.
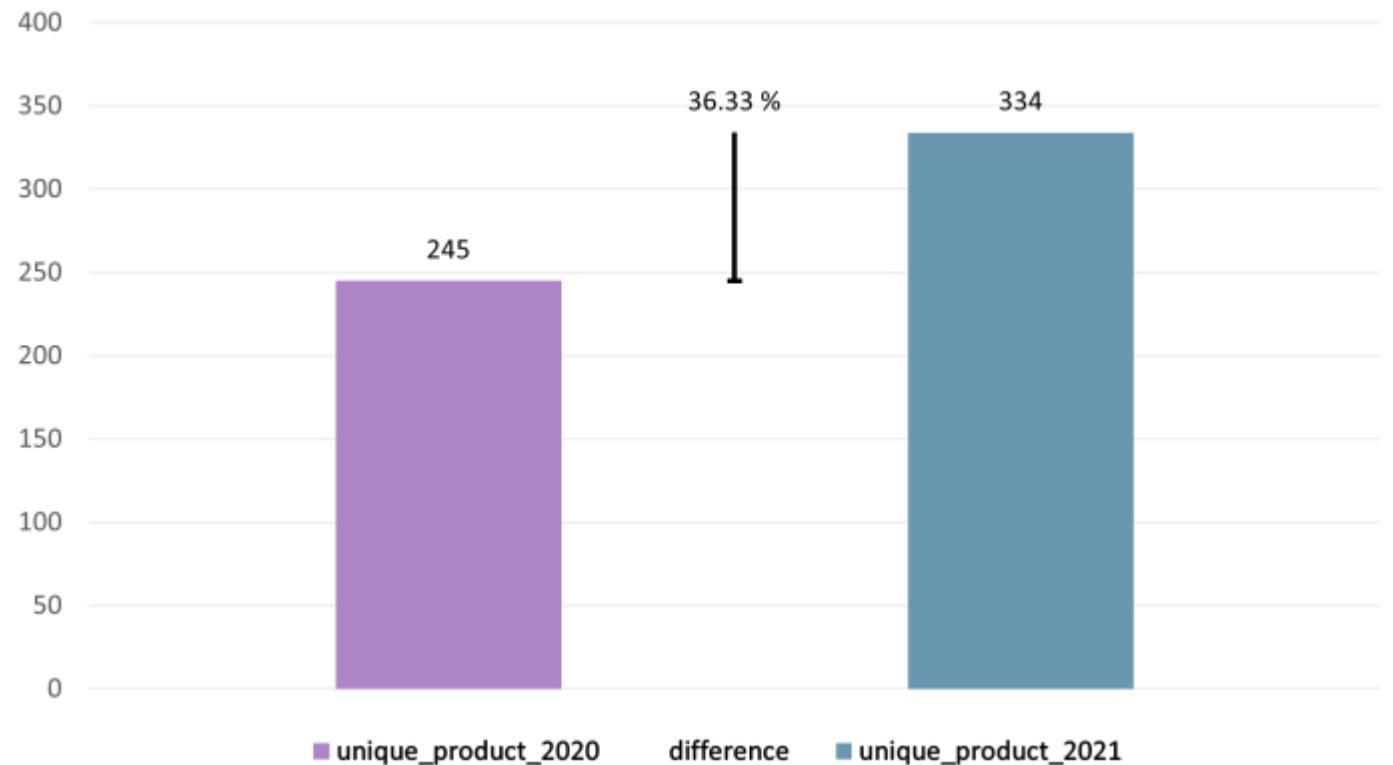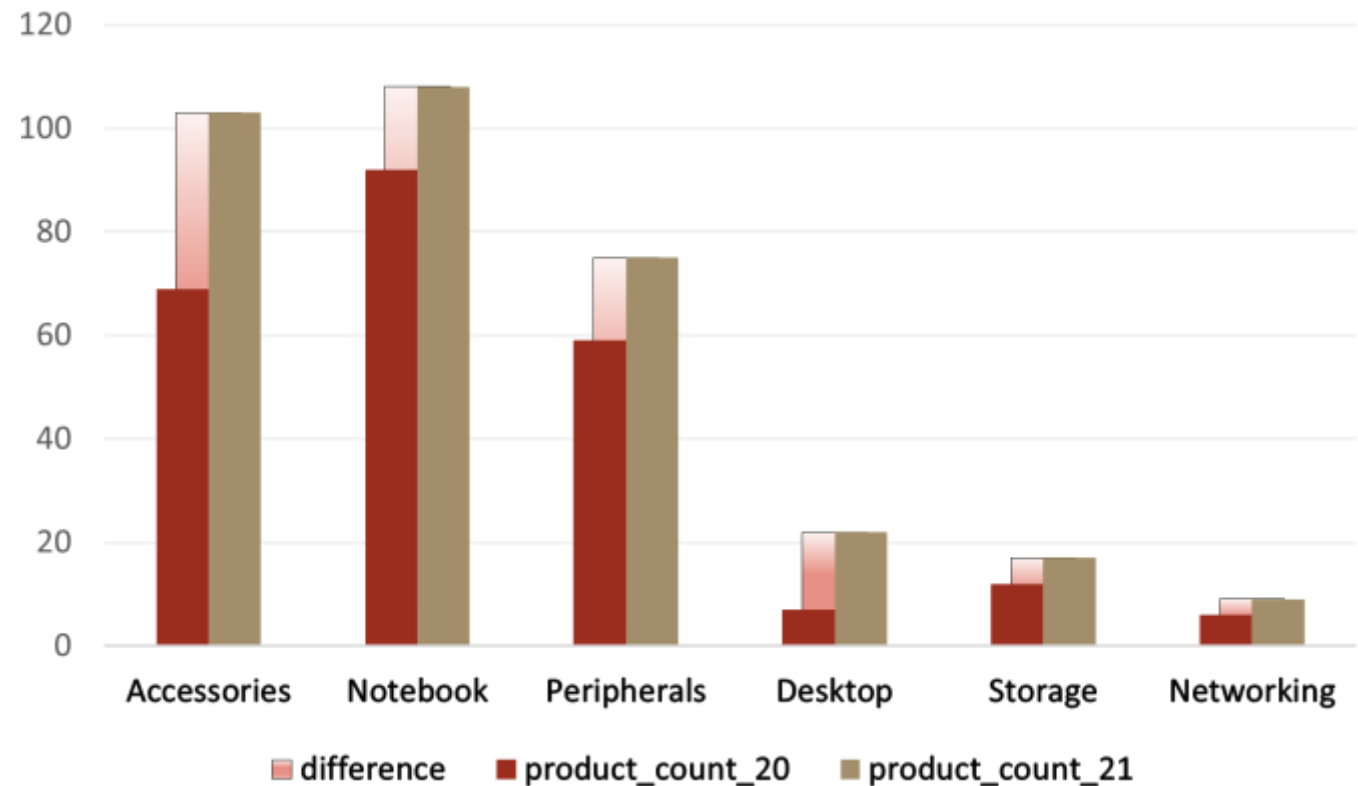
# 3. All the Unique Product Counts for each Segment :
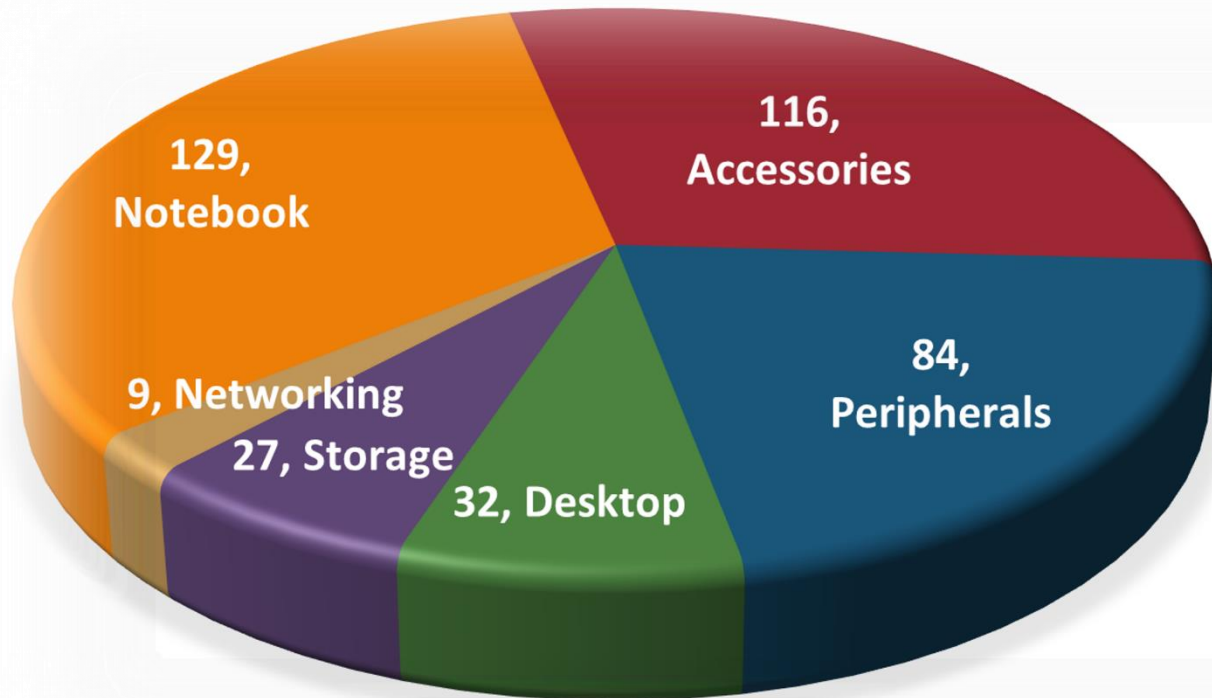
- The Notebook Segment has the highest number of unique products with 3 Categories.

- Notebook Segment has 17 different products (eg: AQ Digit, AQ BZ 101) each has its variants.

- The Segments Accessories and Peripherals has 20 different products with variants.

- Networking segment owns the least number of unique products (WiFi Extender). It has 3 different products with 3 Variants each.

4. The Segment wise Increase in Unique Products in 2021 vs 2020 :

- The Accessories is the highest segment in unique products increase *(as it introduced 35 new products in 2021 fiscal year)*

- Notebook, Peripherals and Desktop have similar count of product increase.

- Storage and Networking also introduce minimal number of new products in the fiscal year 2021.

2020 vs 2021 Product Count Differences for each Segment:
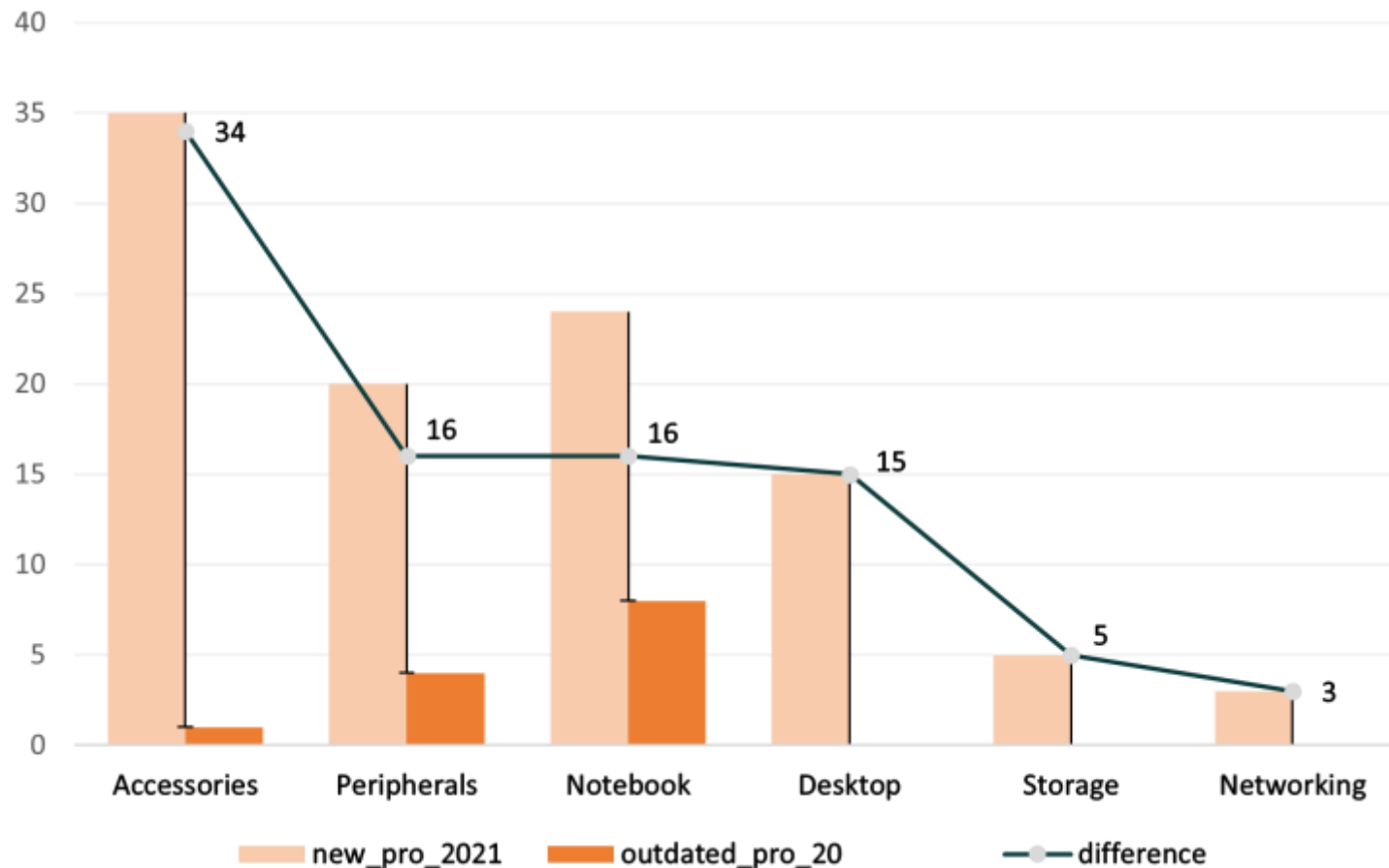
The unique products count difference based on two factors

1. *New products introduced in the fiscal year 2021.*
2. *Products occurred in sales record of 2020 is not available in 2021.*

- 1 Battery
- 4 Graphic Cards
- 8 Laptops

5. The Products of Highest and Lowest Manufacturing Costs :

Highest

Product : AQ HOME Allin1 Gen 2 - Plus 3

Personal Desktop

M_Cost : 240.5364

- Manufactured in the fiscal year 2021

Lowest

**Product :** AQ Master wired x1 Ms

Mouse

M_Cost : 0.8920

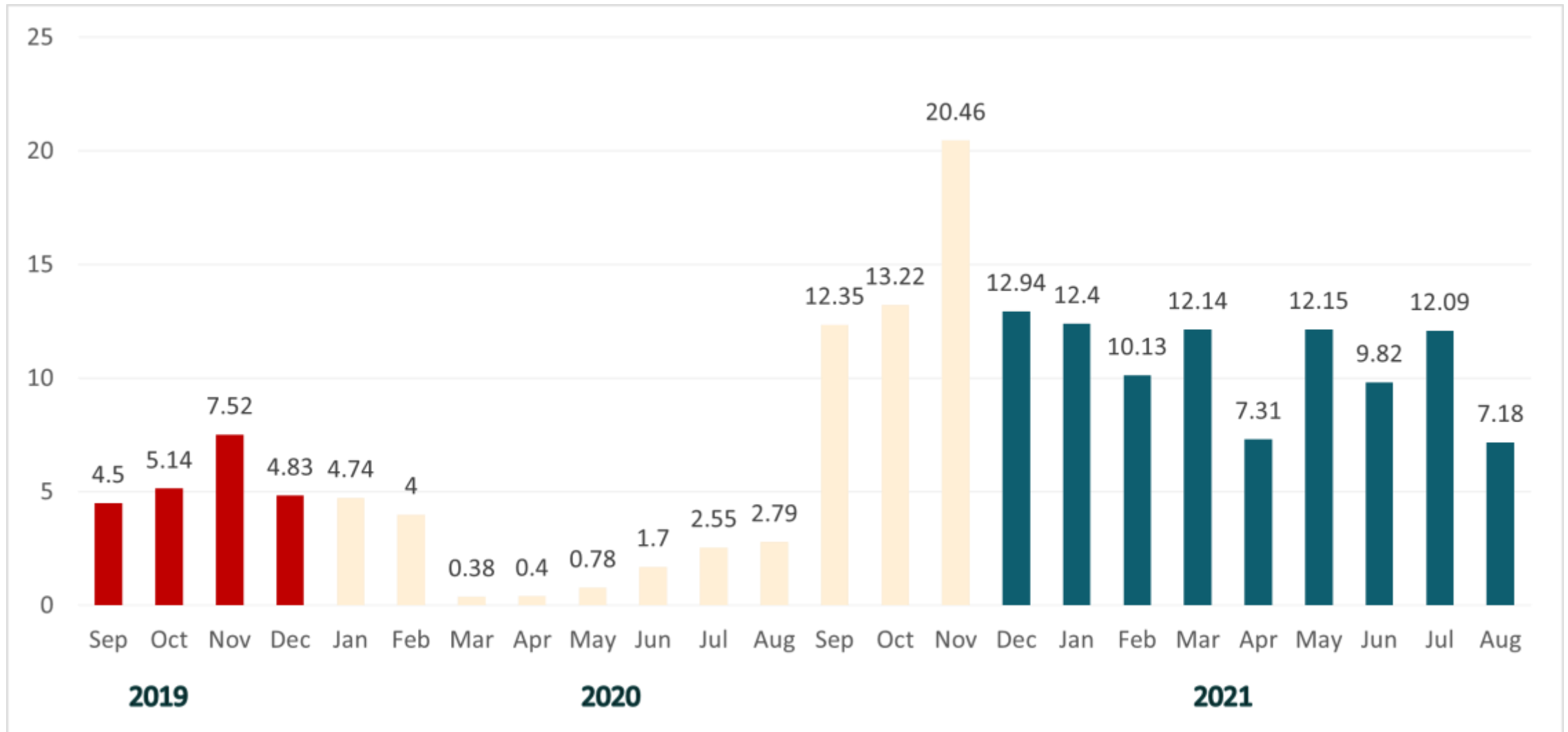*- Manufactured in the fiscal year 2020 (sales*

recorded in 2021 also)

6. Top Customers with an Average Discount Percentage in Indian market :

2020

28.85	Electricalslytical	1
28.70	Vijay Sales	2
28.26	Flipkart	3
26.56	Atliq Exclusive	4
26.54	Expression	5

2021

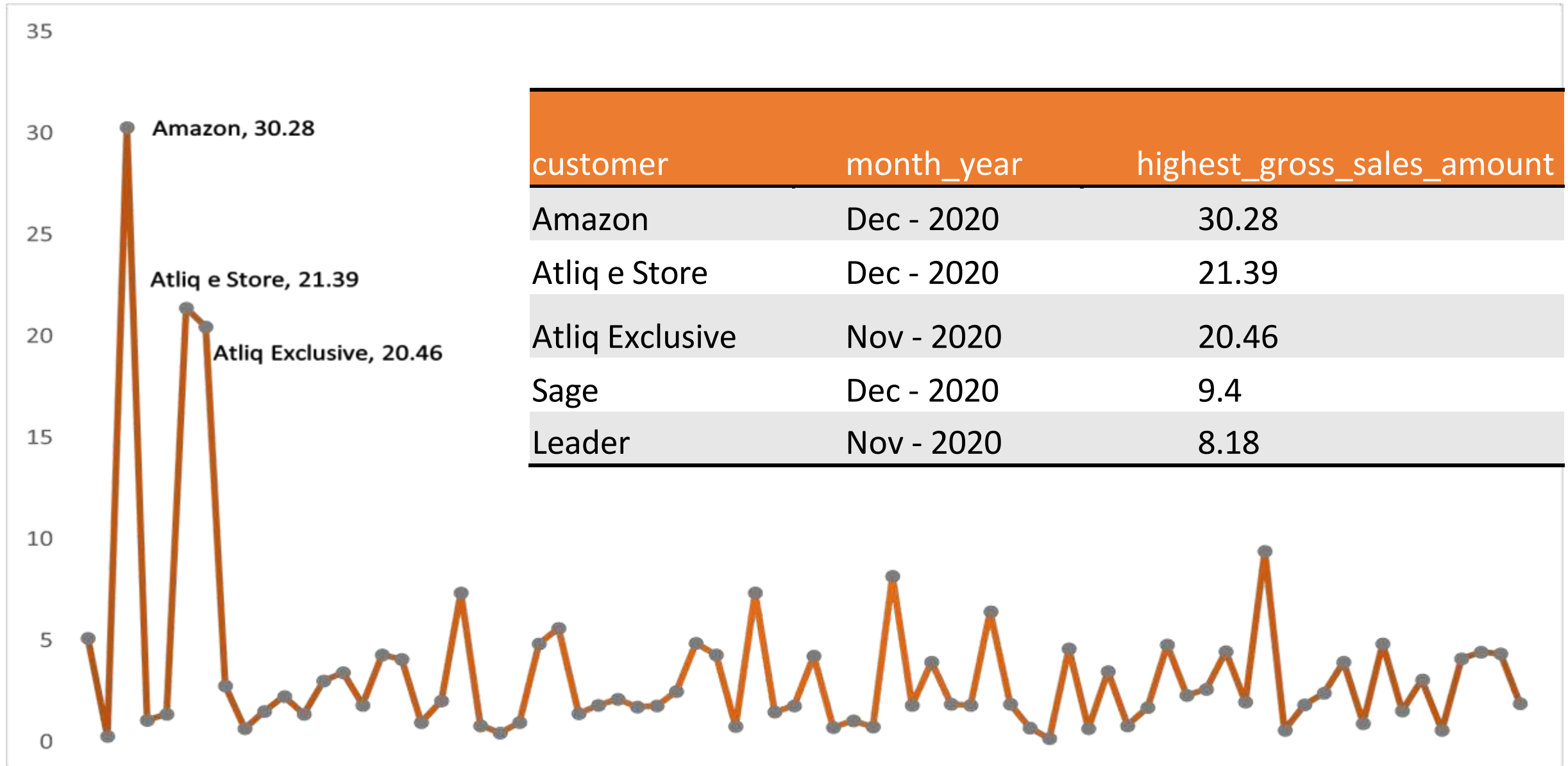|		
1	Flipkart	30.83
2	Viveks	30.38
3	Ezone	30.28
4	Croma	30.25
5	Amazon	29.33

- Flipkart has a consistent Average pre invoice deduction in both Fiscal years.

- Among these Amazon attained the Highest Gross sales in 2021 Indian market.

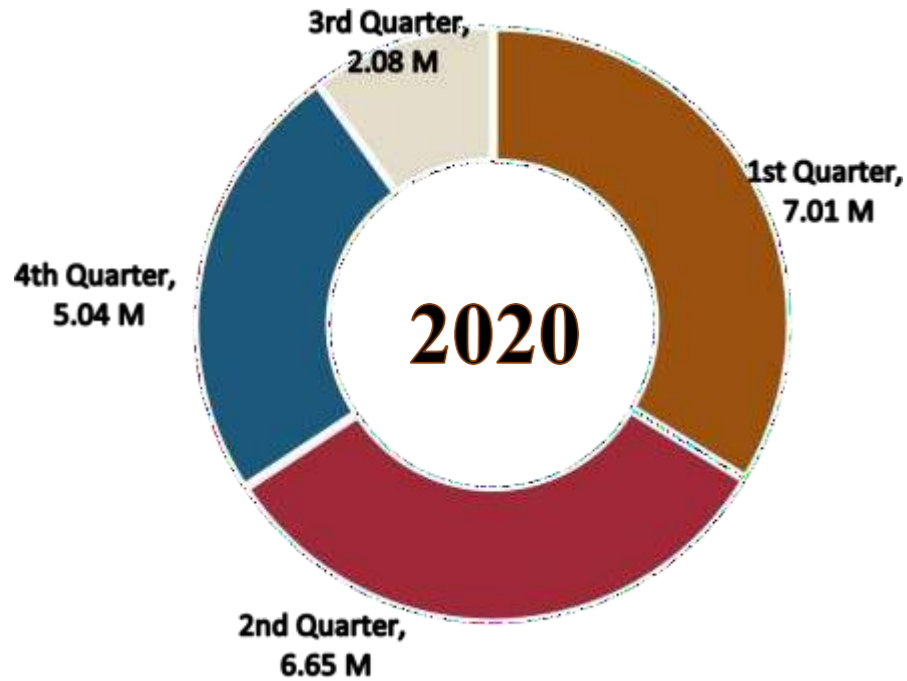- Viveks, Ezone and Croma receives approximately similar discount percentage.
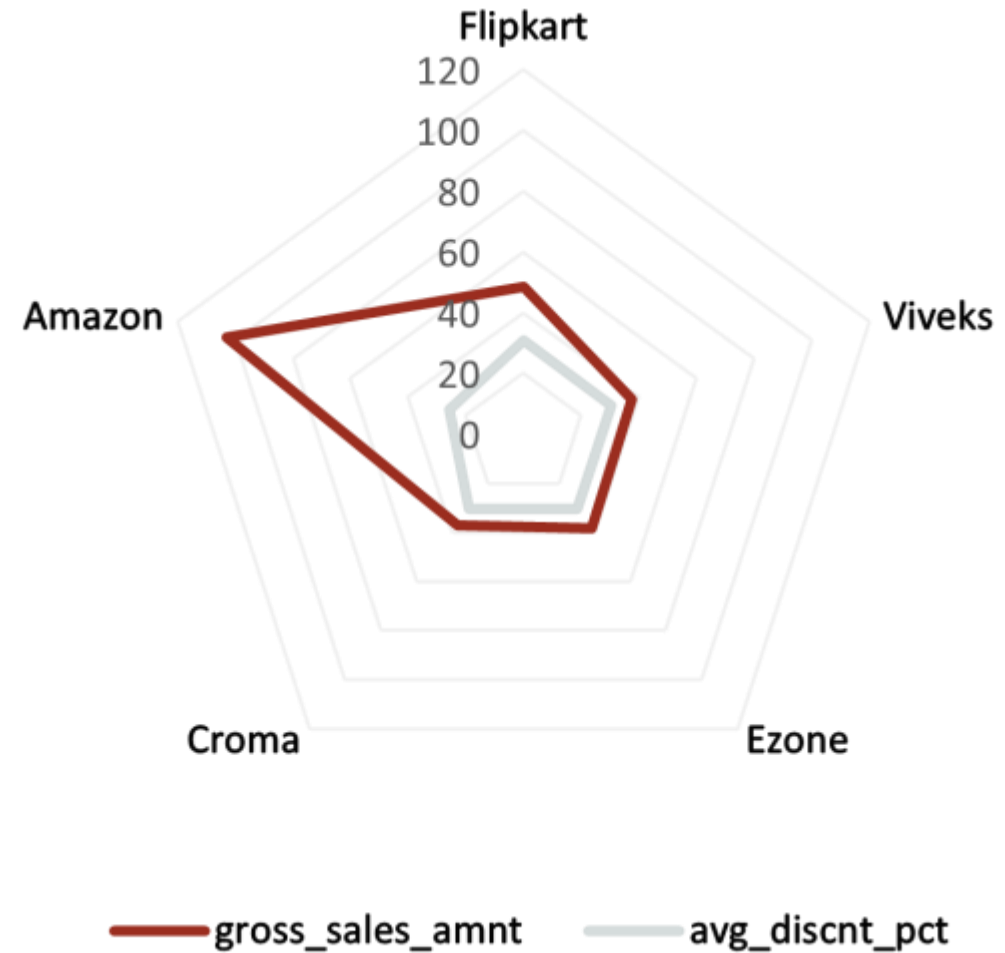
7. Monthly Gross Sales Amount for "Atliq Exclusive" :

Highest Monthly Gross Sales Amount for all Customers :

customer	month_year	highest_gross_sales_amount
Amazon	Dec - 2020	30.28
Atliq e Store	Dec - 2020	21.39
Atliq Exclusive	Nov - 2020	20.46
Sage	Dec - 2020	9.4
Leader	Nov - 2020	8.18

8. 2020 Quarters wise Total Sold Quantity :

3rd Quarter, 2.08 M

4th Quarter, 5.04 M

1st Quarter, 7.01 M
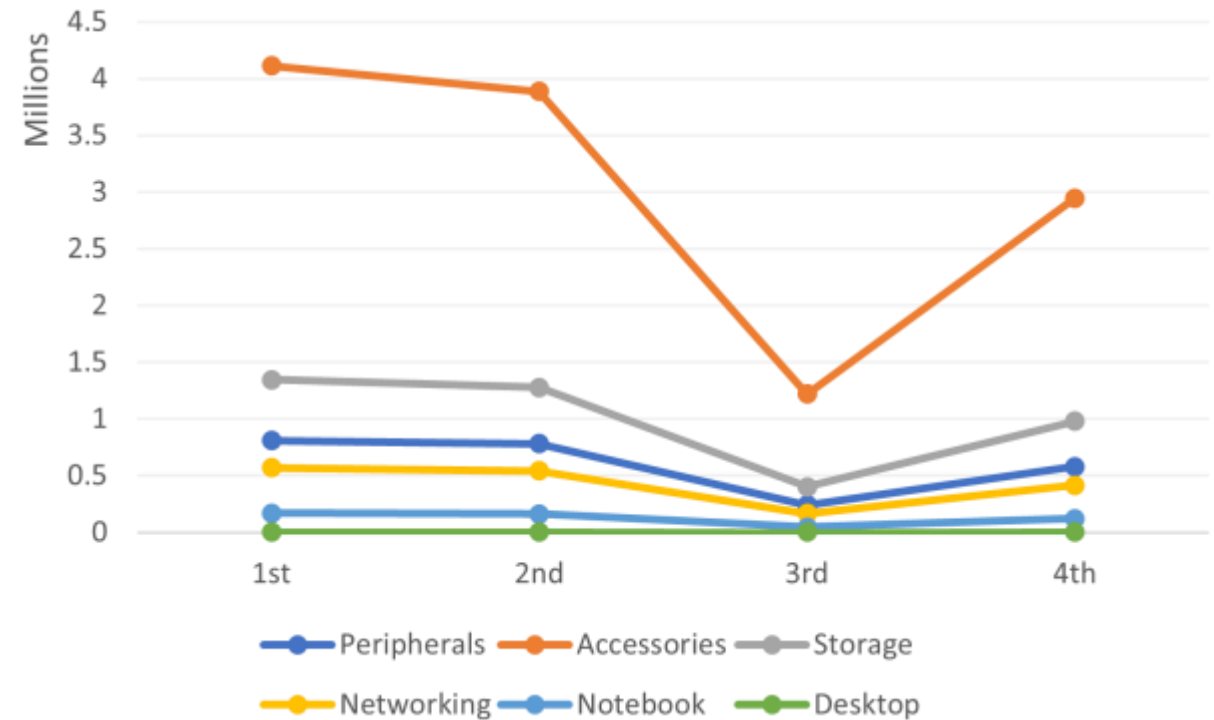
2020

2nd Quarter, 6.65 M

1st Quarter of 2020 attains the maximum sold quantity followed by 2nd quarter and 3rd has the least.

Accessories Segment put on sale more; over the course of fiscal year 2020.


Peripherals — Accessories — Storage — Networking — Notebook — Desktop

(Segment wise total sold quantity for each Quarters in 2020 fiscal year)

2021 Quarters wise Total Sold Quantity

4th Quarter, 10.89 M

1st Quarter, 14.48 M

3rd Quarter, 10.98 M

2nd Quarter, 13.81 M
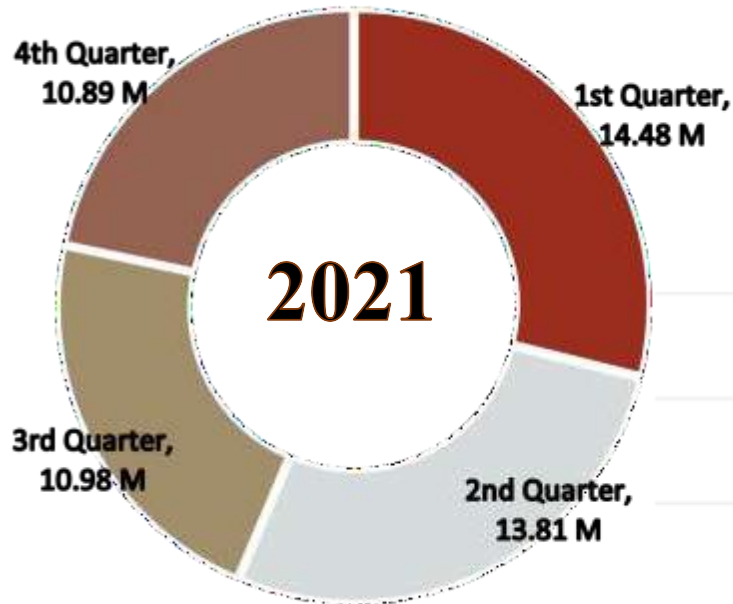
2021

- 1st Quarter has the Highest quantity of products sales.

- Each Quarter's data reveals that it is way better compared to the previous fiscal year.

As 102 unique new products introduced in the fiscal year 2021 leads to the drastic increase in the sold quantity

Peripherals   Accessories   Notebook   Storage   Networking

■ 2020   ■ 2021

Millions
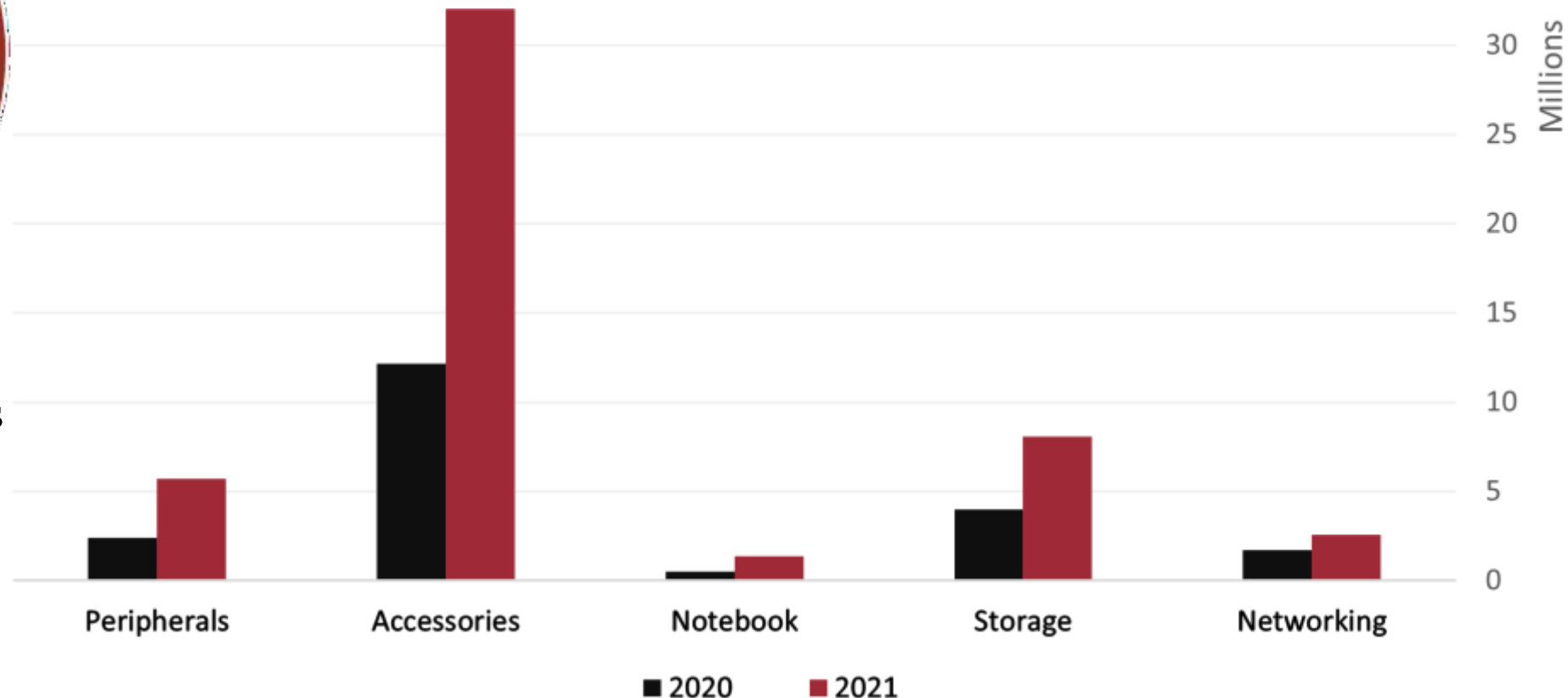
9. Channel vs Gross Sales in the fiscal year 2021 & Percentage of Contribution :
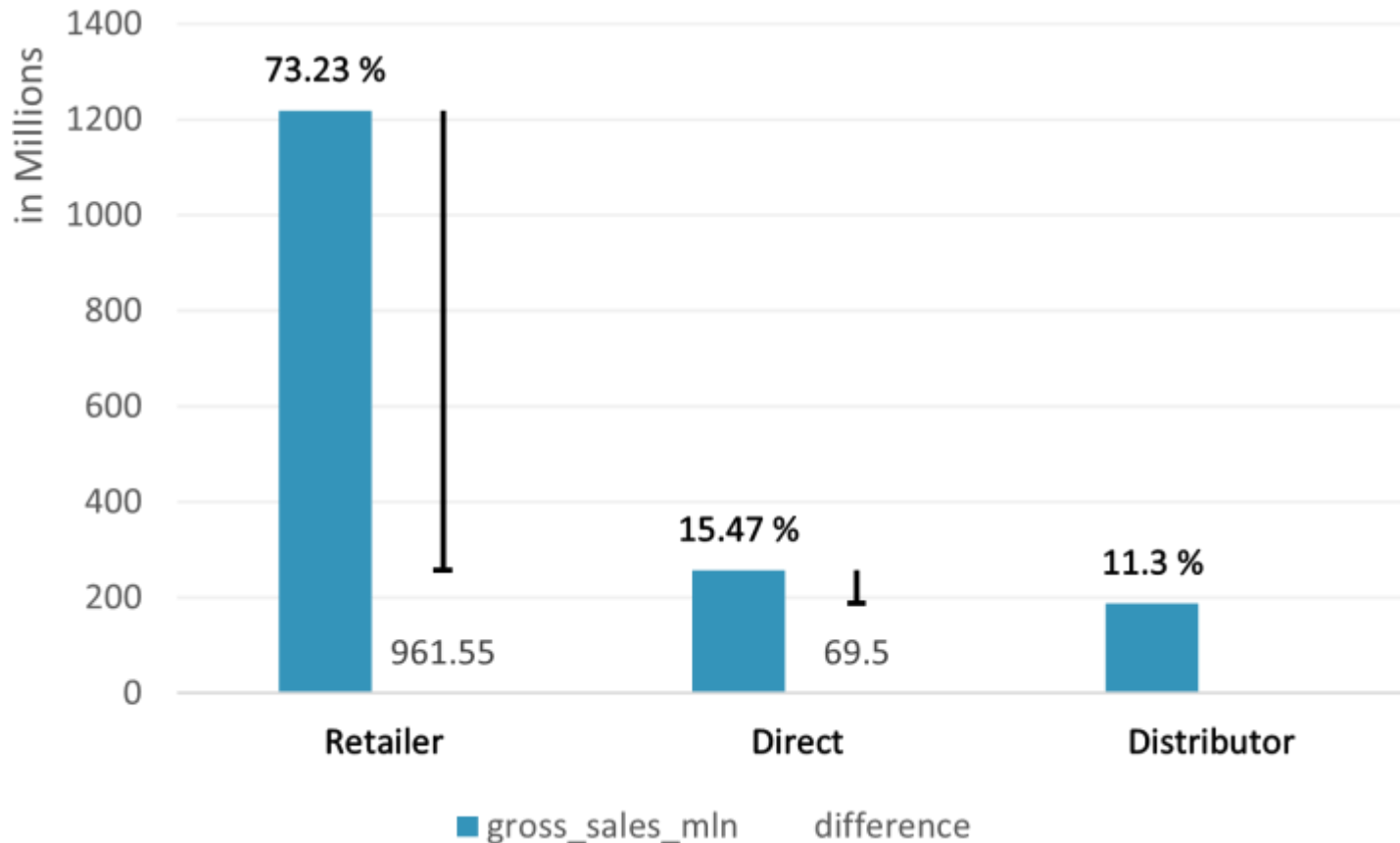
- Retailer hands out maximum gross sales of **1219.08 M** in 2021 fiscal year.

- It is almost **2.7 times greater** than the Direct and Distributor methods combined.

10. Division wise Top Products with High Total Sold Quantity in 2021 :

	N & S	P & A	PC
1	**AQ Pen Drive 2 IN 1** - Premium *Qnty : 701373*	**AQ Gamers Ms** - Standard 2 *Qnty : 428498*	**AQ Digit** - Standard Blue *Qnty : 17434*
2	**AQ Pen Drive DRC** - Plus *Qnty : 688003*	**AQ Maxima Ms** - Standard 1 *Qnty : 419865*	**AQ Velocity** - Plus Red *Qnty : 17280*
3	**AQ Pen Drive DRC** - Premium *Qnty : 676245*	**AQ Maxima Ms** - Plus 2 *Qnty : 419471*	**AQ Digit** - Premium Misty Green *Qnty : 17275*

Conclusion:

This project provided a comprehensive analysis of Atliq Hardware's market and product data. By leveraging SQL to extract detailed insights, the key market dynamics, product trends, and sales performance metrics are identified. The findings highlight the dominance of India's market, the significant role of retailer channels in driving gross sales, and the notable increase in unique product offerings from 2020 to 2021. The project showcases the power of SQL in transforming raw data into actionable business intelligence, enabling Atliq Hardware to optimize their operations and enhance market presence.

For more details of the project click here.