Agenda:

Context/ Introduction

Company's Background (their market and products)

Visualization and Insights

CONTEXT / INTRODUCTION

Company:
Atliq Hardwares is one of the leading computer hardware producers in India as well as across the globe.
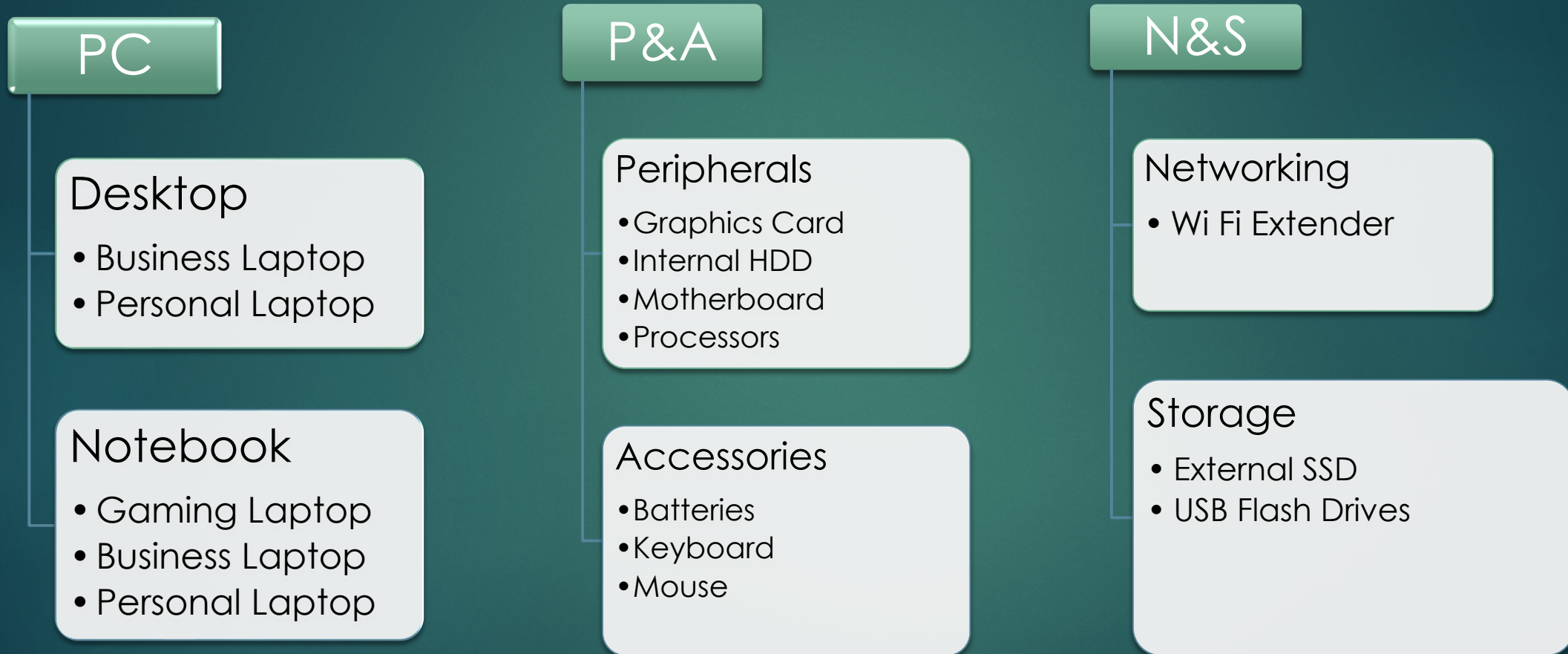
Background:
The management noticed that they do not get enough insights of the company to make quick and smart data-informed decisions. They want to use data to make better choices.

ATLIQ'S MARKET

ATLIQ'S PRODUCT LINES

PC

Desktop
- Business Laptop
- Personal Laptop

Notebook
- Gaming Laptop
- Business Laptop
- Personal Laptop

P&A

Peripherals
- Graphics Card
- Internal HDD
- Motherboard
- Processors

Accessories
- Batteries
- Keyboard
- Mouse

N&S

Networking
- Wi Fi Extender

Storage
- External SSD
- USB Flash Drives

IN WHICH COUNTRY DOES ATLIQ HARDWARES HAVE THE GREATEST MARKET IN **APAC** REGION?

**India Is A Leading Market
In Terms Of Gross Sales
In APAC Region**

Output:

| Market	Gross Sales
India	1000716632.2212
Indonesia	105838085.1555
Japan	37302724.9005
Pakistan	46294335.8074
Philipines	188531128.5343
South Korea	310663468.5936
Australia	141471927.8811
Newzealand	57820388.6485
Bangladesh	41495943.5991
China	115053058.6549

SQL Code:

```
select distinct(a.market) as "Market", sum(b.sold_quantity*c.gross_price) as "Gross Sales"
from dim_customer as a
join fact_sales_monthly as b on a.customer_code=b.customer_code
join fact_gross_price as c on b.product_code=c.product_code where region= "APAC" group by a.market;
```

CHANGE IN NUMBER OF UNIQUE PRODUCTS.
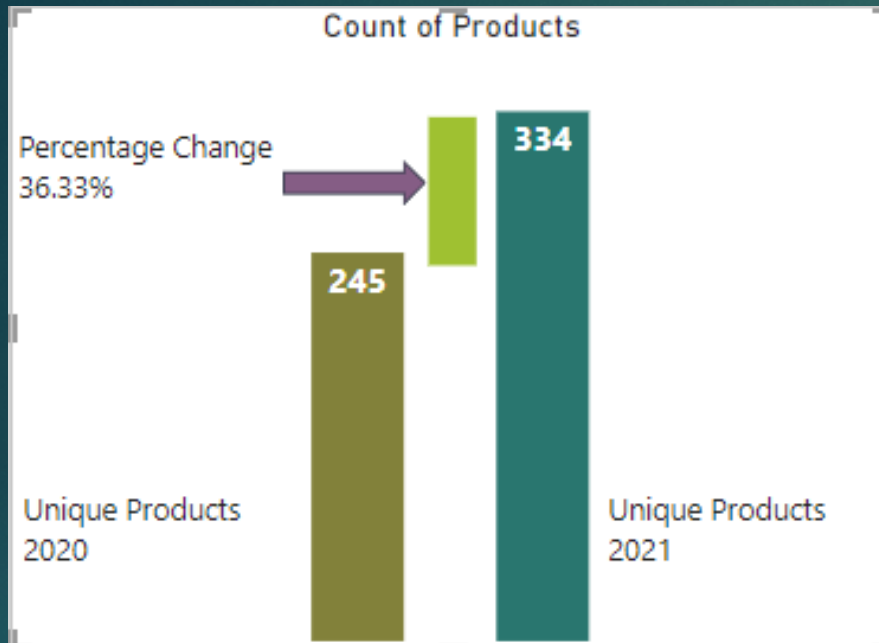
It reveals a positive trend in the number of unique products from 2020 to 2021(a growth of 36.33%).

If the company continues to strategically expand its product offerings by researching current trends and consumer needs, it is likely to experience continued growth in the upcoming years.
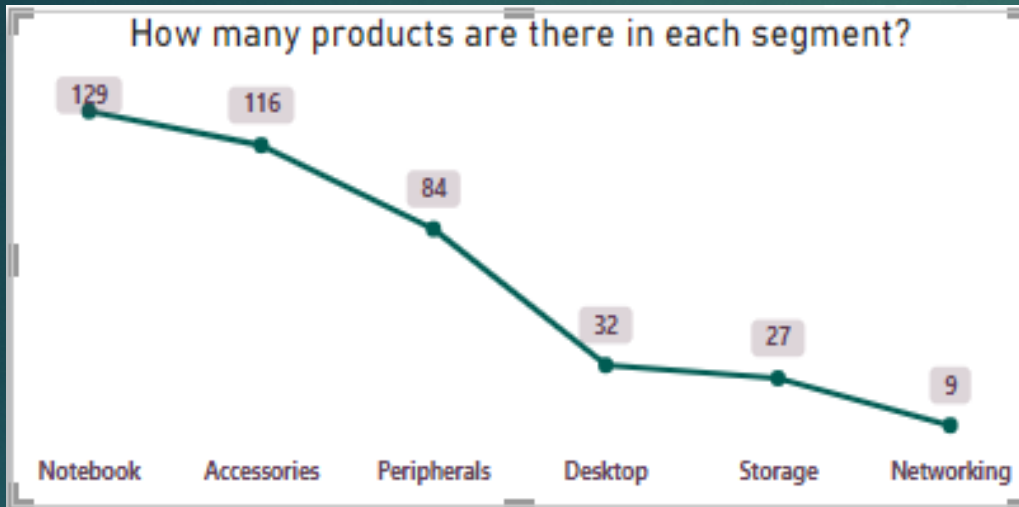
SQL Code:

```
SELECT
    COUNT(DISTINCT CASE WHEN fiscal_year = 2020 THEN product_code END) AS unique_products_2020,
    COUNT(DISTINCT CASE WHEN fiscal_year = 2021 THEN product_code END) AS unique_products_2021,
    CASE WHEN COUNT(DISTINCT CASE WHEN fiscal_year = 2020 THEN product_code END) = 0 THEN 0
        ELSE ((COUNT(DISTINCT CASE WHEN fiscal_year = 2021 THEN product_code END) -
            COUNT(DISTINCT CASE WHEN fiscal_year = 2020 THEN product_code END)) /
            CAST(COUNT(DISTINCT CASE WHEN fiscal_year = 2020 THEN product_code END) AS FLOAT)) * 100
    END AS percentage_change
FROM fact_gross_price;
```

Output:

unique_products_2020	unique_products_2021	percentage_chg
245	334	36.3265306122449

UNIQUE PRODUCTS COUNTS FOR EACH SEGMENT

How many products are there in each segment?

129	Notebook
116	Accessories
84	Peripherals
32	Desktop
27	Storage
9	Networking

The **Notebook** segment stands out for its extensive range of products.

SQL Code:

```
select distinct(count(product)) as product_count, segment
from dim_product group by segment order by product_count desc;
```

Output:

product_count	segment
129	Notebook
116	Accessories
84	Peripherals
32	Desktop
27	Storage
9	Networking

UNIQUE PRODUCT DIFFERENCE PER SEGMENT FROM 2020 TO 2021

Segment	Product Count 2020	Product Count 2021	Change of Unique Products ▼
Accessories	69	103	34 ⬆
Notebook	92	108	16 ⬆
Peripherals	59	75	16 ⬆
Desktop	7	22	15 ⬆
Storage	12	17	5 ⬆
Networking	6	9	3 ⬆

In 2021, the **Accessories** segment saw the biggest jump in product sales relative to other segments.
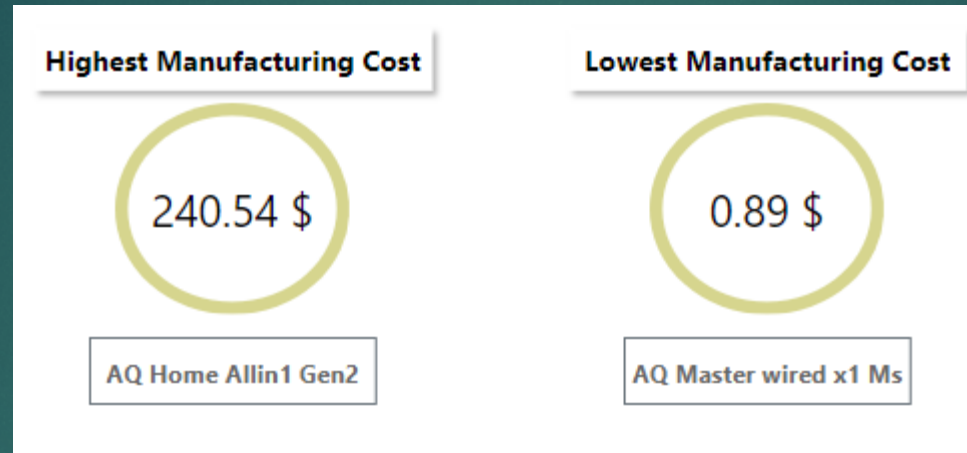
SQL Code:

```
SELECT dim_product.segment,
   COUNT(DISTINCT CASE WHEN fact_gross_price.fiscal_year = 2020 THEN fact_gross_price.product_code END) AS unique_products_2020,
   COUNT(DISTINCT CASE WHEN fact_gross_price.fiscal_year = 2021 THEN fact_gross_price.product_code END) AS unique_products_2021,
   CASE WHEN COUNT(DISTINCT CASE WHEN fact_gross_price.fiscal_year = 2020 THEN fact_gross_price.product_code END) = 0 THEN 0
      ELSE (COUNT(DISTINCT CASE WHEN fact_gross_price.fiscal_year = 2021 THEN fact_gross_price.product_code END) -
         COUNT(DISTINCT CASE WHEN fact_gross_price.fiscal_year = 2020 THEN fact_gross_price.product_code END))
   END AS difference
FROM fact_gross_price, dim_product where dim_product.product_code=fact_gross_price.product_code
group by dim_product.segment order by difference desc;
```

Output:

segment	unique_products_2020	unique_products_2021	difference
Accessories	69	103	34
Notebook	92	108	16
Peripherals	59	75	16
Desktop	7	22	15
Storage	12	17	5
Networking	6	9	3

Products having the highest and lowest manufacturing costs

Highest Manufacturing Cost

240.54 $

AQ Home Allin1 Gen2

**Lowest Manufacturing Cost**

0.89 $

AQ Master wired x1 Ms

SQL Code:

```
(select dim_product.product_code, dim_product.product,fact_manufacturing_cost.manufacturing_cost
from dim_product join fact_manufacturing_cost
on dim_product.product_code=fact_manufacturing_cost.product_code
order by fact_manufacturing_cost.manufacturing_cost asc limit 1)
UNION ALL
(select dim_product.product_code, dim_product.product,fact_manufacturing_cost.manufacturing_cost
from dim_product join fact_manufacturing_cost
on dim_product.product_code=fact_manufacturing_cost.product_code
order by fact_manufacturing_cost.manufacturing_cost desc limit 1);
```

Output:

product_code	product	manufacturing_cost
A2118150101	AQ Master wired x1 Ms	0.8920
A6120110206	AQ HOME Allin1 Gen 2	240.5364

TOP 5 CUSTOMERS WITH HIGHEST PRE-INVOICE DISCOUNT PERCENTAGE
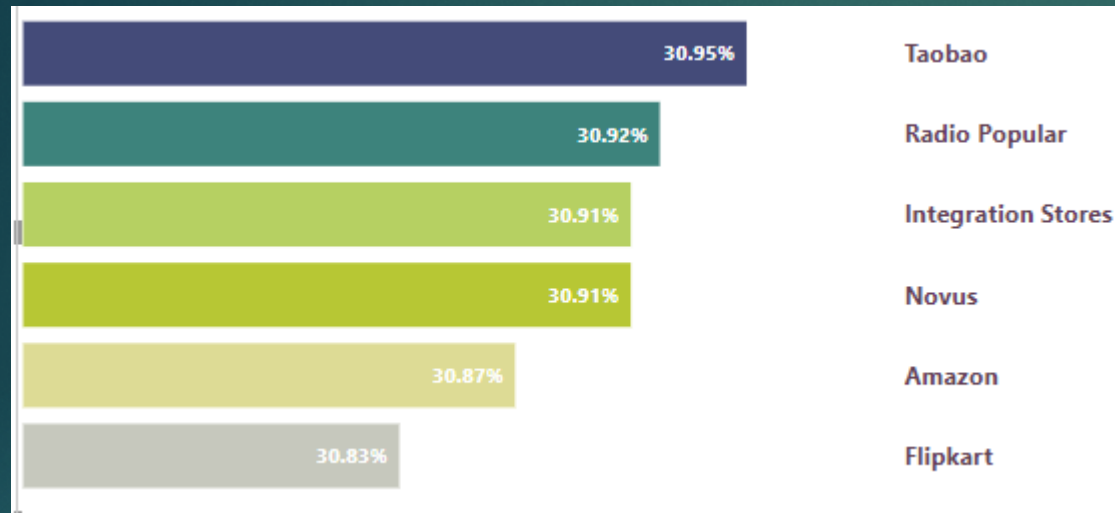
Taobao offers the highest overall discount, but other companies are still within a few percentage points. This suggests that price may be an important factor for these companies, and that customers who shop around can find good deals.

SQL Code:

```
select a.customer_code, a.customer,a.market, b.pre_invoice_discount_pct
from dim_customer as a join fact_pre_invoice_deductions as b on a.customer_code=b.customer_code
order by pre_invoice_discount_pct desc limit 6;
```

Output:

customer_code	customer	market	pre_invoice_discount_pct
90001021	Taobao	China	0.3095
90013122	Radio Popular	Italy	0.3093
90021090	Radio Popular	United Kingdom	0.3091
90020099	Integration Stores	Austria	0.3091
80006155	Novus	Philiphines	0.3091
90019203	Amazon	Sweden	0.3087

GROSS SALES MONTHLY

Offering More Hardware Products Can Boost Sales During The Summer Months. Overall The Sales Have Been Increased After Pandemic.
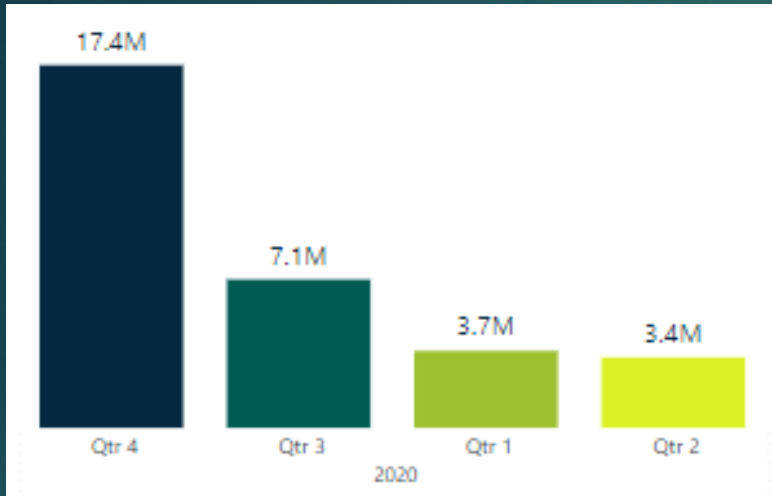
Output:

month(b.date)	fiscal_year	sales_amount
1	2020	91.78M
2	2020	88.89M
3	2020	11.29M
4	2020	41.70M
5	2020	53.04M
6	2020	81.06M
7	2020	89.17M
8	2020	92.80M
9	2020	91.32M
10	2020	114.70M
11	2020	159.11M
12	2020	168.81M
1	2021	190.68M
2	2021	184.99M
3	2021	192.72M
4	2021	193.39M

SQL Code:

```sql
select month(b.date), b.fiscal_year,concat(round(sum(b.sold_quantity*c.gross_price)/1000000,2),"M") as sales_amount
from dim_customer as a join fact_sales_monthly as b on a.customer_code = b.customer_code
join fact_gross_price as c on b.product_code=c.product_code
group by month(b.date), b.fiscal_year order by fiscal_year, month(b.date) ;
```

HOW MANY QUANTITIES WERE SOLD DURING THE QUARTERS OF 2020

For Year 2020, Q2 Was With The Least Products Sold. In Summer The Computer Hardware Demand Decreases And Atliq Hardware Can Come Up With Some New Products.
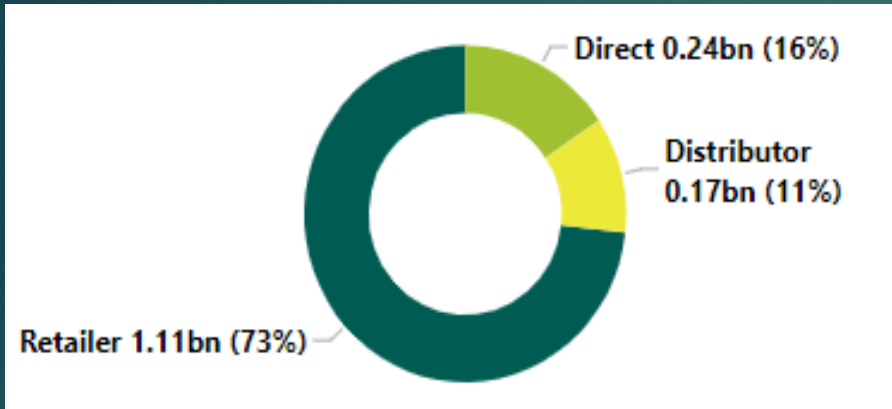
SQL Code:

```
select quarter(date) as quarterly, sum(sold_quantity) as total_sold_quantity
from fact_sales_monthly where year(date)= 2020 group by quarterly
order by total_sold_quantity desc;
```

Output:

quarterly	total_sold_quantity
4	17447125
3	7137551
1	3704398
2	3395899

GROSS SALES AND CONTRIBUTION PERCENTAGES BY CHANNELS

Retailers are the dominant channel. This suggests that a strong retail presence is important
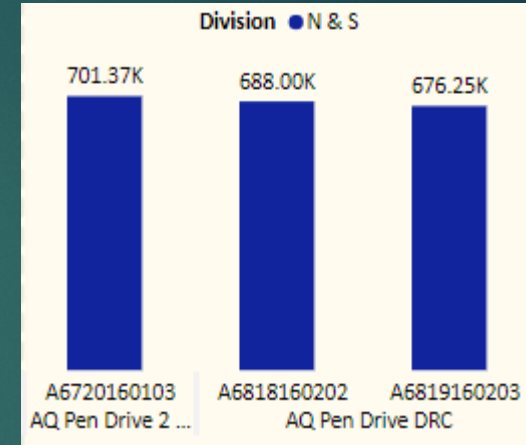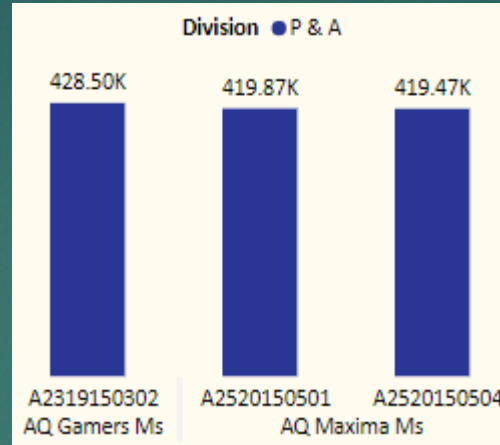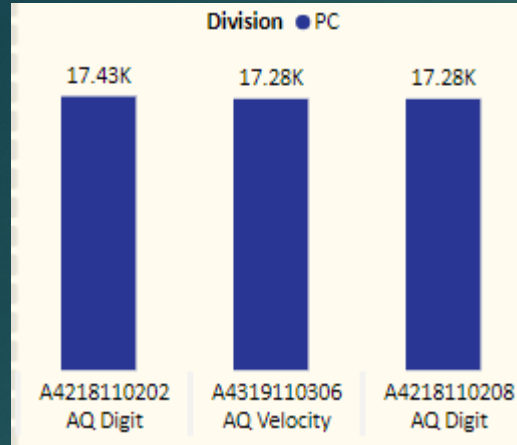
SQL Code:

```
select a.channel, sum(b.sold_quantity*c.gross_price) as gross_amount,
(sum(b.sold_quantity*c.gross_price) / SUM(sum(b.sold_quantity*c.gross_price)) OVER ()) * 100 AS channel_contribution_percent
from dim_customer as a
join fact_sales_monthly as b on a.customer_code=b.customer_code
join fact_gross_price as c on b.product_code=c.product_code
where b.fiscal_year= 2021 group by a.channel;
```

Output:

channel	gross_amount	channel_contribution_percent
Direct	406686873.9033	15.47495220
Distributor	297175879.7188	11.30791975
Retailer	1924170397.9096	73.21712806

TOP 3 HIGHEST-SELLING PRODUCTS BY DIVISION FOR FY 2021

SQL Code:

```
WITH Output1 AS
(
SELECT P.division, FS.product_code, P.product, SUM(FS.sold_quantity) AS Total_sold_quantity
FROM dim_product P JOIN fact_sales_monthly FS
ON P.product_code = FS.product_code
WHERE FS.fiscal_year = 2021
GROUP BY  FS.product_code, division, P.product
),
Output2 AS
(
SELECT division, product_code, product, Total_sold_quantity,
        RANK() OVER(PARTITION BY division ORDER BY Total_sold_quantity DESC) AS 'Rank_Order'
FROM Output1
)
 SELECT Output1.division, Output1.product_code, Output1.product, Output2.Total_sold_quantity, Output2.Rank_Order
 FROM Output1 JOIN Output2
 ON Output1.product_code = Output2.product_code
WHERE Output2.Rank_Order IN (1,2,3);
```

Output:

division	product_code	product	Total_sold_quantity	Rank_Order
N & S	A6720160103	AQ Pen Drive 2 IN 1	701373	1
N & S	A6818160202	AQ Pen Drive DRC	688003	2
N & S	A6819160203	AQ Pen Drive DRC	676245	3
P & A	A2319150302	AQ Gamers Ms	428498	1
P & A	A2520150501	AQ Maxima Ms	419865	2
P & A	A2520150504	AQ Maxima Ms	419471	3
PC	A4218110202	AQ Digit	17434	1
PC	A4319110306	AQ Velocity	17280	2
PC	A4218110208	AQ Digit	17275	3

THANK YOU!