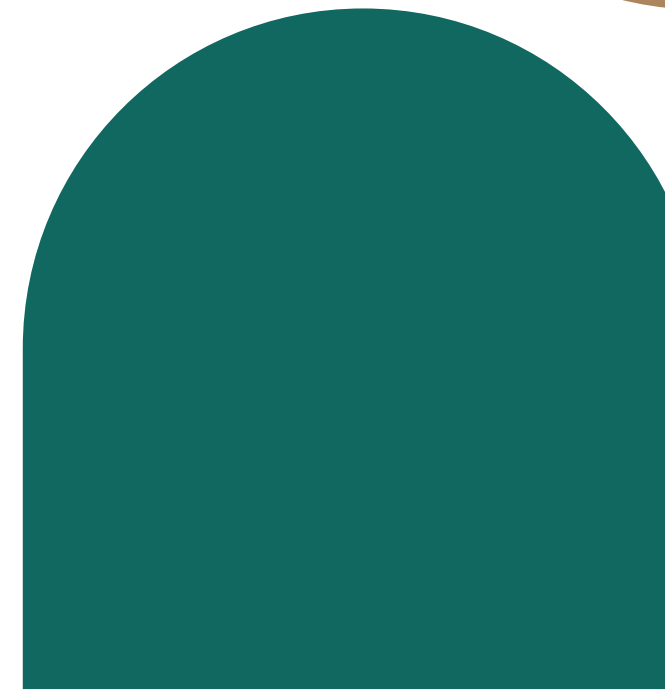
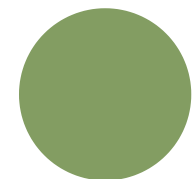
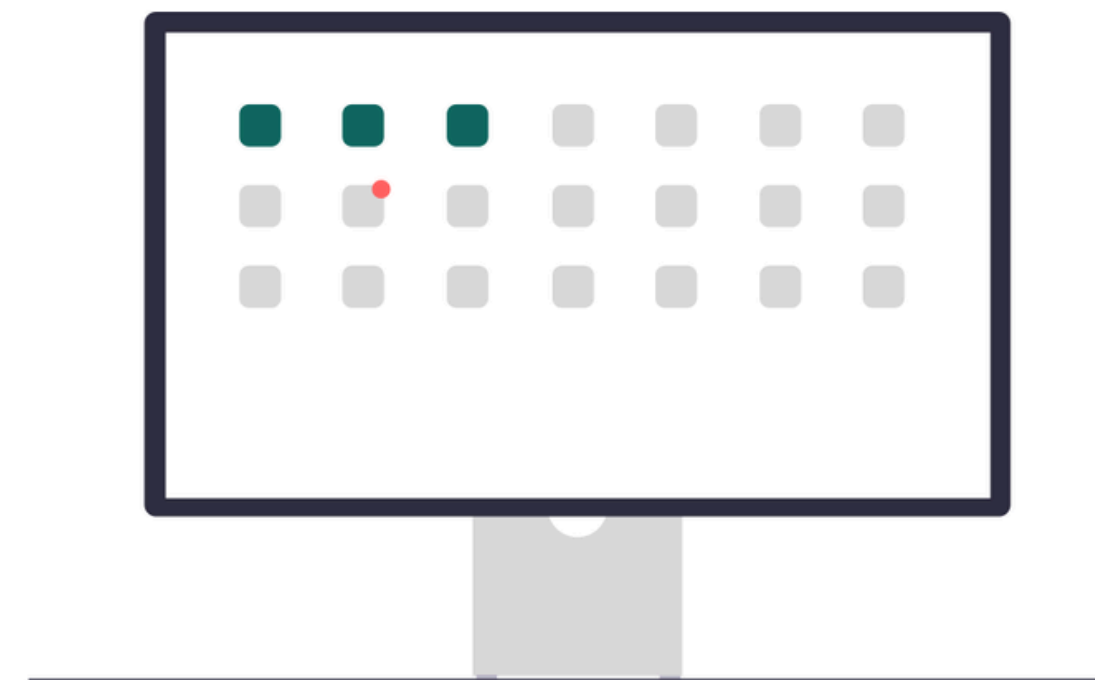


A.M Computer Solutions

Consumer Goods Ad hoc Insights

Created by : AVIRUP MITRA



Objective

In this project, we will answer a few ad_hoc questions using SQL to solve a computer hardware manufacturing company's business, customer, and product-related queries to help them make proper data-driven business decisions. After obtaining data-driven insights, we will also give a few recommendations for the business growth

A.M Computer Solutions

About Company

A.M Computer Solutions is one of India's leading computer hardware producers and well expanded in other countries too.

With cutting-edge technology, they manufacture all sorts of computer-related hardware that are reliable, durable, and of top-notch quality.



Company's Market

APAC Region



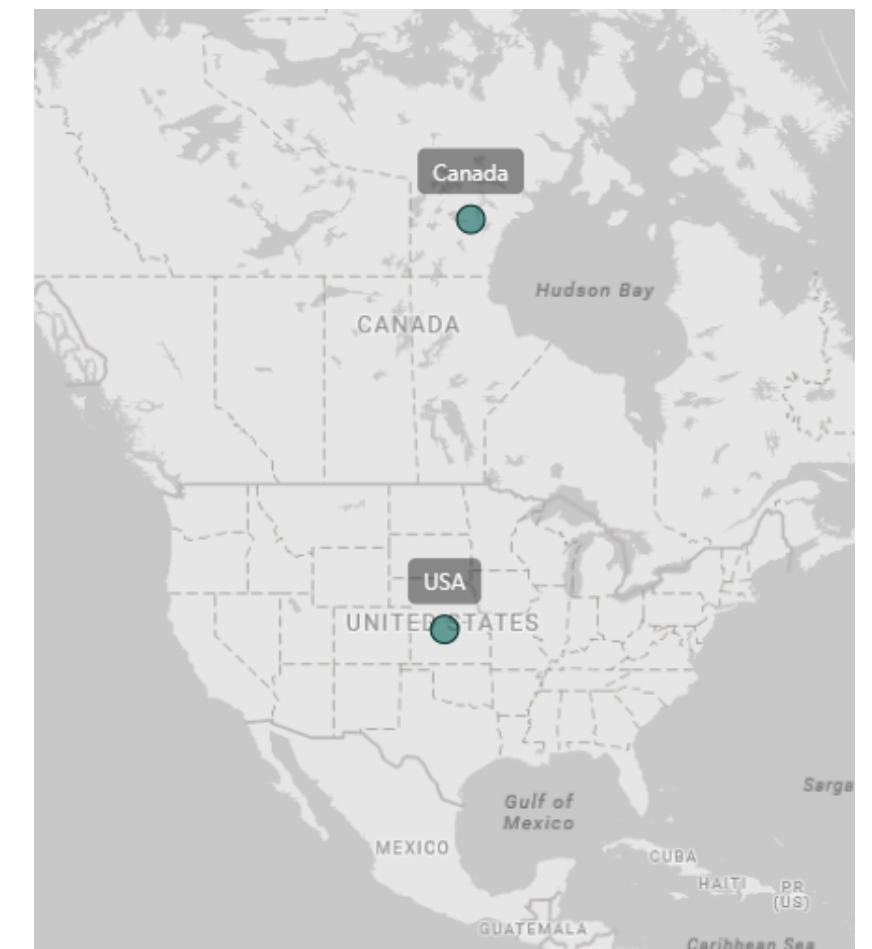
EU Region



LATAM Region



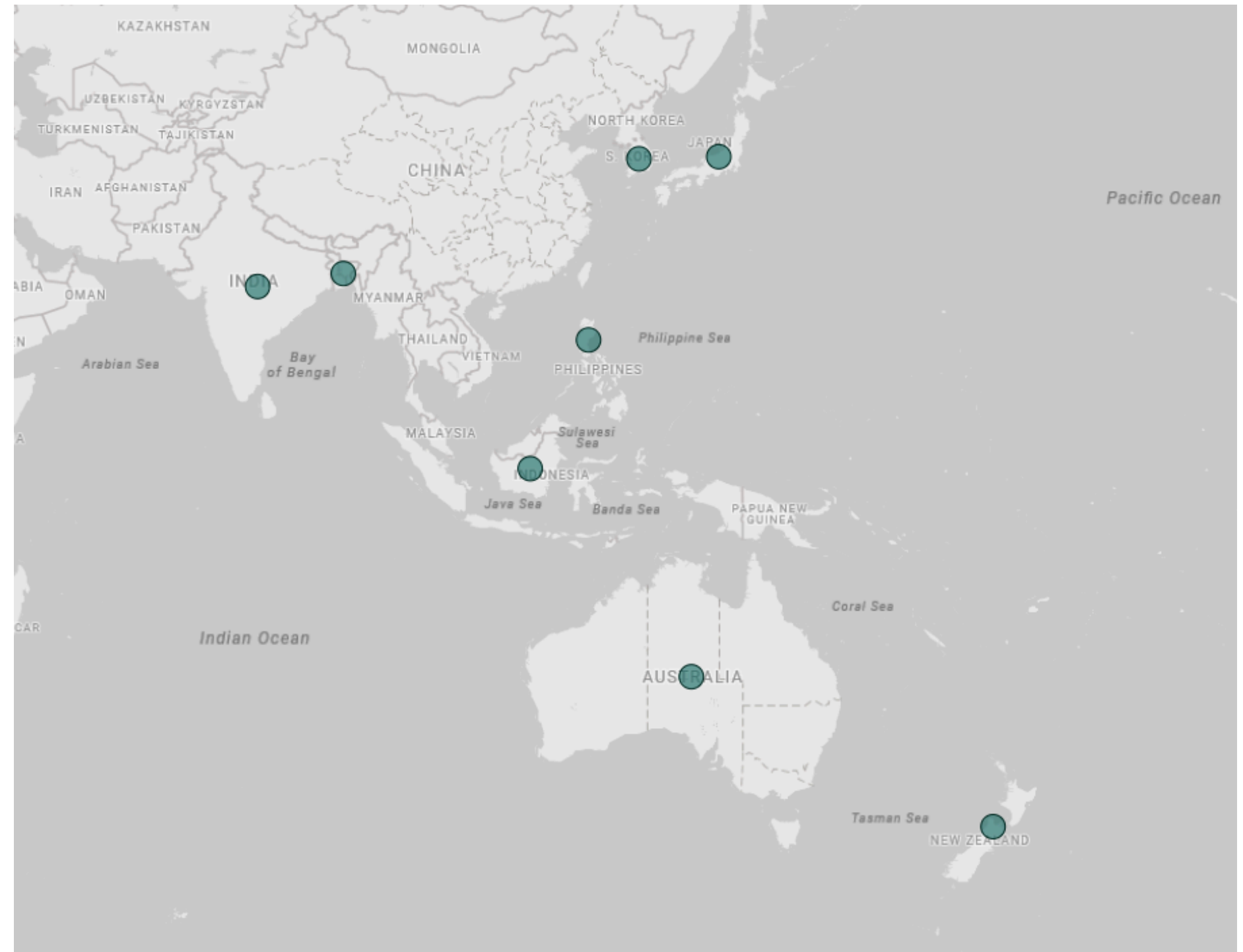
NA Region



Provide the list of markets in which customer "Atliq Exclusive" operates its business in the APAC region.

| market |
|-------------|
| India |
| Indonesia |
| Japan |
| Philippines |
| South Korea |
| Australia |
| Newzealand |
| Bangladesh |

Insight : Atliq Exclusive operates in 8 big parts of the Asia-Pacific region which means they are very big and valuable customer and they have the potential to generate very good amount of sales and revenue for us

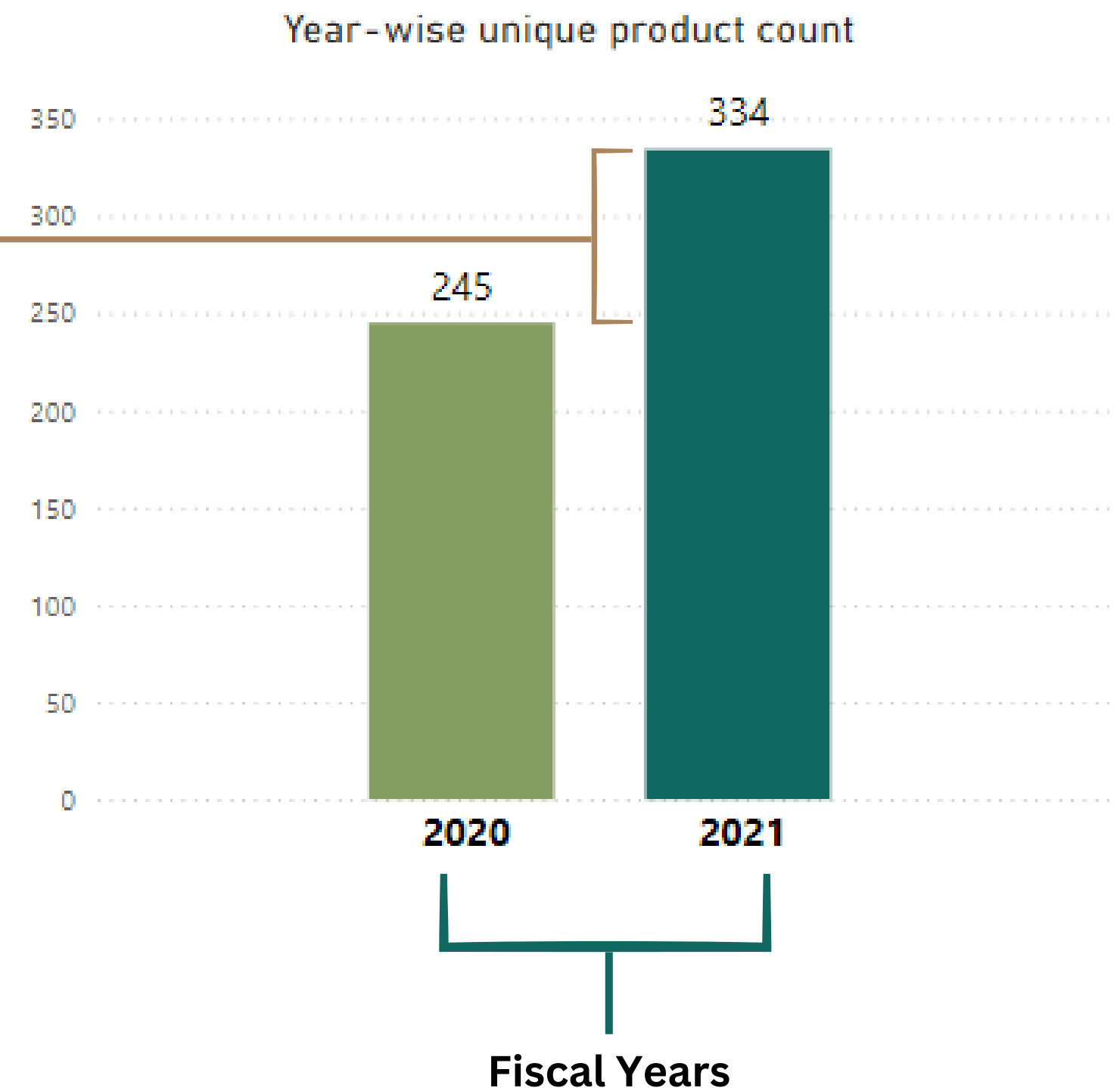


What is the percentage of unique product increase in 2021 vs. 2020?

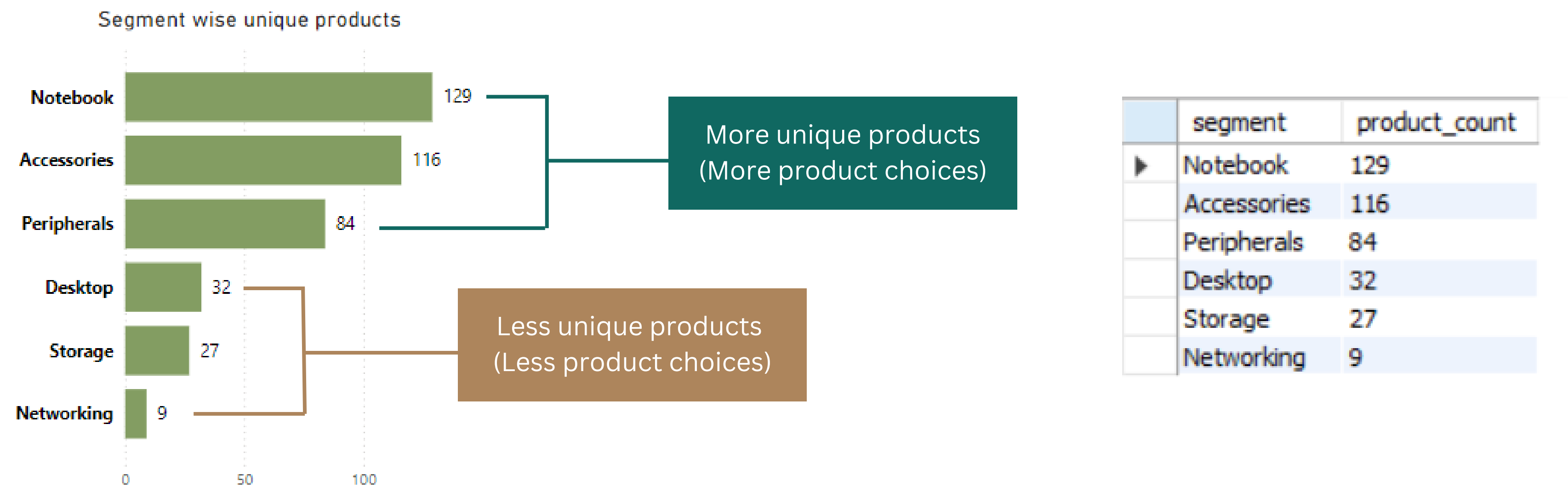
| unique_products_2020 | unique_products_2021 | percentage_increased |
|----------------------|----------------------|----------------------|
| 245 | 334 | 36.33% |

89 new unique products than the previous year which means 36.3% growth

Insight : The percentage of unique products increased by 36.3% in 2021 (334) compared to 2020 (245). Suggesting an increment in production and demand.

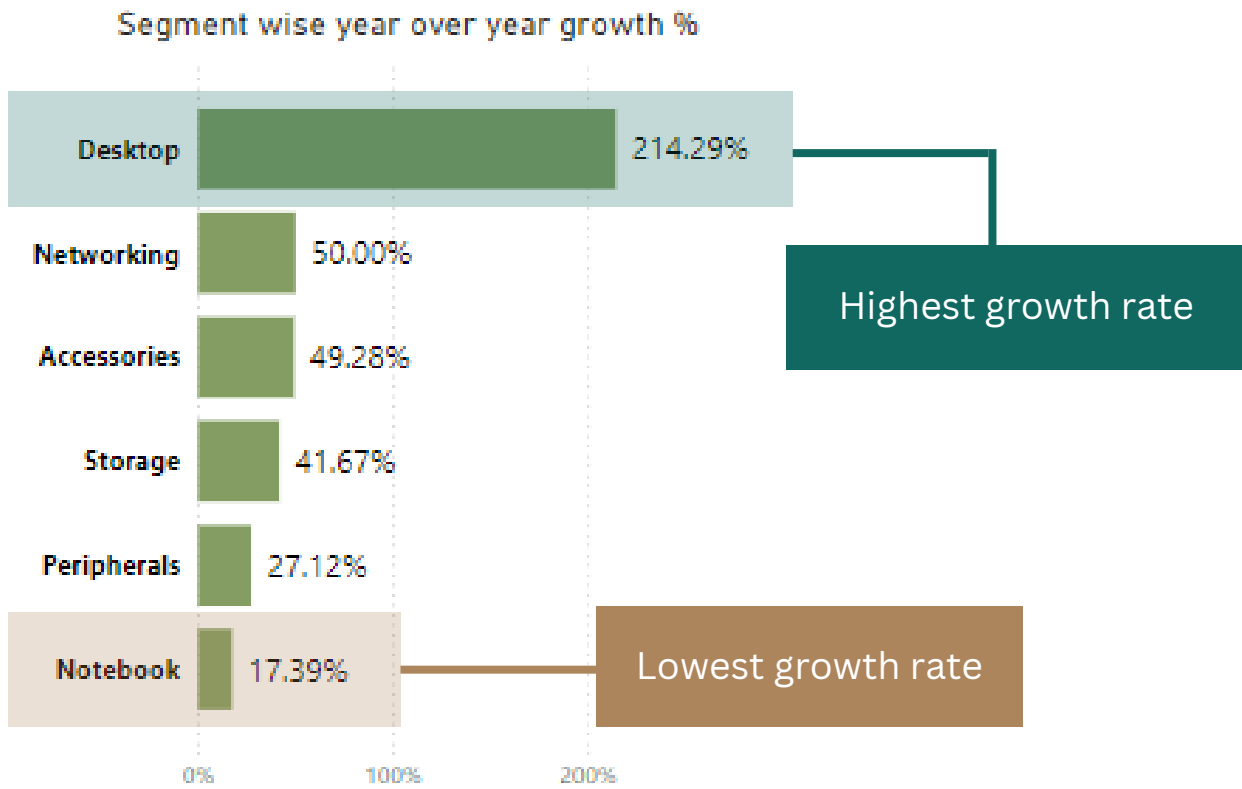
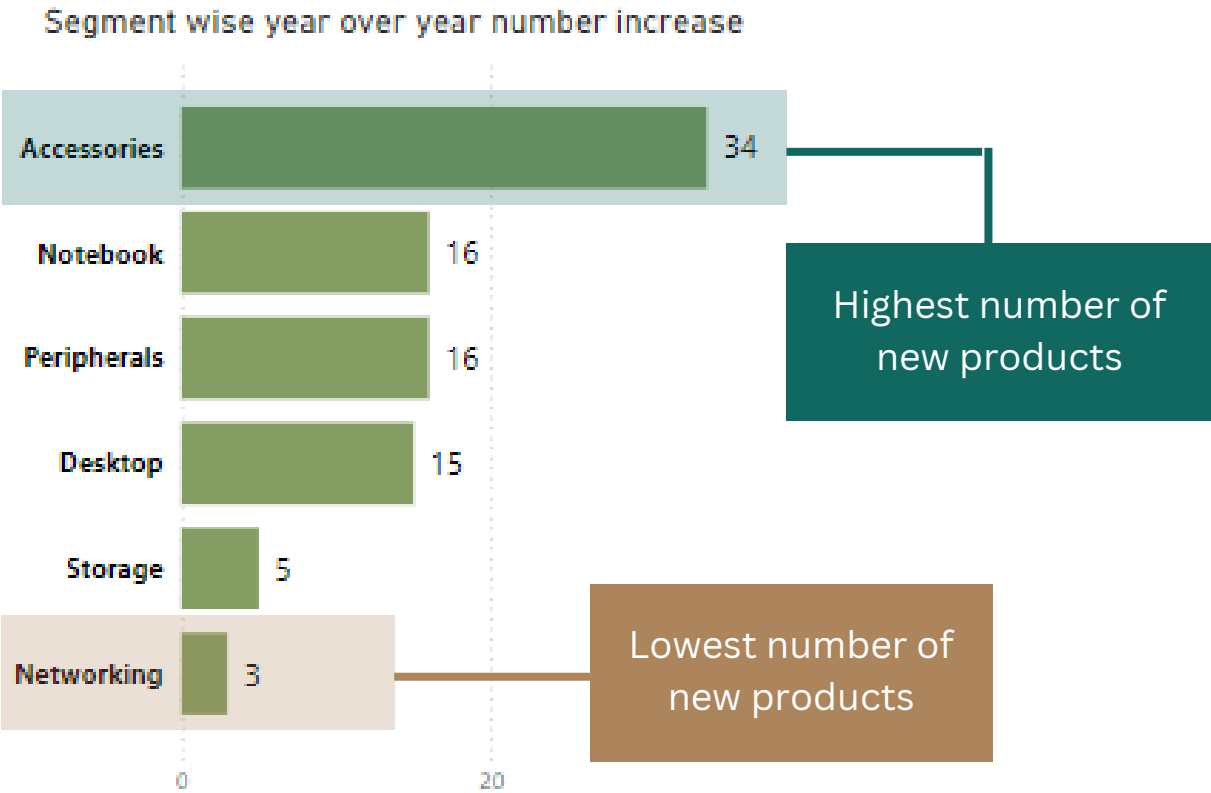


Provide a report with all the unique product counts for each segment and sort them in descending order of product counts.



Insight : Notebook has the highest number of unique products followed by Accessories, Peripherals, Desktops, storage, and Networking. We have a wide variety of Notebooks, Accessories, and Peripherals compared to other segments, suggesting that we have much more choices in these segments than Desktop, Storage and Networking devices

Follow-up: Which segment had the most increase in unique products in 2021 vs 2020?



| segment | product_count_2020 | product_count_2021 | difference | percentage_increased |
|-------------|--------------------|--------------------|------------|----------------------|
| Accessories | 69 | 103 | 34 | 49.28% |
| Desktop | 7 | 22 | 15 | 214.29% |
| Networking | 6 | 9 | 3 | 50.00% |
| Notebook | 92 | 108 | 16 | 17.39% |
| Peripherals | 59 | 75 | 16 | 27.12% |
| Storage | 12 | 17 | 5 | 41.67% |

Insight : Desktop has the highest growth rate in terms of unique products followed by Networking, Accessories, Storage, Peripherals, and Notebooks, but not the highest in terms of increment in number. We have Accessories on the top as increment in number followed by Notebook, Peripherals, Desktop, Storage, and Networking, and the growth rate is fair. Though the growth percentage of the Networking and Storage segments are fair but the overall number increment is still low for them in 2021.

Get the products that have the highest and lowest manufacturing costs.

| product_code | category | product | variant | manufacturing_cost |
|--------------|------------------|-----------------------|------------|--------------------|
| A2118150101 | Mouse | AQ Master wired x1 Ms | Standard 1 | 0.8920 |
| A6120110206 | Personal Desktop | AQ HOME Allin1 Gen 2 | Plus 3 | 240.5364 |

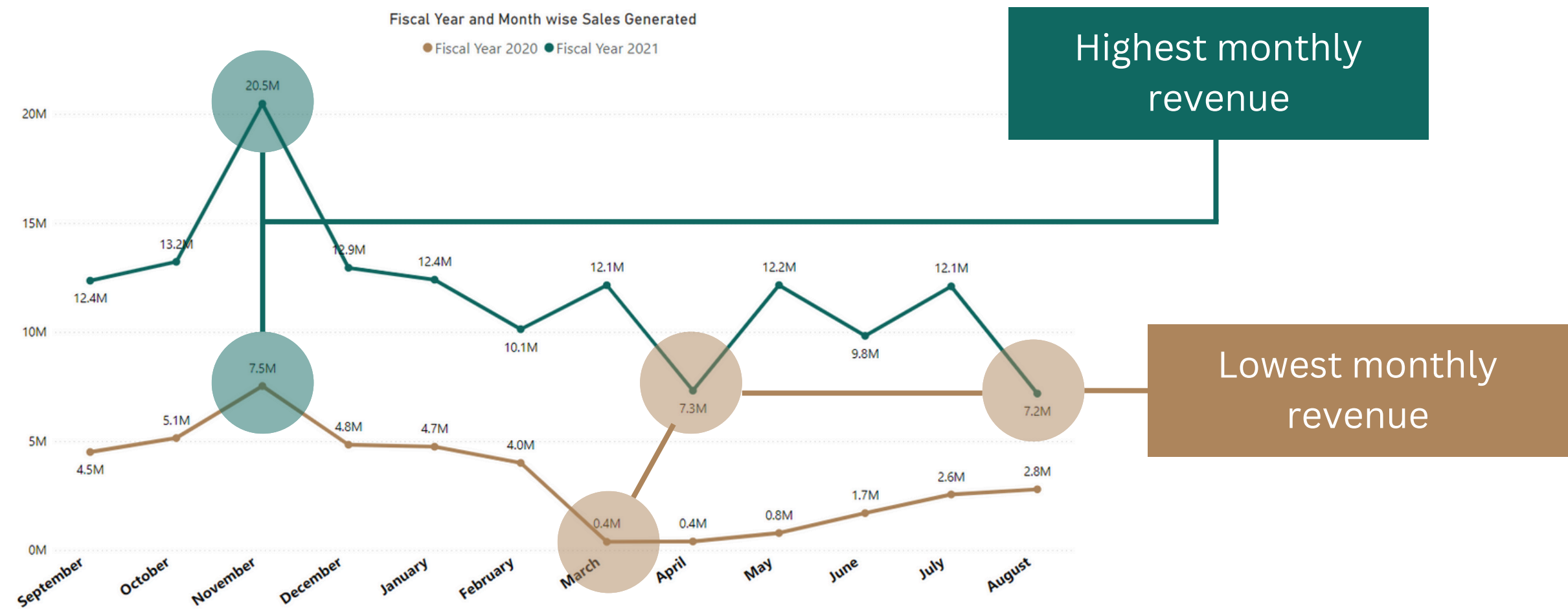
Insight: The mouse named AQ Master wired x1 Ms Standard 1 Variant has the lowest manufacturing cost of only 0.8920 whereas the Personal Desktop named AQ HOME Allin 1 Gen 2 Plus 3 Variant has the highest manufacturing cost of 240.5364

Generate a report that contains the top 5 customers who received an average high pre-invoice discount percentage for the fiscal year 2021 and in the Indian market.

| customer_code | customer | average_discount_percentage |
|---------------|----------|-----------------------------|
| 90002009 | Flipkart | 30.83 |
| 90002006 | Viveks | 30.38 |
| 90002003 | Ezone | 30.28 |
| 90002002 | Croma | 30.25 |
| 90002016 | Amazon | 29.33 |

Insight : In Fiscal year 2021 **Flipkart** received the highest average pre-invoice discount, followed by **Viveks**, **Ezone**, **Croma**, and **Amazon**. But everyone on this list is very close to each other (**approx 30%**) in terms of receiving discounts. This suggests that these 5 customers are valuable to us and very good negotiators.

Get the complete report of the Gross sales amount for the customer “Atliq Exclusive” for each month.



Insight : The sales for “Atliq Exclusive” have increased significantly in 2021 compared to 2020. They are most active in November and the lowest sales came from them in April and August in fiscal year 2021 and in March in fiscal year 2020. In fiscal year 2020 the revenue generated from them was 39.31 million and in fiscal year 2021 it was 142.21 million (almost 262% increase)

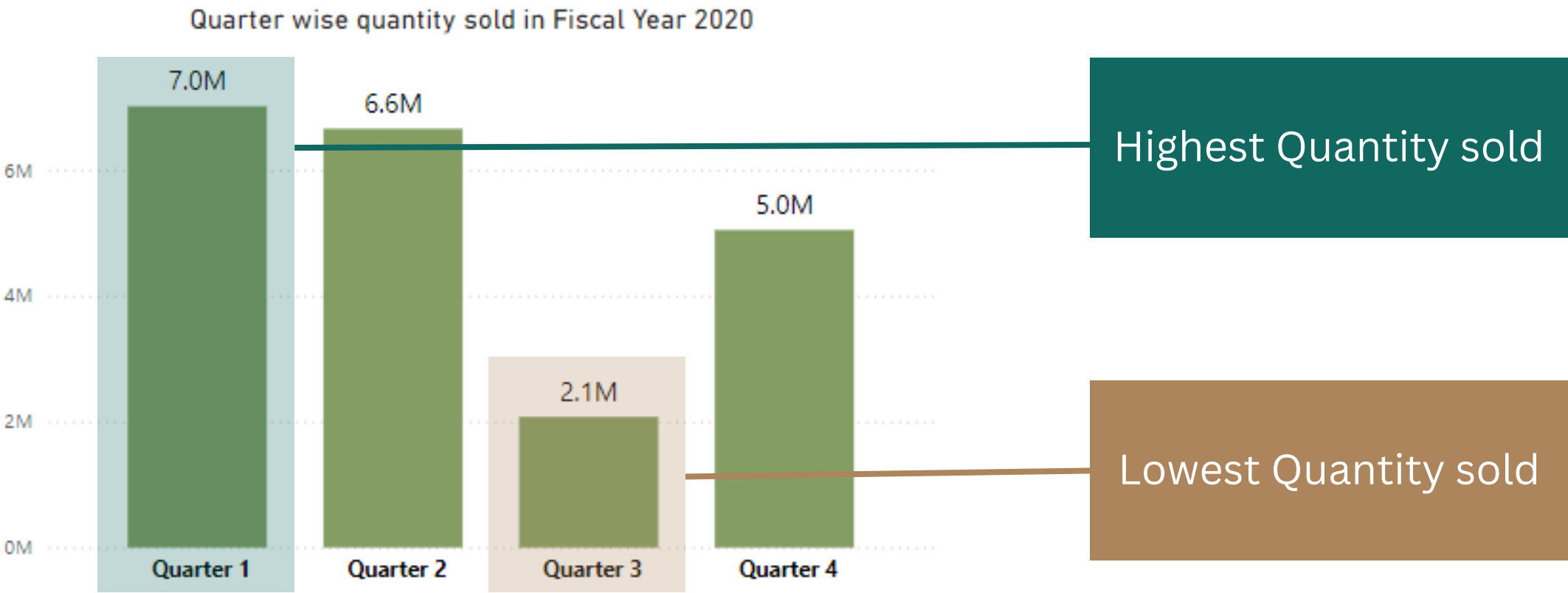
Fiscal Year 2020

| fiscal_year | months | total_sales_amount |
|-------------|----------------|--------------------|
| 2020 | September 2019 | 4496259.94 |
| 2020 | October 2019 | 5135902.52 |
| 2020 | November 2019 | 7522892.84 |
| 2020 | December 2019 | 4830404.88 |
| 2020 | January 2020 | 4740600.31 |
| 2020 | February 2020 | 3996228.01 |
| 2020 | March 2020 | 378770.94 |
| 2020 | April 2020 | 395035.34 |
| 2020 | May 2020 | 783813.24 |
| 2020 | June 2020 | 1695216.71 |
| 2020 | July 2020 | 2551159.42 |
| 2020 | August 2020 | 2786648.34 |

Fiscal Year 2021

| | | |
|------|----------------|-------------|
| 2021 | September 2020 | 12353510.30 |
| 2021 | October 2020 | 13218636.80 |
| 2021 | November 2020 | 20464999.66 |
| 2021 | December 2020 | 12944660.00 |
| 2021 | January 2021 | 12399393.60 |
| 2021 | February 2021 | 10129736.22 |
| 2021 | March 2021 | 12144061.40 |
| 2021 | April 2021 | 7312000.26 |
| 2021 | May 2021 | 12150225.67 |
| 2021 | June 2021 | 9824521.71 |
| 2021 | July 2021 | 12092347.03 |
| 2021 | August 2021 | 7178707.82 |

In which quarter of 2020, got the maximum total quantity sold ?

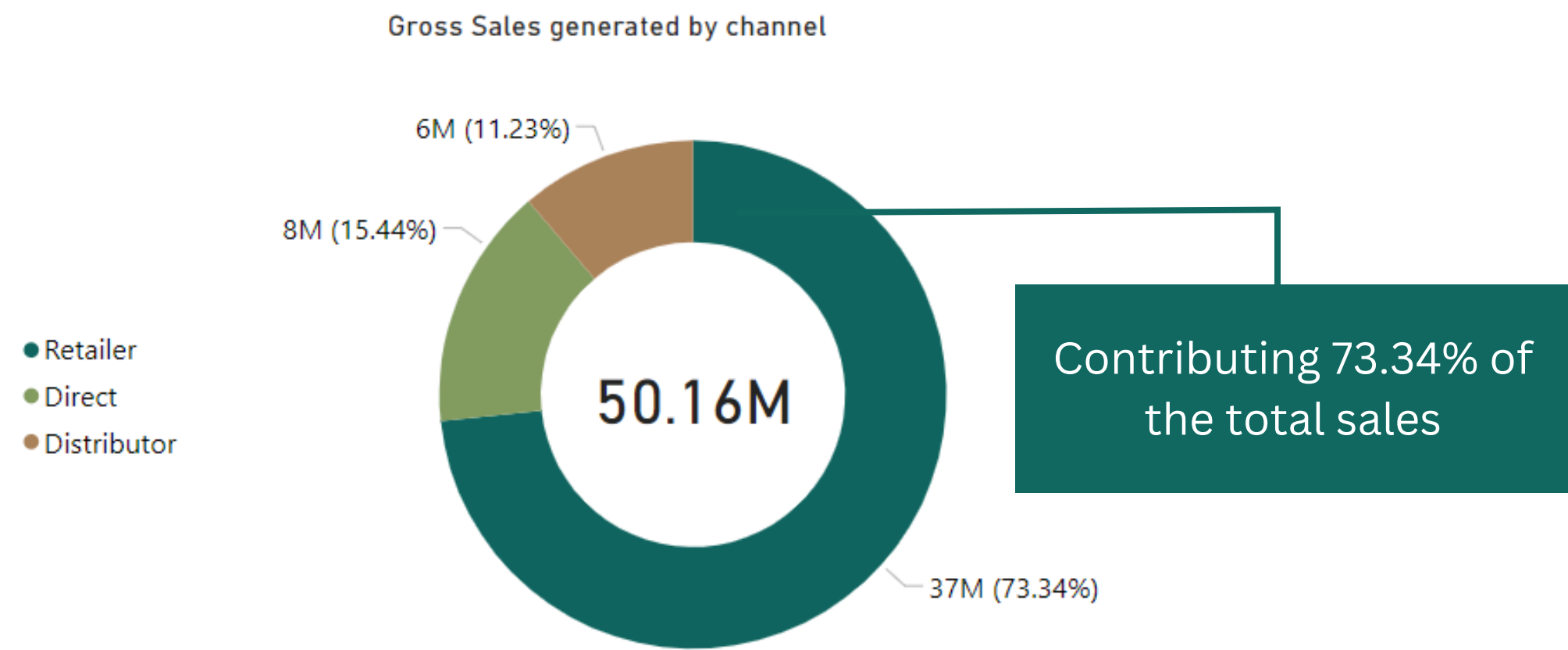


| quarters_2020 | total_quantity_sold |
|---------------|---------------------|
| 1 | 7005619 |
| 2 | 6649642 |
| 3 | 2075087 |
| 4 | 5042541 |

| monthly_sales | total_quantity_sold |
|-------------------|---------------------|
| September - Qtr 1 | 1764002 |
| October - Qtr 1 | 2190792 |
| November - Qtr 1 | 3050825 |
| December - Qtr 2 | 3184205 |
| January - Qtr 2 | 1762652 |
| February - Qtr 2 | 1702785 |
| March - Qtr 3 | 238961 |
| April - Qtr 3 | 819956 |
| May - Qtr 3 | 1016170 |
| June - Qtr 4 | 1559773 |
| July - Qtr 4 | 1692575 |
| August - Qtr 4 | 1790193 |

Insight : We have observed that the highest quantity sold was in the first quarter of the fiscal year 2020 whereas the lowest was in the third quarter. In the first quarter, the highest sales were in December and in the third quarter, the lowest sales came in March

Which channel helped to bring more gross sales in the fiscal year 2021 and the percentage of contribution?



| channel | channelwise_sold | contribution_% |
|-------------|------------------|----------------|
| Direct | 7743451 | 15.44% |
| Distributor | 5632386 | 11.23% |
| Retailer | 36788745 | 73.34% |

Insight : We have observed that 73.34 % of the total sales were generated through **Retailers** in fiscal year 2021. In comparison, only 26.66% of the total gross sales were generated by **Direct channels** and **Distributors** combined. It suggests that the most valuable customers are from **Retail channel**.

Get the Top 3 products in each division that have a high total sold quantity in the fiscal_year 2021?

| division | product_code | products | total_sold_quantity | ranks |
|----------|--------------|--------------------------------|---------------------|-------|
| N & S | A6720160103 | AQ Pen Drive 2 IN 1 - Premium | 701373 | 1 |
| N & S | A6818160202 | AQ Pen Drive DRC - Plus | 688003 | 2 |
| N & S | A6819160203 | AQ Pen Drive DRC - Premium | 676245 | 3 |
| P & A | A2319150302 | AQ Gamers Ms - Standard 2 | 428498 | 1 |
| P & A | A2520150501 | AQ Maxima Ms - Standard 1 | 419865 | 2 |
| P & A | A2520150504 | AQ Maxima Ms - Plus 2 | 419471 | 3 |
| PC | A4218110202 | AQ Digit - Standard Blue | 17434 | 1 |
| PC | A4319110306 | AQ Velocity - Plus Red | 17280 | 2 |
| PC | A4218110208 | AQ Digit - Premium Misty Green | 17275 | 3 |

Insight : We have observed that in terms of the top 3 products based on quantity sold in each division, we have products with the same name but the variants are different. Suggesting that these products are popular across all variants.

Few key takeaways

- The overall growth rate of unique products is 36.3%.
- Desktop, Storage, and Networking segments have very few product options available.
- Desktops have seen a massive growth (approx 214%) in new product production in fiscal year 2021, whereas Notebooks have the lowest (approx 17%), however in number increment Accessories are at the top whereas Networking devices are at the bottom.
- Flipkart, Viveks, Ezone, Chroma, and Amazon are the top 5 customers in terms of receiving pre-invoice discounts.
- In fiscal year 2021 we have seen the highest sales in November and the lowest sales in April and August.
- 73.34% of the overall total sales came from Retailers.
- AQ Maxima Ms mouse, AQ Digit desktop, and AQ Pendrive DRC are very popular.

Few recommendations

Although Desktops, Storage, and Networking devices have good growth rates (%) they have very few numbers of choices available probably because of less demand. Specifically, **Wi-Fi extenders**, **USB Flash Drives**, **External SSD**, **Internal HDD**, and **Personal Desktops**.

- Give good discounts on bulk purchases
- Provide discounts after several purchases

To increase direct sales

- We can give combo deals (include wifi extender/flash drives as combo accessories at an attractive price when a personal desktop is purchased)
- Give gift cards for a certain cart value to keep customers hooked
- Give student discounts and cashback offers.
- Give good extended after-sales services at a reasonable price.



Thank you