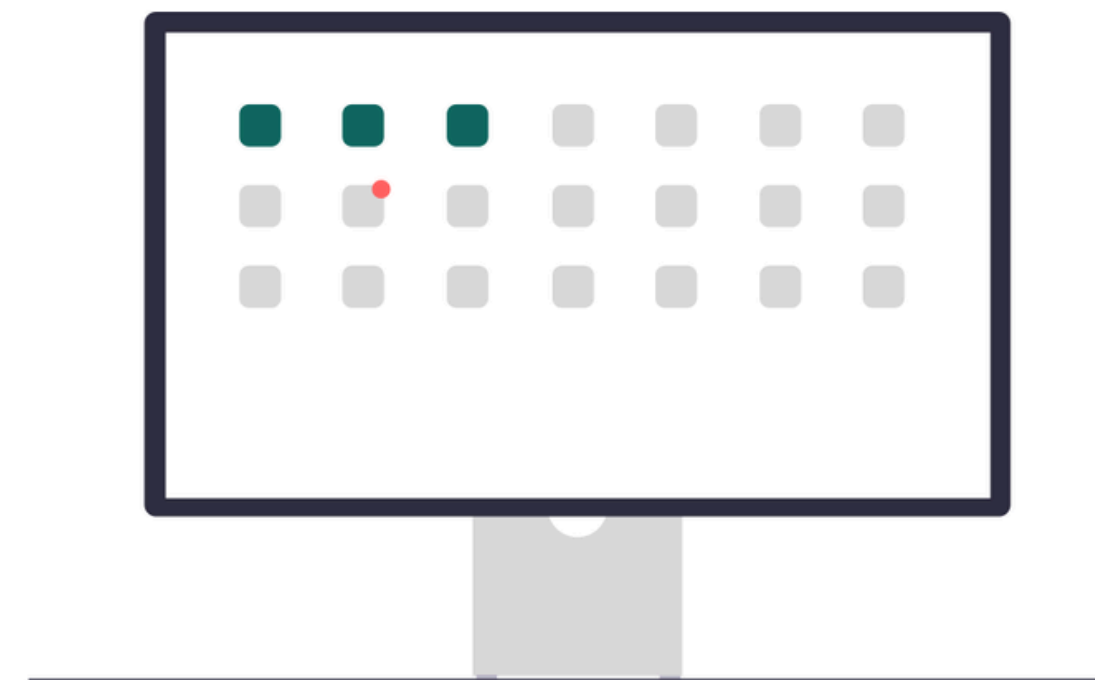


A.M Computer Solutions

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



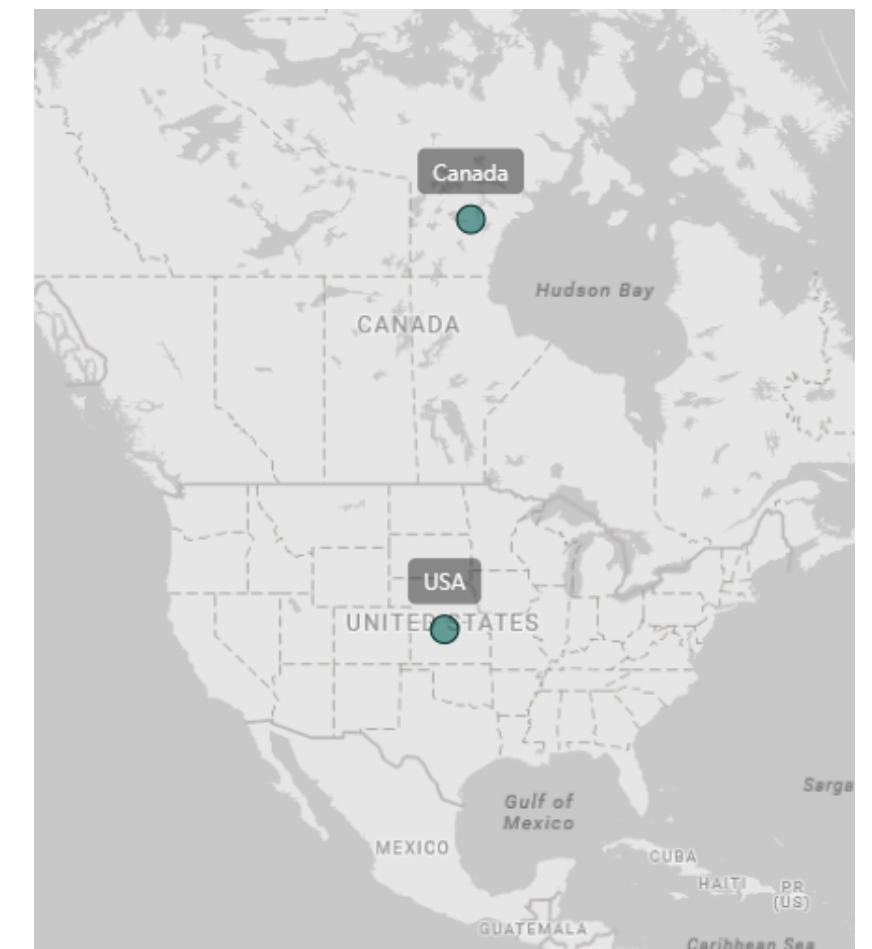
EU Region



LATAM Region



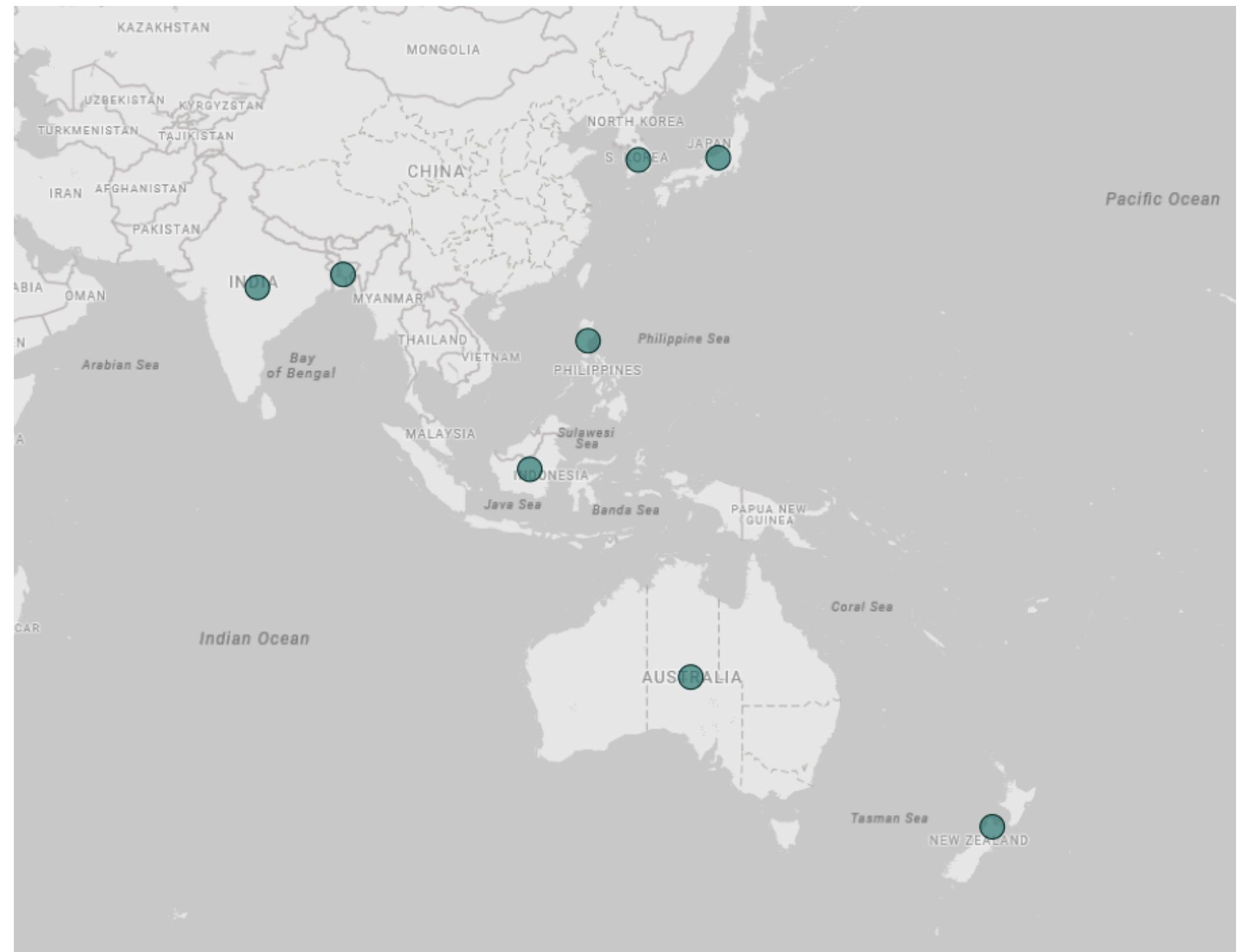
NA Region



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

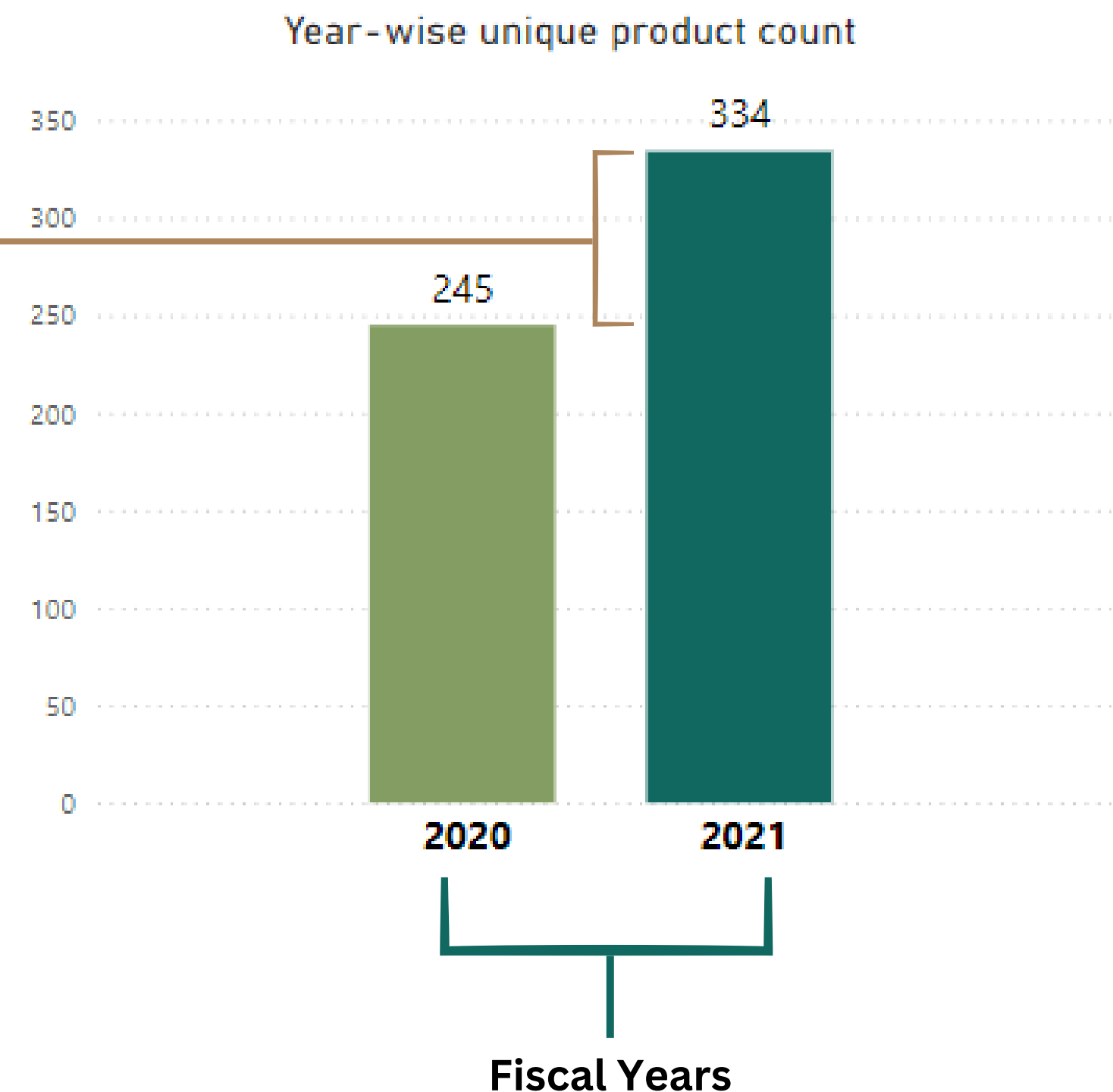


What is the percentage of unique product increase in 2021 vs. 2020?

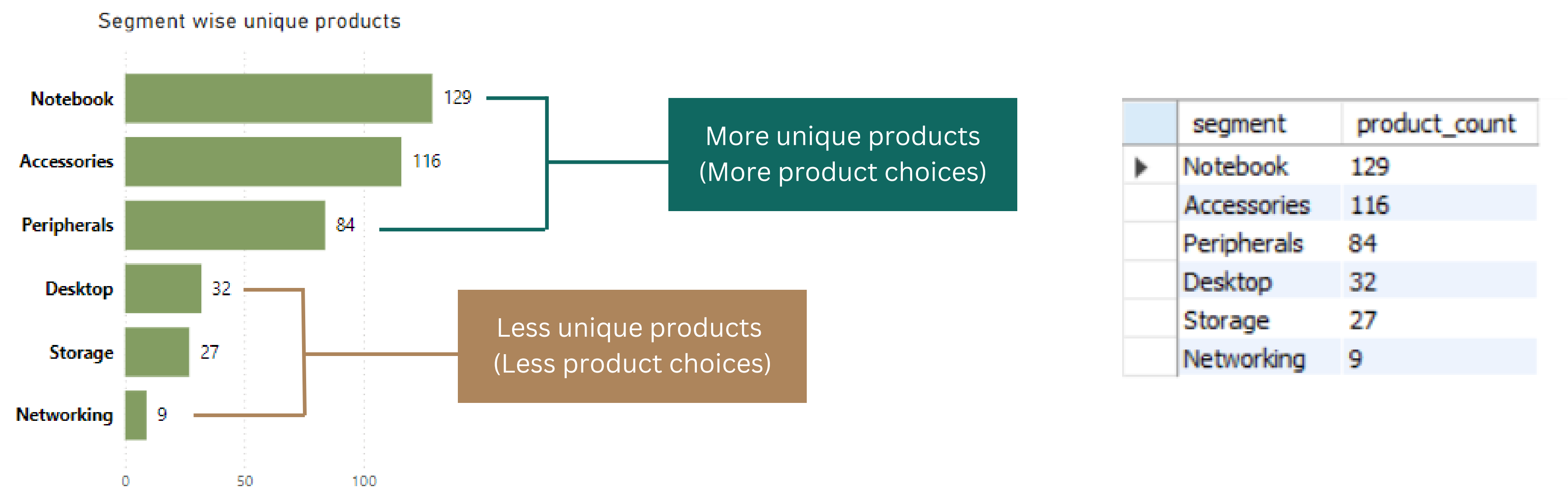
unique_products_2020	unique_products_2021	percentage_increased
245	334	36.33%

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.



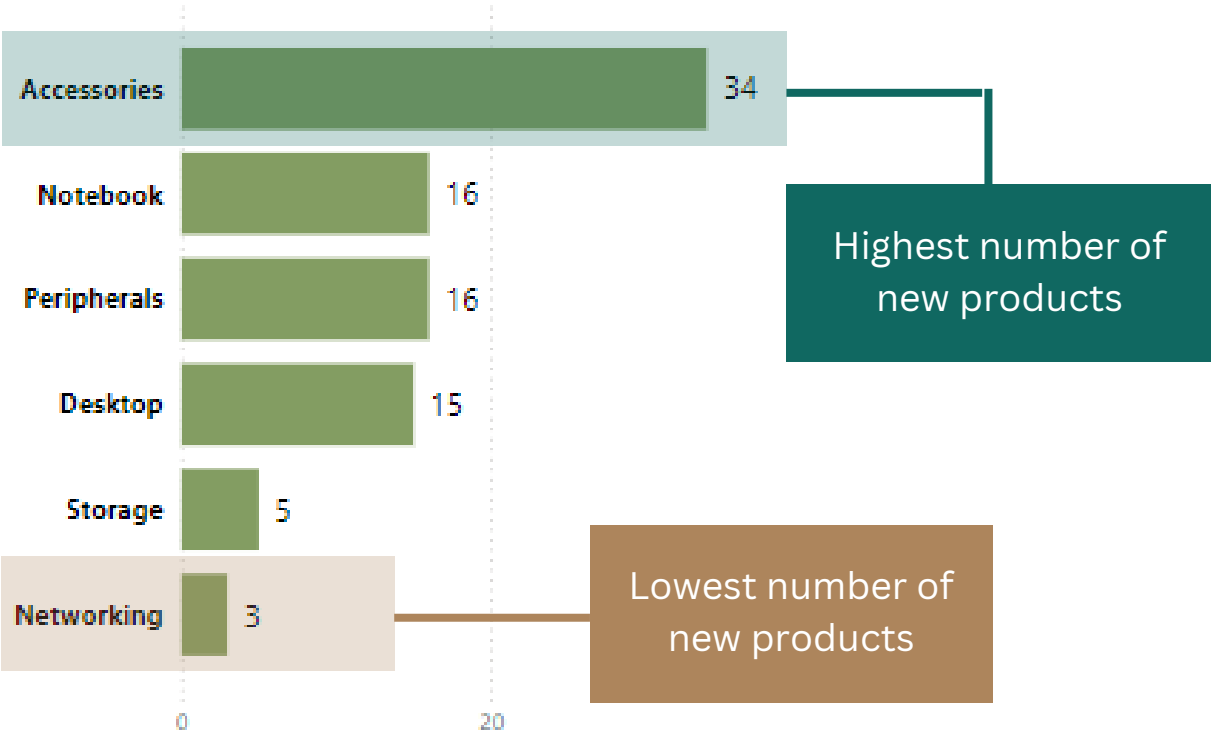
Provide a report with all the unique product counts for each segment and sort them in descending order of product counts.



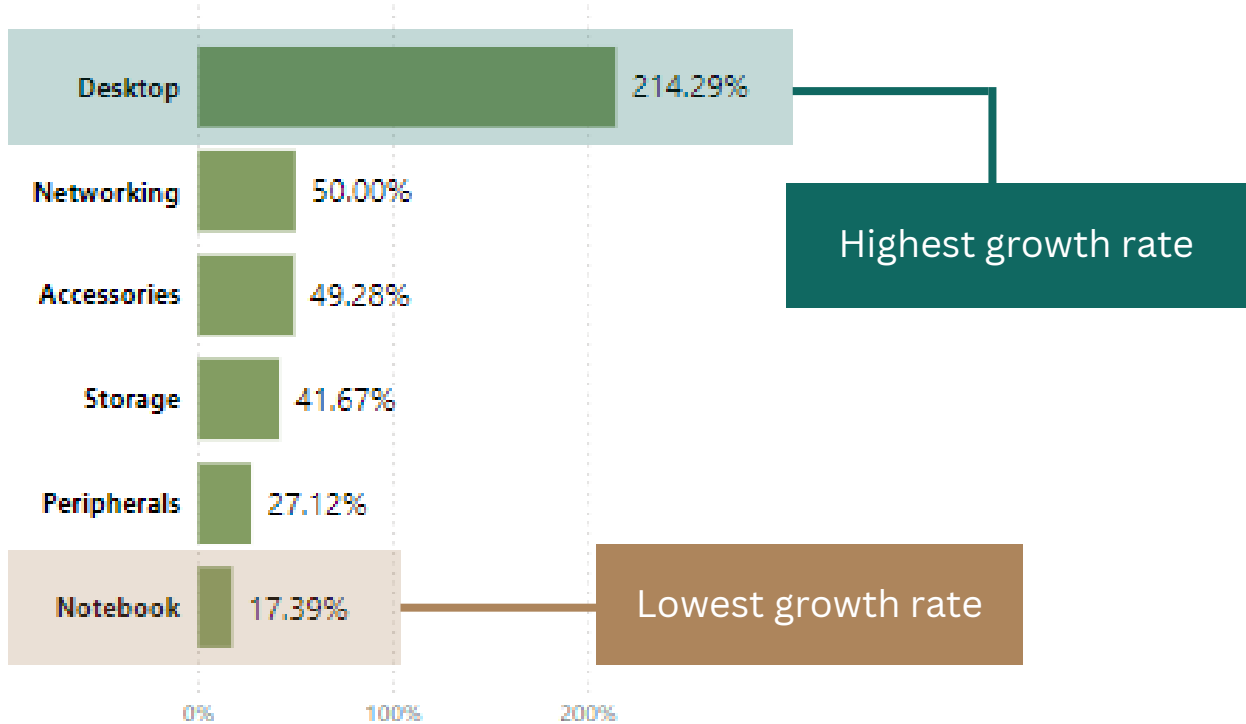
Insight : Notebook has the highest number of unique products followed by Accessories, Peripherals, Desktops, storage, and Networking. We have a wide variety of Notebooks, Accessories, and Peripherals compared to other segments, suggesting that we have much more choices in these segments than Desktop,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

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

Segment wise year over year number increase



Segment wise year over year growth %



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

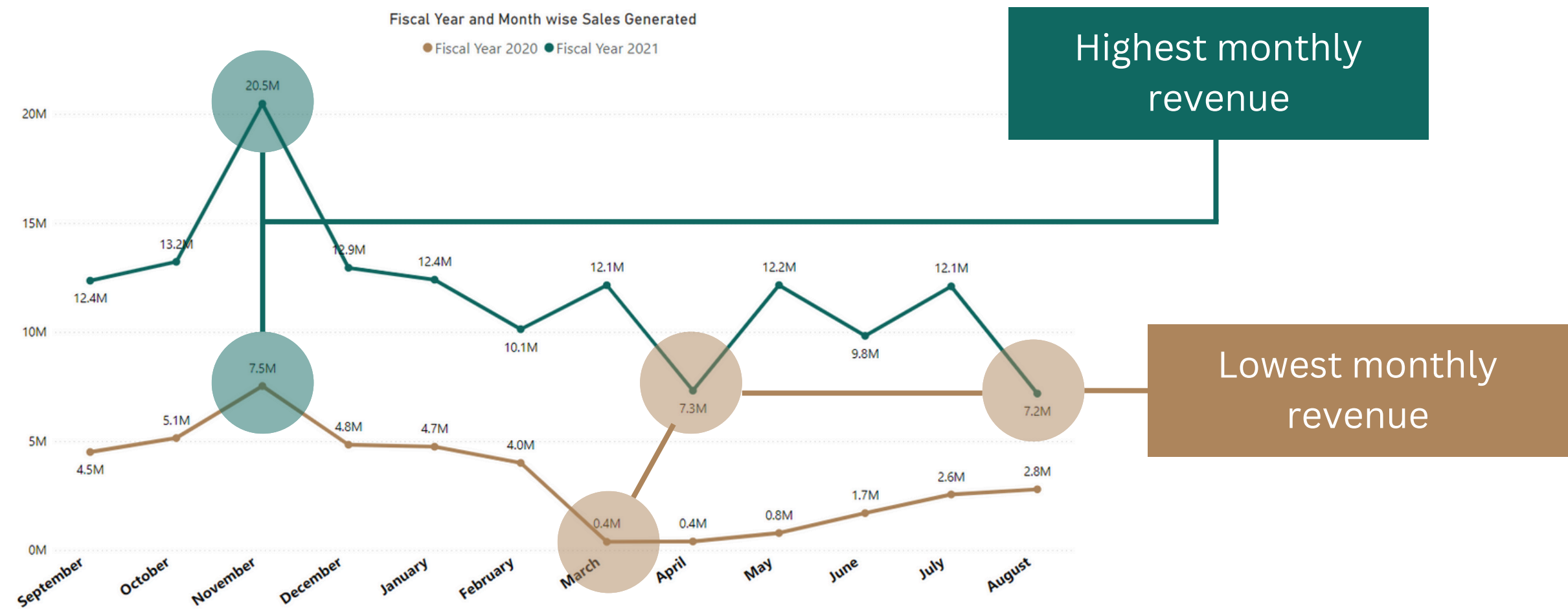
Insight: The mouse named AQ Master wired x1 Ms Standard 1 Variant has the lowest manufacturing cost of only 0.8920 whereas the Personal Desktop named AQ HOME Allin 1 Gen 2 Plus 3 Variant has the highest manufacturing cost of 240.5364

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)

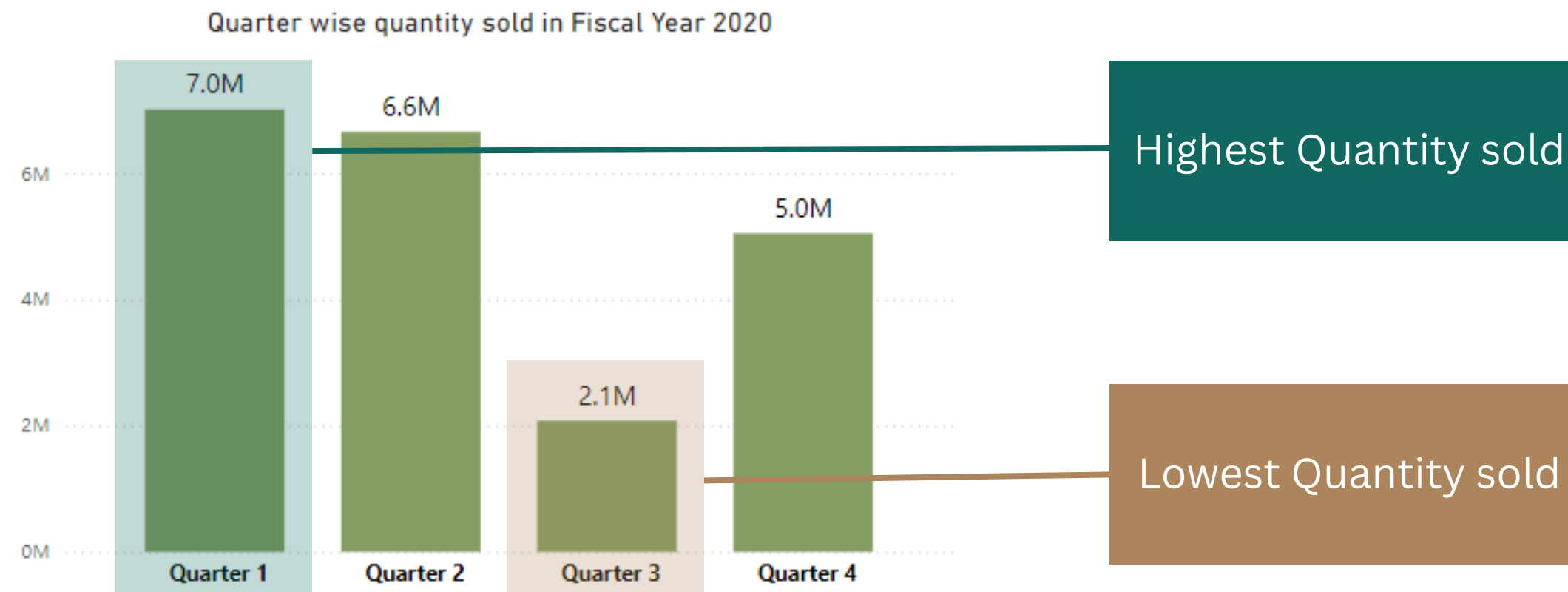
Fiscal Year 2020

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 ?

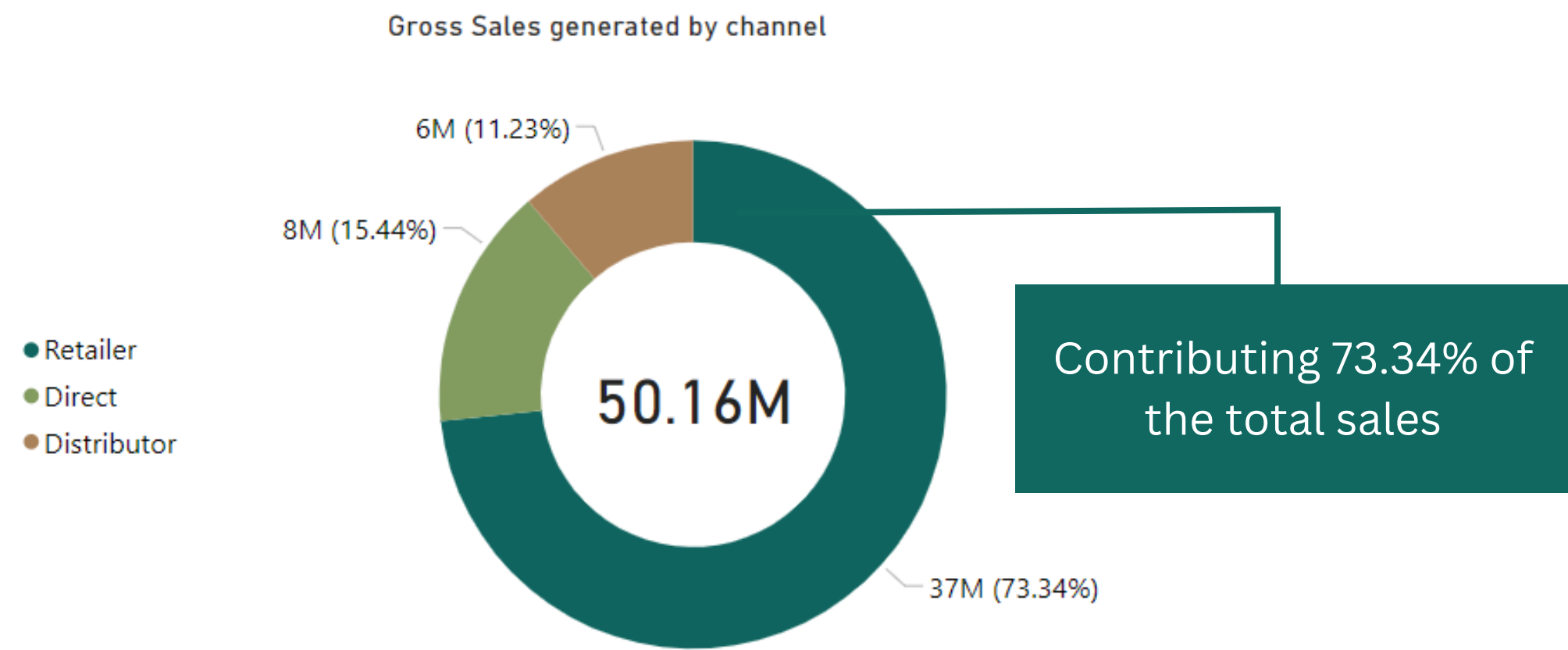


quarters_2020	total_quantity_sold
1	7005619
2	6649642
3	2075087
4	5042541

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
- Role out 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