CONSUMER GOODS AD-HOC INSIGHTS FOR ATLIQ HARDWARES

BY SWASTIK PAUL

BUSINESS PROBLEM

- Atliq Hardwares is one of the leading computer hardware producers in India and well expanded in other countries too.
- However, the management noticed that they do not get enough insights to make quick and smart data-informed decisions. They want to expand their data analytics team by adding several junior data analysts. Tony Sharma, their data analytics director wanted to hire someone who is good at both tech and soft skills. Hence, he decided to conduct a SQL challenge which will help him understand both the skills.

Domain: Consumer Goods

Function: Executives

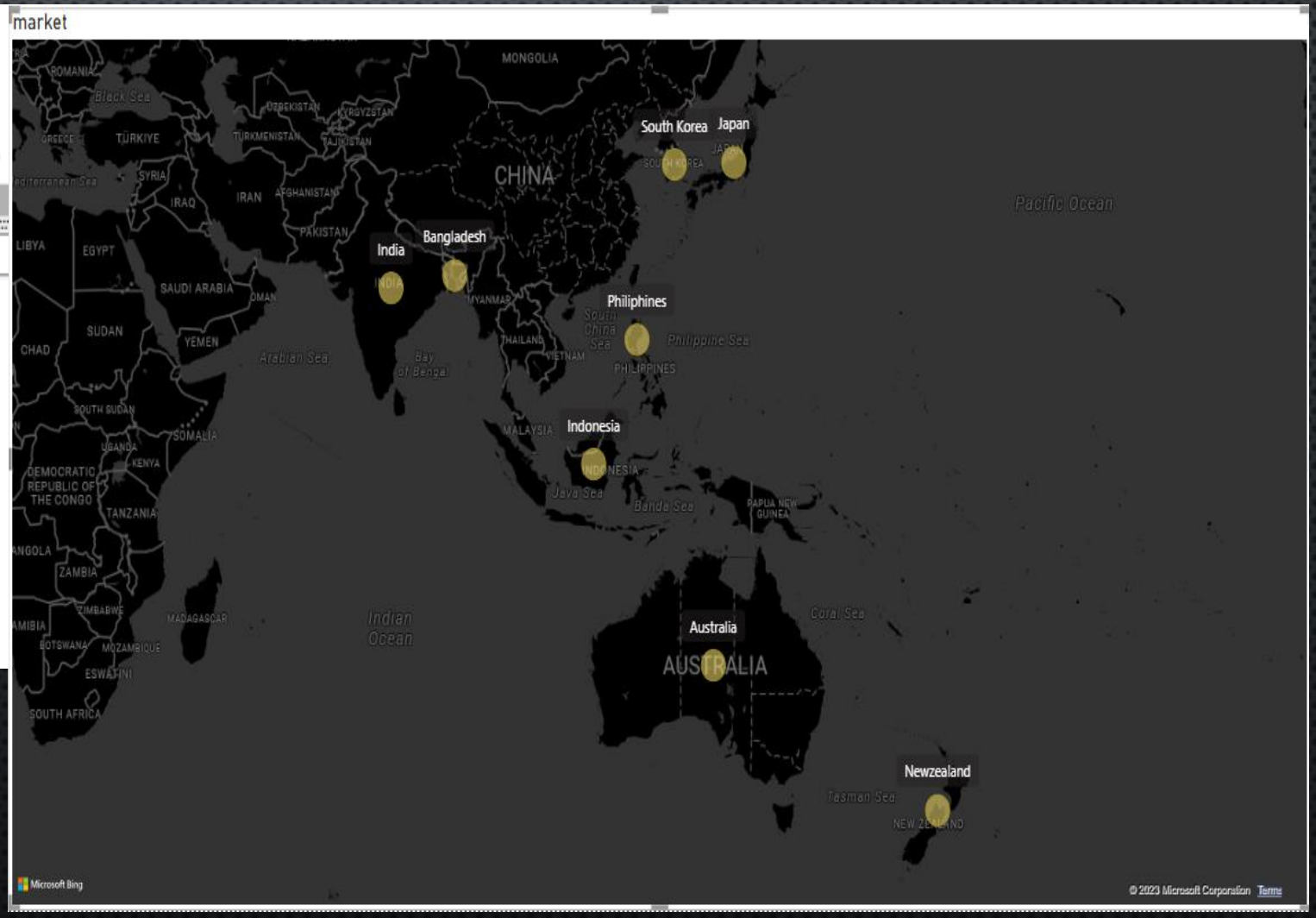
AD-HOC REQUEST 1

PROVIDE THE LIST OF MARKETS IN WHICH CUSTOMER "ATLIQ EXCLUSIVE" OPERATES ITS BUSINESS IN THE APAC REGION.

```
7 •  SELECT DISTINCT MARKET
8    FROM gdb023.dim_customer
9    WHERE REGION='APAC'
10   AND CUSTOMER="Atliq Exclusive"
```

Result Grid | Filter Rows:

MARKET
India
Indonesia
Japan
Philiphines
South Korea
Australia
Newzealand
Bangladesh



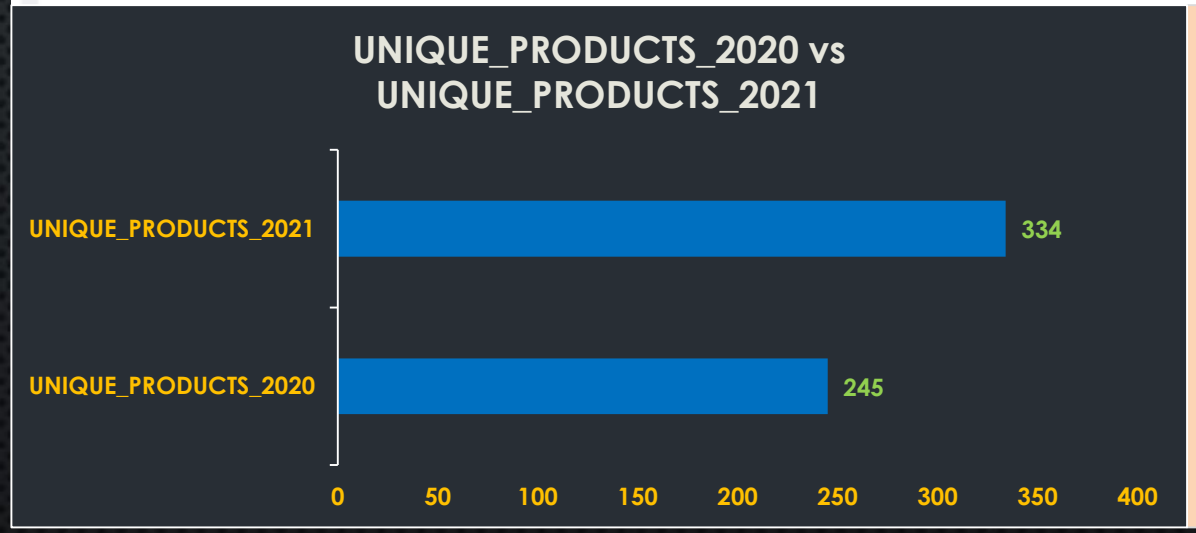
AD-HOC REQUEST 2

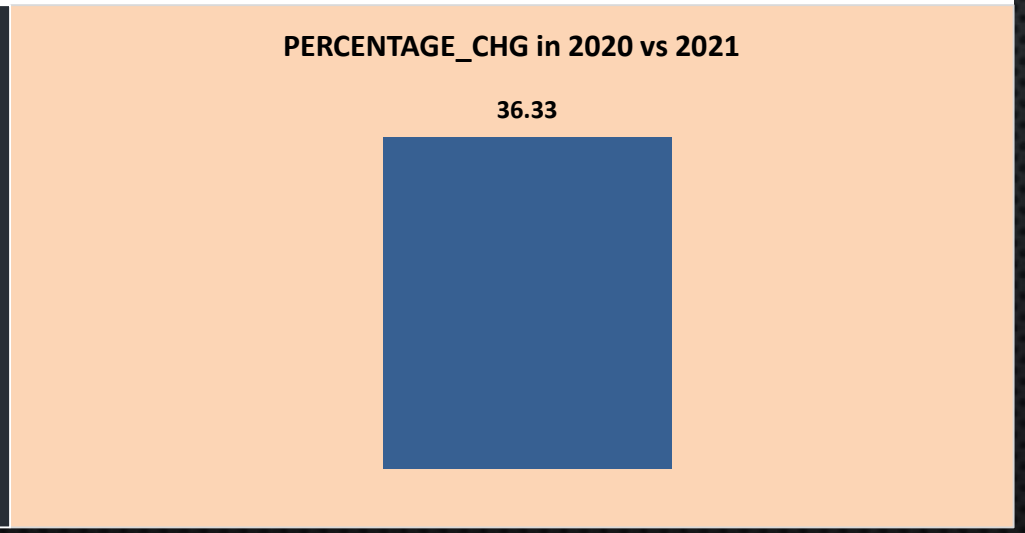
WHAT IS THE PERCENTAGE OF UNIQUE PRODUCT INCREASE IN 2021 VS. 2020? THE FINAL OUTPUT CONTAINS THESE FIELDS, UNIQUE_PRODUCTS_2020 UNIQUE_PRODUCTS_2021 PERCENTAGE_CHG

```
13  WITH CTE_UNIQUE_PRODUCT_2020 AS (
14  SELECT COUNT(DISTINCT PRODUCT_CODE) AS UNIQUE_PRODUCTS_2020 FROM gdb023.fact_sales_monthly
15  WHERE fiscal_year=2020),
16  CTE_UNIQUE_PRODUCT_2021 AS (
17  SELECT COUNT(DISTINCT PRODUCT_CODE) AS UNIQUE_PRODUCTS_2021 FROM gdb023.fact_sales_monthly
18  WHERE fiscal_year=2021)
19  SELECT UNIQUE_PRODUCTS_2020,UNIQUE_PRODUCTS_2021,
20  ROUND((UNIQUE_PRODUCTS_2021-UNIQUE_PRODUCTS_2020)*100.0/UNIQUE_PRODUCTS_2020,2) AS PERCENTAGE_CHG
21  FROM CTE_UNIQUE_PRODUCT_2020 CROSS JOIN CTE_UNIQUE_PRODUCT_2021
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

UNIQUE_PRODUCTS_2020	UNIQUE_PRODUCTS_2021	PERCENTAGE_CHG
245	334	36.33





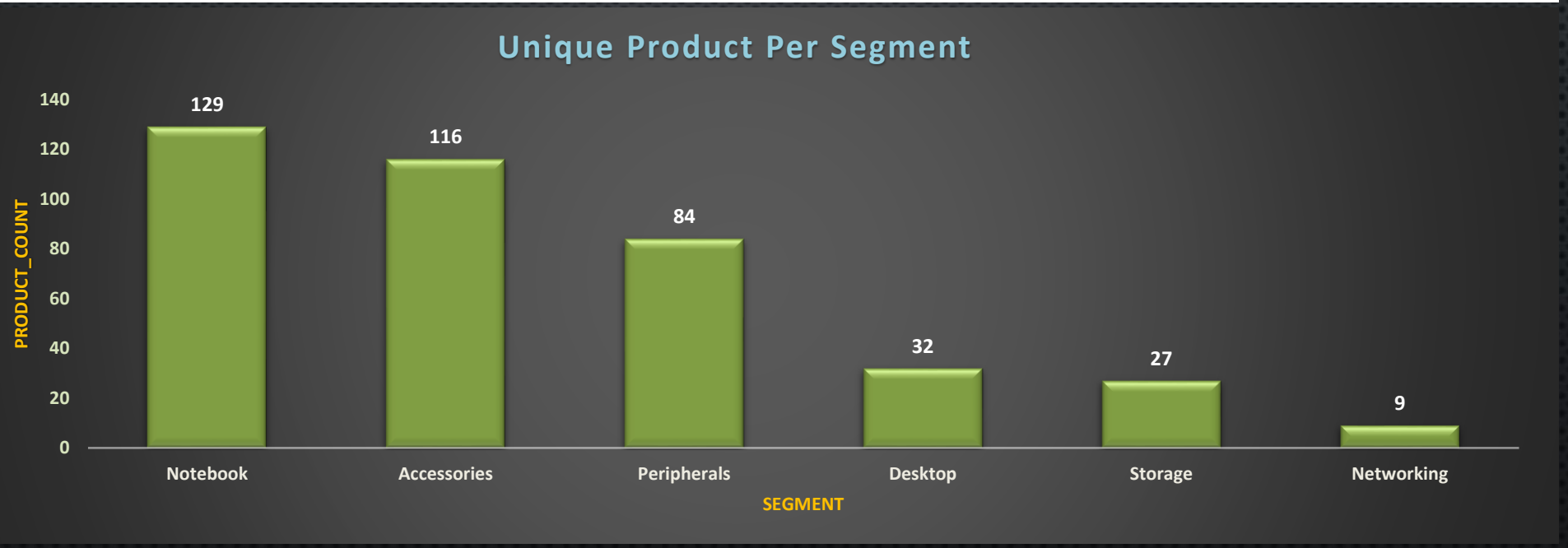
AD-HOC REQUEST 3

PROVIDE A REPORT WITH ALL THE UNIQUE PRODUCT COUNTS FOR EACH SEGMENT AND SORT THEM IN DESCENDING ORDER OF PRODUCT COUNTS. THE FINAL OUTPUT CONTAINS 2 FIELDS, SEGMENT PRODUCT_COUNT

```
24  SELECT segment,COUNT(DISTINCT product_code) as 'product_count' FROM gdb023.dim_product
25  GROUP BY segment
26  ORDER BY 2 DESC;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

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



AD-HOC REQUEST 4

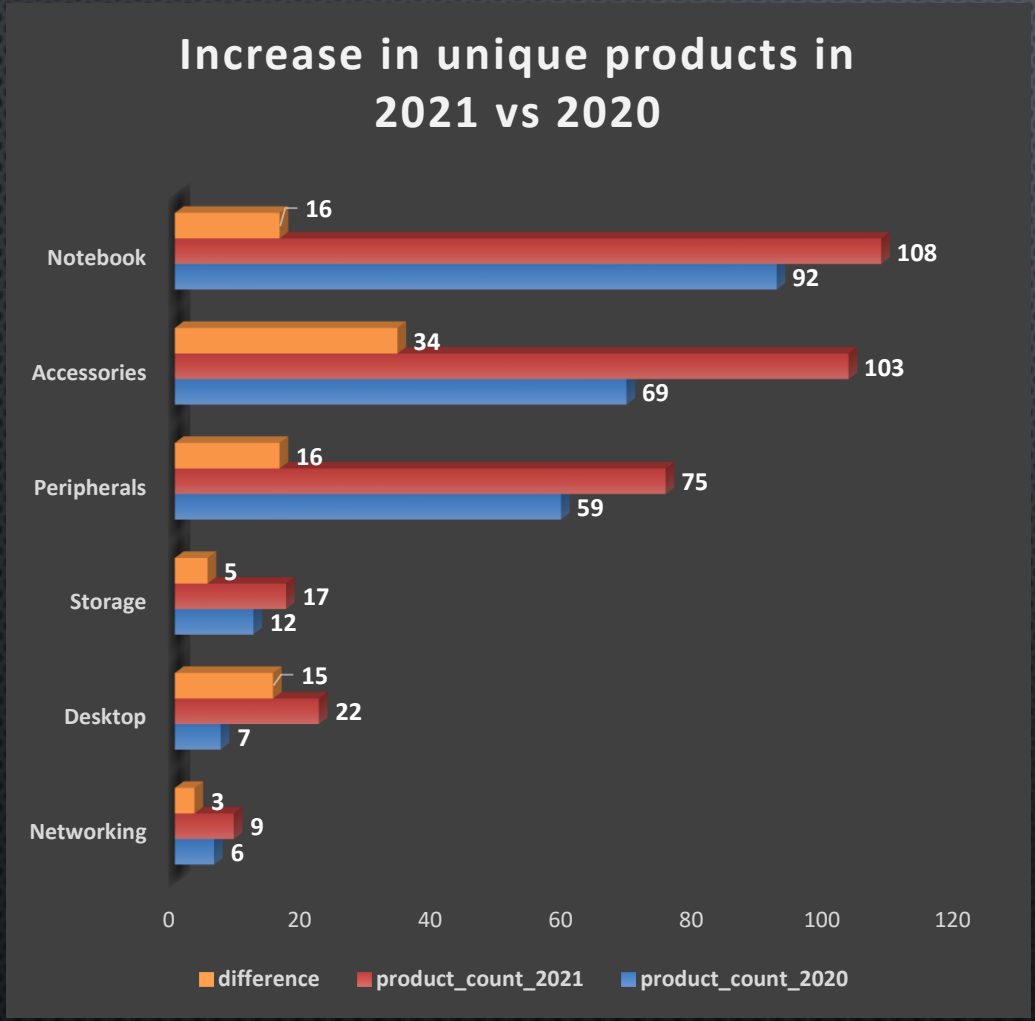
WHICH SEGMENT HAD THE MOST INCREASE IN UNIQUE PRODUCTS IN 2021 VS 2020? THE FINAL OUTPUT CONTAINS THESE FIELDS, SEGMENT,PRODUCT_COUNT_2020 ,PRODUCT_COUNT_2021,DIFFERENCE

```
47  with cte_2020 as(
48  SELECT prod.segment,COUNT(DISTINCT prod.product_code) as 'product_count_2020'
49   FROM gdb023.dim_product prod join gdb023.fact_sales_monthly sales
50  on prod.product_code=sales.product_code where sales.fiscal_year=2020
51  group by prod.segment),
52  cte_2021 as(
53  SELECT prod.segment,COUNT(DISTINCT prod.product_code) as 'product_count_2021'
54   FROM gdb023.dim_product prod join gdb023.fact_sales_monthly sales
55  on prod.product_code=sales.product_code where sales.fiscal_year=2021
56  group by prod.segment)
57  select c1.segment,c1.product_count_2020,c2.product_count_2021,c2.product_count_2021-c1.product_count_2020 as difference
58  from cte_2020 c1 inner join cte_2021 c2
59  on c1.segment=c2.segment order by difference asc;
60
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

segment	product_count_2020	product_count_2021	difference
Networking	6	9	3
Storage	12	17	5
Desktop	7	22	15
Notebook	92	108	16
Peripherals	59	75	16
Accessories	69	103	34

INSIGHTS & VISUAL REPRESENTATION OF REQUEST 4



- THE MAX GROWTH IN UNIQUE PRODUCT SOLD IS SEEN FOR ACCESSORIES & DIFFERENCE IS 34
- THE MIN GROWTH IN UNIQUE PRODUCT SOLD IS SEEN FOR NETWORKING & DIFFERENCE IS 3

AD-HOC REQUEST 5

GET THE PRODUCTS THAT HAVE THE HIGHEST AND LOWEST MANUFACTURING COSTS.THE FINAL OUTPUT SHOULD CONTAIN THESE FIELDS, PRODUCT_CODE,PRODUCT,MANUFACTURING_COST

```
68 •  SELECT prod.product_code,prod.product,man.manufacturing_cost FROM gdb023.fact_manufacturing_cost man INNER JOIN gdb023.dim_product prod
69    ON man.product_code=prod.product_code WHERE man.manufacturing_cost=(SELECT max(manufacturing_cost) from gdb023.fact_manufacturing_cost)
70    OR man.manufacturing_cost=(SELECT min(manufacturing_cost) from gdb023.fact_manufacturing_cost)
71
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

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

INSIGHTS

- MIN MANUFACTURING COST: 0.8920
- MAX MANUFACTURING COST: 240.5364

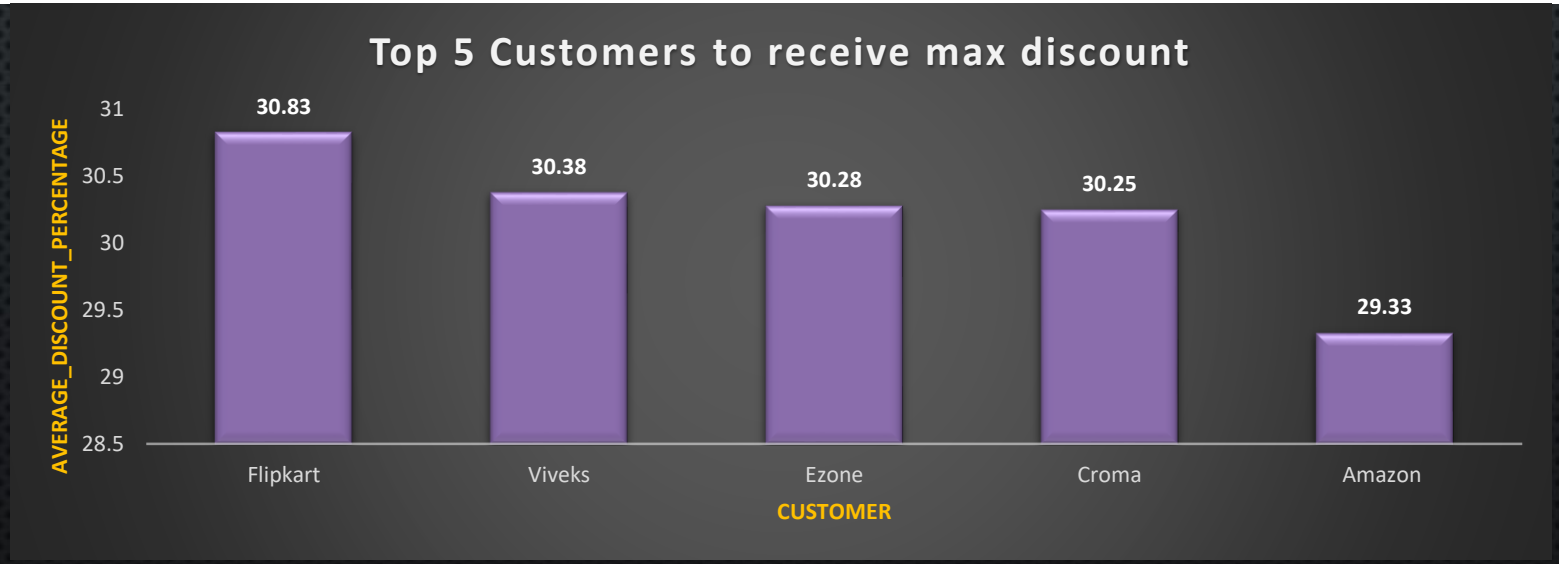
AD-HOC REQUEST 6

GENERATE A REPORT WHICH CONTAINS THE TOP 5 CUSTOMERS WHO RECEIVED AN AVERAGE HIGH PRE_INVOICE_DISCOUNT_PCT FOR THE FISCAL YEAR 2021 AND IN THE INDIAN MARKET. THE FINAL OUTPUT CONTAINS THESE FIELDS,CUSTOMER_CODE,CUSTOMER,AVERAGE_DISCOUNT_PERCENTAGE

```
12  SELECT dis.customer_code,cus.customer,ROUND(100.0*avg(dis.pre_invoice_discount_pct),2) as 'average_discount_percentage'
13  FROM gdb023.fact_pre_invoice_deductions dis INNER JOIN gdb023.dim_customer cus
14  ON dis.customer_code=cus.customer_code WHERE dis.fiscal_year=2021 and cus.market='India'
15  GROUP BY dis.customer_code,cus.customer
16  ORDER BY 3 DESC LIMIT 5
17
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

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



AD-HOC REQUEST 7

GET THE COMPLETE REPORT OF THE GROSS SALES AMOUNT FOR THE CUSTOMER "ATLIQ EXCLUSIVE" FOR EACH MONTH. THIS ANALYSIS HELPS TO GET AN IDEA OF LOW AND HIGH-PERFORMING MONTHS AND TAKE STRATEGIC DECISIONS.THE FINAL REPORT CONTAINS THESE COLUMNS: MONTH,YEAR,GROSS SALES AMOUNT

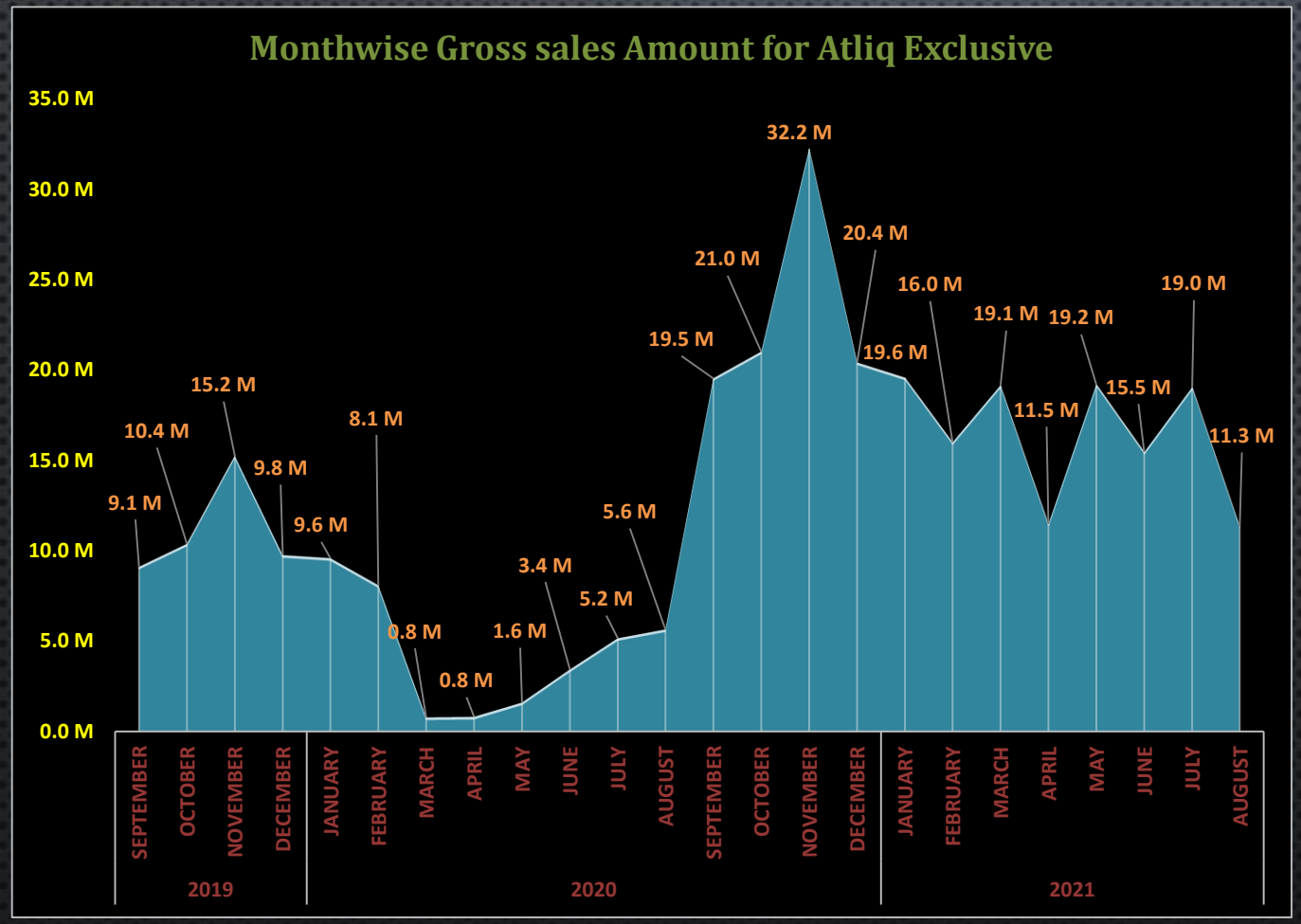
```
105     SELECT monthname(date) as `month`,year(date) as `Year`,ROUND(sum(sales.sold_quantity*gross.gross_price),2) as 'Gross sales Amount'
106     FROM gdb023.fact_sales_monthly sales INNER JOIN gdb023.fact_gross_price gross ON sales.product_code=gross.product_code
107     INNER JOIN gdb023.dim_customer cus ON sales.customer_code=cus.customer_code
108     WHERE cus.customer="Atliq Exclusive" GROUP BY 1,2 ORDER BY 2
109
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

month	Year	Gross sales Amount
September	2019	9092670.34
October	2019	10378637.60
November	2019	15231894.97
December	2019	9755795.06
January	2020	9584951.94
February	2020	8083995.55
March	2020	766976.45
April	2020	800071.95
May	2020	1586964.48
June	2020	3429736.57
July	2020	5151815.40
August	2020	5638281.83
September	2020	19530271.30
October	2020	21016218.21
November	2020	32247289.79
December	2020	20409063.18
January	2021	19570701.71
February	2021	15986603.89
March	2021	19149624.92
April	2021	11483530.30
May	2021	19204309.41
June	2021	15457579.66
July	2021	19044968.82
August	2021	11324548.34

Result 6

INSIGHTS & VISUAL REPRESENTATION OF REQUEST 7



- MAX GROSS SALES IS SEEN ON NOV,2020 & SALES AMOUNT IS 32.2 MILLION
- MIN GROSS SALES IS SEEN ON MAR,APR, 2020 & SALES AMOUNT IS 0.8 MILLION

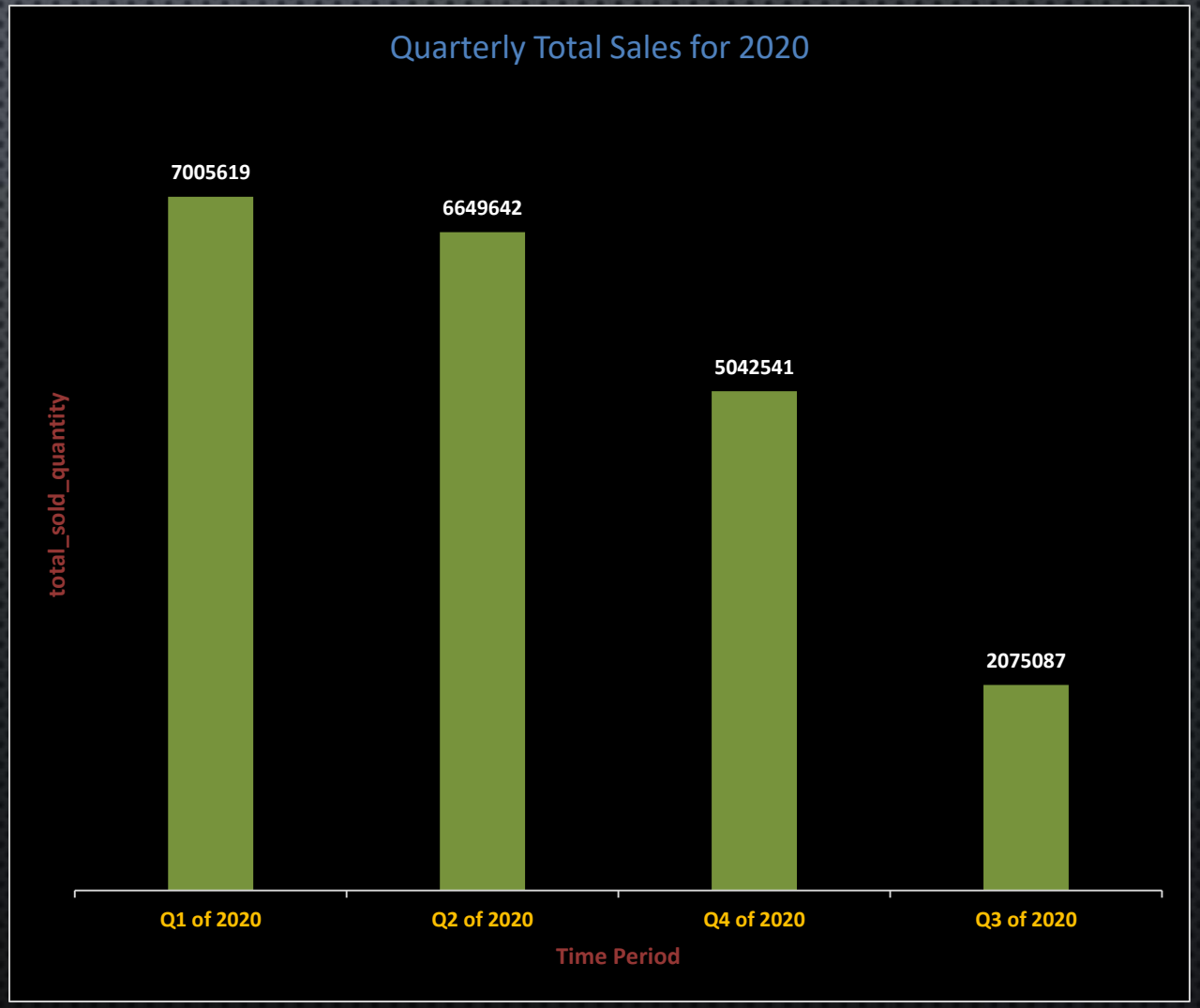
AD-HOC REQUEST 8

IN WHICH QUARTER OF 2020, GOT THE MAXIMUM TOTAL_SOLD_QUANTITY? THE FINAL OUTPUT CONTAINS THESE FIELDS SORTED BY THE TOTAL_SOLD_QUANTITY,QUARTER,TOTAL_SOLD_QUANTITY

```
116    SELECT
117    CASE
118        WHEN monthname(date) in ('September','October','November') THEN "Q1 of 2020"
119        WHEN monthname(date) in ('December','January','February') THEN "Q2 of 2020"
120        WHEN monthname(date) in ('March','April','May') THEN "Q3 of 2020"
121        WHEN monthname(date) in ('June','July','August') THEN "Q4 of 2020"
122    END as Quarter,
123    sum(sold_quantity) as total_sales FROM fact_sales_monthly WHERE fiscal_year="2020"
124    GROUP BY Quarter ORDER BY total_sales DESC;
125
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Quarter	total_sales
Q1 of 2020	7005619
Q2 of 2020	6649642
Q4 of 2020	5042541
Q3 of 2020	2075087



INSIGHTS

- IN Q1,2020 MAX QUANTITY WAS SOLD
- IN Q3,2020 MAX QUANTITY WAS SOLD

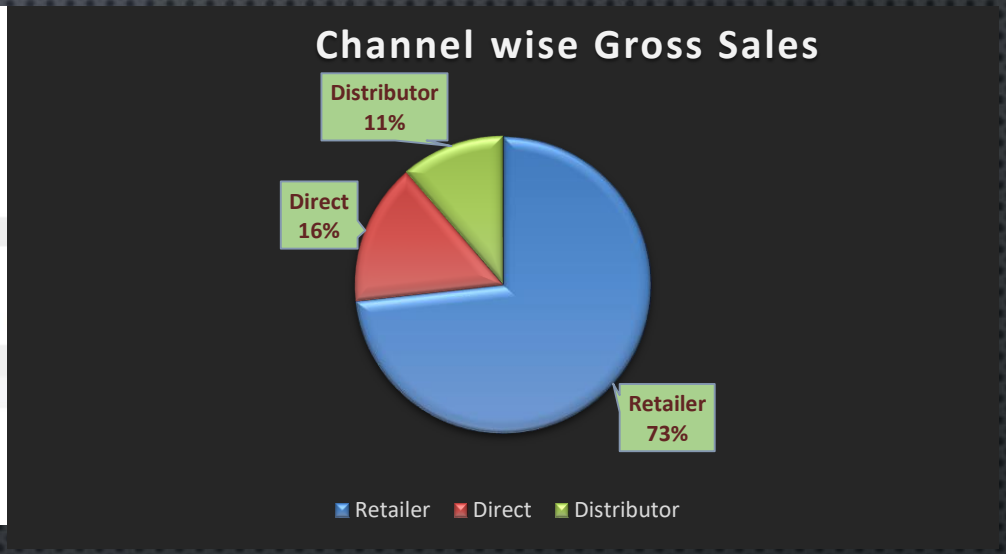
AD-HOC REQUEST 9

WHICH CHANNEL HELPED TO BRING MORE GROSS SALES IN THE FISCAL YEAR 2021 AND THE PERCENTAGE OF CONTRIBUTION? THE FINAL OUTPUT CONTAINS THESE FIELDS, CHANNEL GROSS_SALES_MLN PERCENTAGE

```
133  with total_sales_f2021 as(
134  SELECT cus.channel,ROUND(sum(sales.sold_quantity*gross.gross_price)/1000000,2) as 'gross_sales_mln'
135  FROM gdb023.fact_sales_monthly sales INNER JOIN gdb023.fact_gross_price gross
136  ON sales.product_code=gross.product_code
137  INNER JOIN gdb023.dim_customer cus
138  ON sales.customer_code=cus.customer_code
139  WHERE sales.fiscal_year=2021 and gross.fiscal_year=2021
140  GROUP BY 1
141  ORDER BY 2 DESC)
142  select total_sales_f2021.channel,total_sales_f2021.gross_sales_mln,
143  ROUND(100.0*total_sales_f2021.gross_sales_mln/sum(total_sales_f2021.gross_sales_mln) over(),2) as percentage
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

channel	gross_sales_mln	percentage
Retailer	1219.08	73.23
Direct	257.53	15.47
Distributor	188.03	11.30



- **INSIGHTS**
- RETAIL CHANNEL IS GIVING THE MAXIMUM GROSS SALES(73% OF TOTAL) IN FISCAL YEAR 2021& THE AMOUNT IS 1219.08 MILLION

AD-HOC REQUEST 10

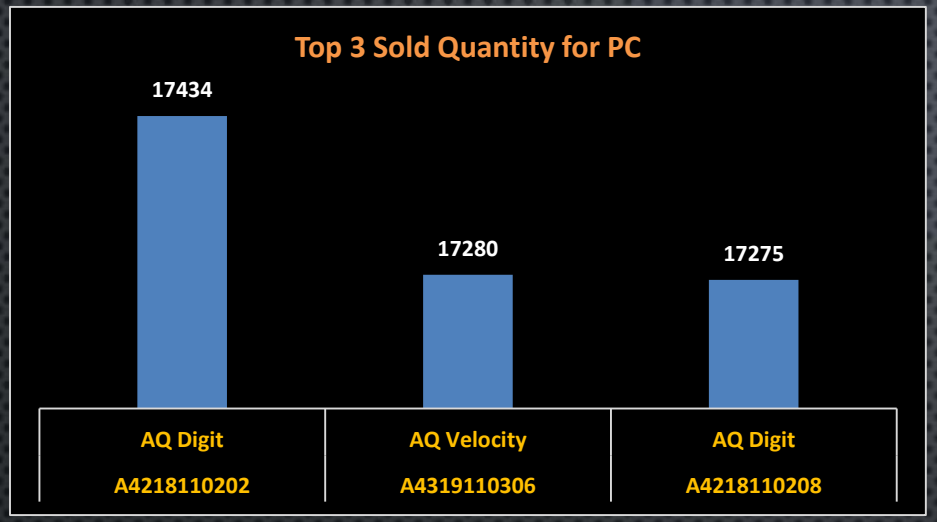
GET THE TOP 3 PRODUCTS IN EACH DIVISION THAT HAVE A HIGH TOTAL_SOLD_QUANTITY IN THE FISCAL_YEAR 2021? THE FINAL OUTPUT CONTAINS THESE FIELDS, DIVISION,PRODUCT_CODE,PRODUCT,TOTAL_SOLD_QUANTITY, RANK_ORDER

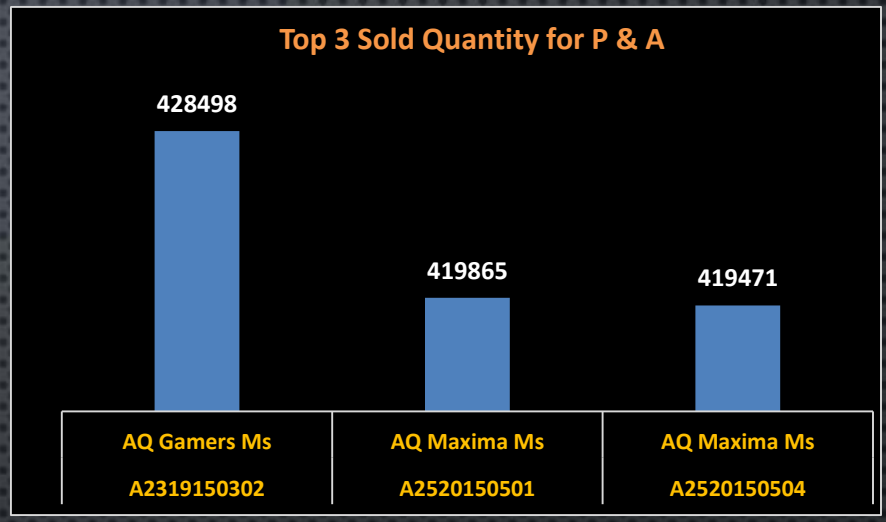
```
148  with cte_total_sales as(
149  SELECT prod.division,prod.product_code,prod.product,sum(sales.sold_quantity) as total_sold_quantity
150  FROM gdb023.dim_product prod INNER JOIN gdb023.fact_sales_monthly sales
151  ON prod.product_code=sales.product_code
152  WHERE sales.fiscal_year=2021
153  GROUP BY 1,2,3),
154  cte_top3 as (
155  select cte_total_sales.division,cte_total_sales.product_code,cte_total_sales.product,cte_total_sales.total_sold_quantity,
156  rank() over(partition by cte_total_sales.division order by cte_total_sales.total_sold_quantity desc) as rank_order
157  from cte_total_sales)
158  select * from cte_top3 where rank_order<=3
159
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

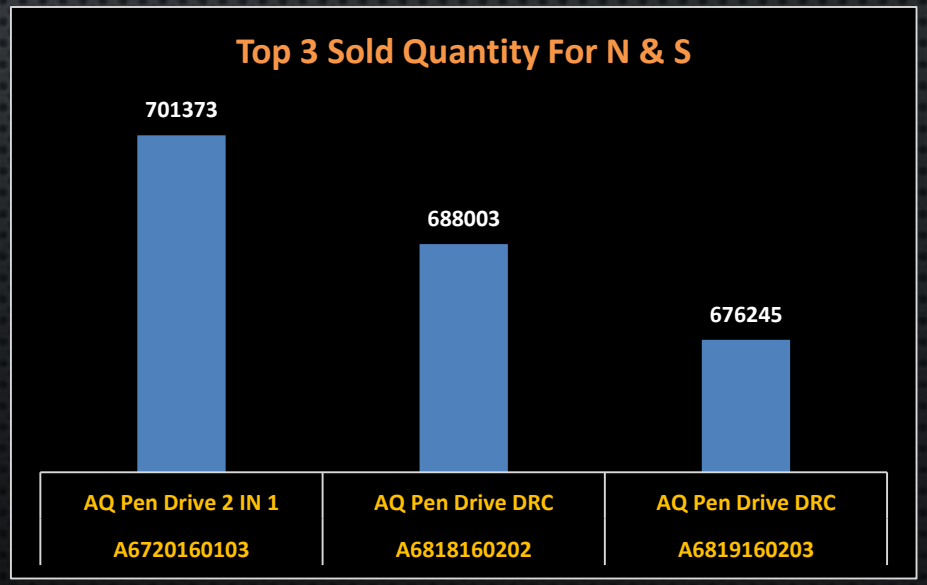
division	product_code	product	total_sold_quantity	rank_order
N & S	A6720160103	AQ Pen Drive 2 IN 1	701373	1
N & S	A6818160202	AQ Pen Drive DRC	688003	2
N & S	A6819160203	AQ Pen Drive DRC	676245	3
P & A	A2319150302	AQ Gamers Ms	428498	1
P & A	A2520150501	AQ Maxima Ms	419865	2
P & A	A2520150504	AQ Maxima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

VISUALS & INSIGHTS FOR REQUEST 10





- **INSIGHTS**
- TOP PRODUCT SOLD FROM **PC** DIVISON IS **AQ DIGIT**
- TOP PRODUCT SOLD FROM **P&A** DIVISON IS **AQ GAMERS MS**
- TOP PRODUCT SOLD FROM **N&S** DIVISON IS **AQ PEN DRIVE 2 IN 1**



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THANK YOU