Consumer Goods Ad_Hoc Insights

Codebaics Resume challenge – 4

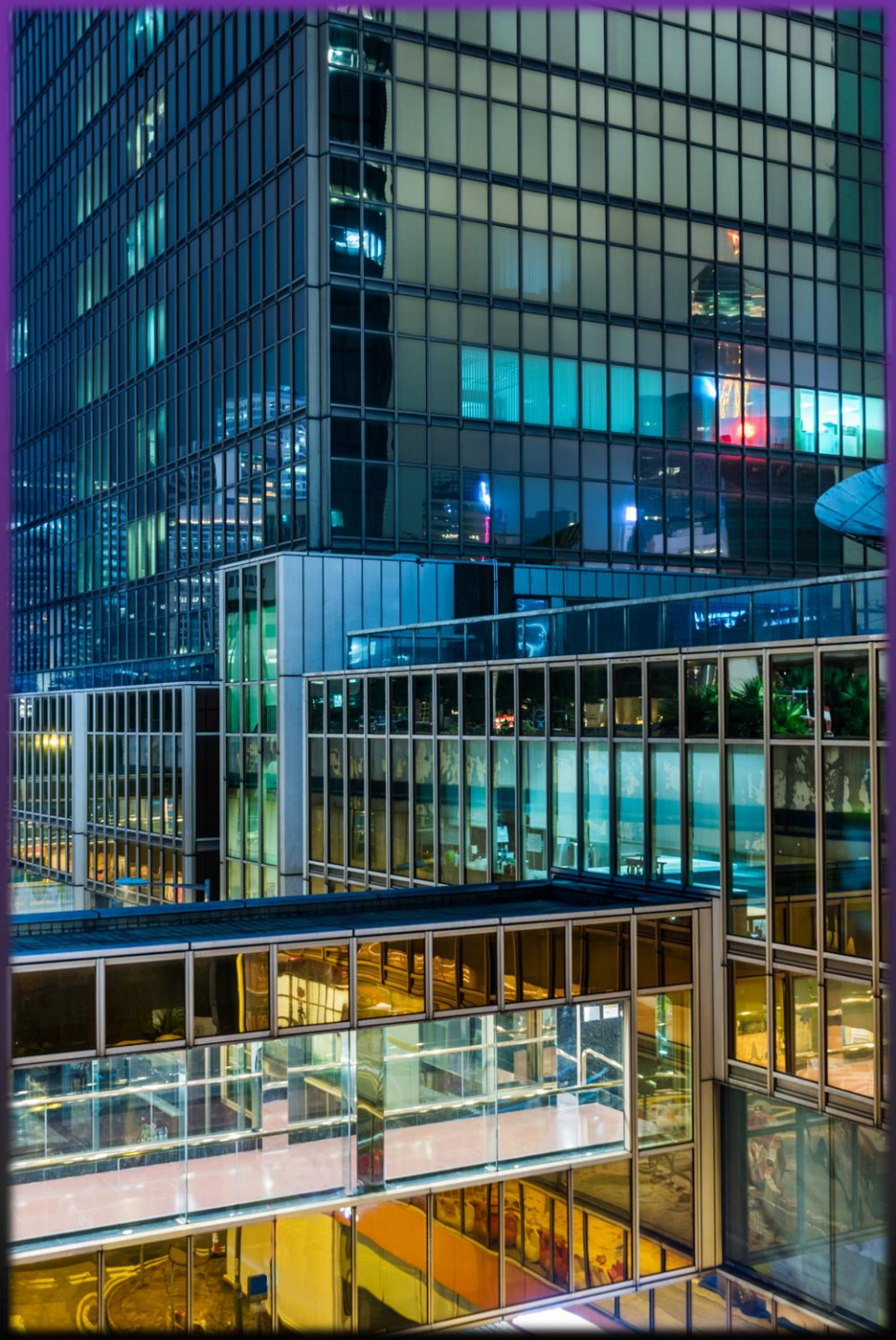
Domain: Consumer Goods | **Function:** Executive Management

Aman Verma | Aspiring Data Analyst

About Company

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.



Tasks:

1. Check ‘ad-hoc-requests.pdf’ - there are 10 ad hoc requests for which the business needs insights.
2. You need to run a SQL query to answer these requests.
3. The target audience of this dashboard is top-level management - hence you need to create a presentation to show the insights.
4. Be creative with your presentation, audio/video presentation will have more weightage.

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

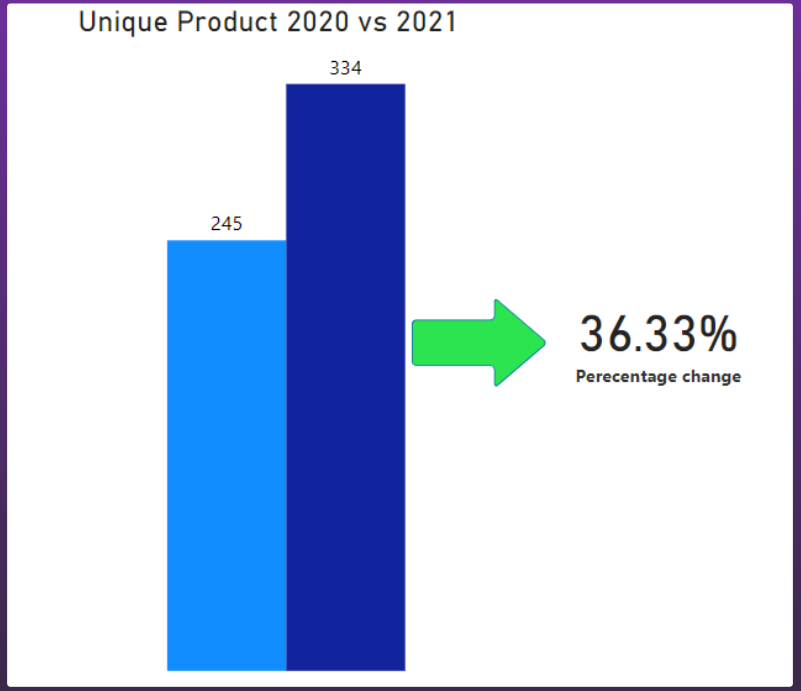
```sql
SELECT market FROM gdb023.dim_customer
where customer = "Atliq Exclusive" and region = "APAC"
group by market
order by market ;
```

market
Australia
Bangladesh
India
Indonesia
Japan
Newzealand
Philiphines
South Korea

- In the APAC region, Atliq Exclusive operates in 8 countries.

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

```
SELECT
        AA.A as Unique_products_2020,
        BB.B as Unique_product_2021,
        round((B-A)*100/A,2) as percentage_chg
from
(
(select count(distinct(product_code)) as A FROM gdb023.fact_sales_monthly
where fiscal_year =2020) AA,
(select count(distinct(product_code)) as B FROM gdb023.fact_sales_monthly
where fiscal_year =2021) BB
);
```



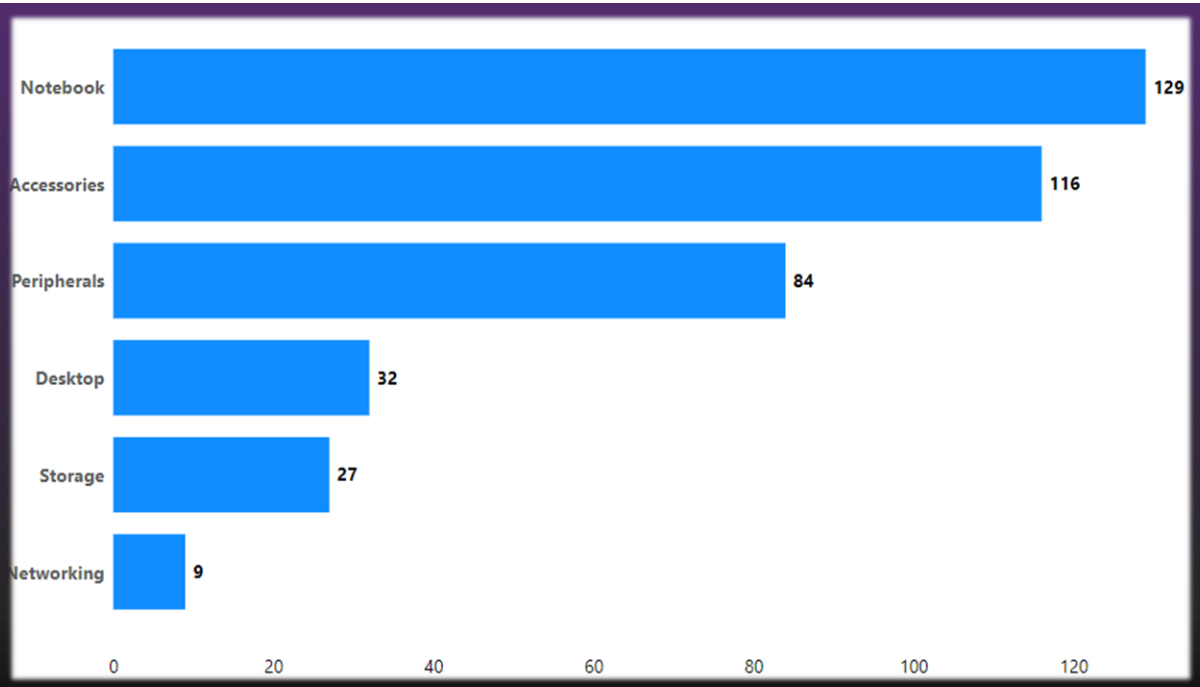
	Unique_products_2020	Unique_product_2021	percentage_chg
▶	245	334	36.33

- The unique product increase in 2021 was 36.33%.
- The total products in 2020 were 245, and in 2021, they were 334.

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

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

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



- Notebooks and accessories are dominating, while networking is not performing well.

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

```sql
with cte1 as(
select  dp.segment as A,
        count(distinct fs.product_code) as B
from fact_sales_monthly fs
join dim_product dp
on fs.product_code=dp. product_code
group by dp.segment , fs.fiscal_year
having fs.fiscal_year=2020),
    cte2 as(
select  dp.segment as C,
        count(distinct fs.product_code) as D
from fact_sales_monthly fs
join dim_product dp
on fs.product_code=dp. product_code
group by dp.segment, fs.fiscal_year
having fs.fiscal_year= 2021)
select cte1.A as segment, cte1.B as product_code_2020, cte2. D as product_code_2021,
        (cte2.D-cte1.B) as difference
from cte1,cte2
where cte1.A=cte2.C;
```

segment	uniq pro 2020	uniq pro 2021	Differnce 20 vs 21
⊞ Accessories	69	103	34
⊞ Desktop	7	22	15
⊞ Networking	6	9	3
⊞ Notebook	92	108	16
⊞ Peripherals	59	75	16
⊞ Storage	12	17	5
Total	**245**	**334**	**89**

segment	product_code_2020	product_code_2021	difference
Accessories	69	103	34
Desktop	7	22	15
Networking	6	9	3
Notebook	92	108	16
Peripherals	59	75	16
Storage	12	17	5

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

```sql
select
        m.product_code,
        p.product,
        m.manufacturing_cost
from fact_manufacturing_cost m
join dim_product p
on m.product_code= p.product_code
where manufacturing_cost in (
select max(manufacturing_cost) from fact_manufacturing_cost
union
select min(manufacturing_cost) from fact_manufacturing_cost
)
order by manufacturing_cost desc
;
```

$240.54

A6120110206

Desktop

$0.89

A2118150101

Accessories

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

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.

```sql
with cte1 as (select customer_code as A ,
        Avg(pre_invoice_discount_pct) as B from fact_pre_invoice_deductions
where fiscal_year = 2021
group by customer_code),

cte2 as ( select customer_code as C, customer as  D from dim_customer
            where market ="India")

select cte2.C as customer_code,
        cte2.D as cutsomer,
        round(cte1.B,4) as Average_discount_percentage
from cte1,cte2
where cte1.A= cte2.C
order by Average_discount_percentage desc
limit 5;
```

customer_code	cutsomer	Average_discount_percentage
90002009	Flipkart	0.3083
90002006	Viveks	0.3038
90002003	Ezone	0.3028
90002002	Croma	0.3025
90002016	Amazon	0.2933

Graph View

customer_code	cutsomer	Average_discount_percentage
90002009	Flipkart	0.3083
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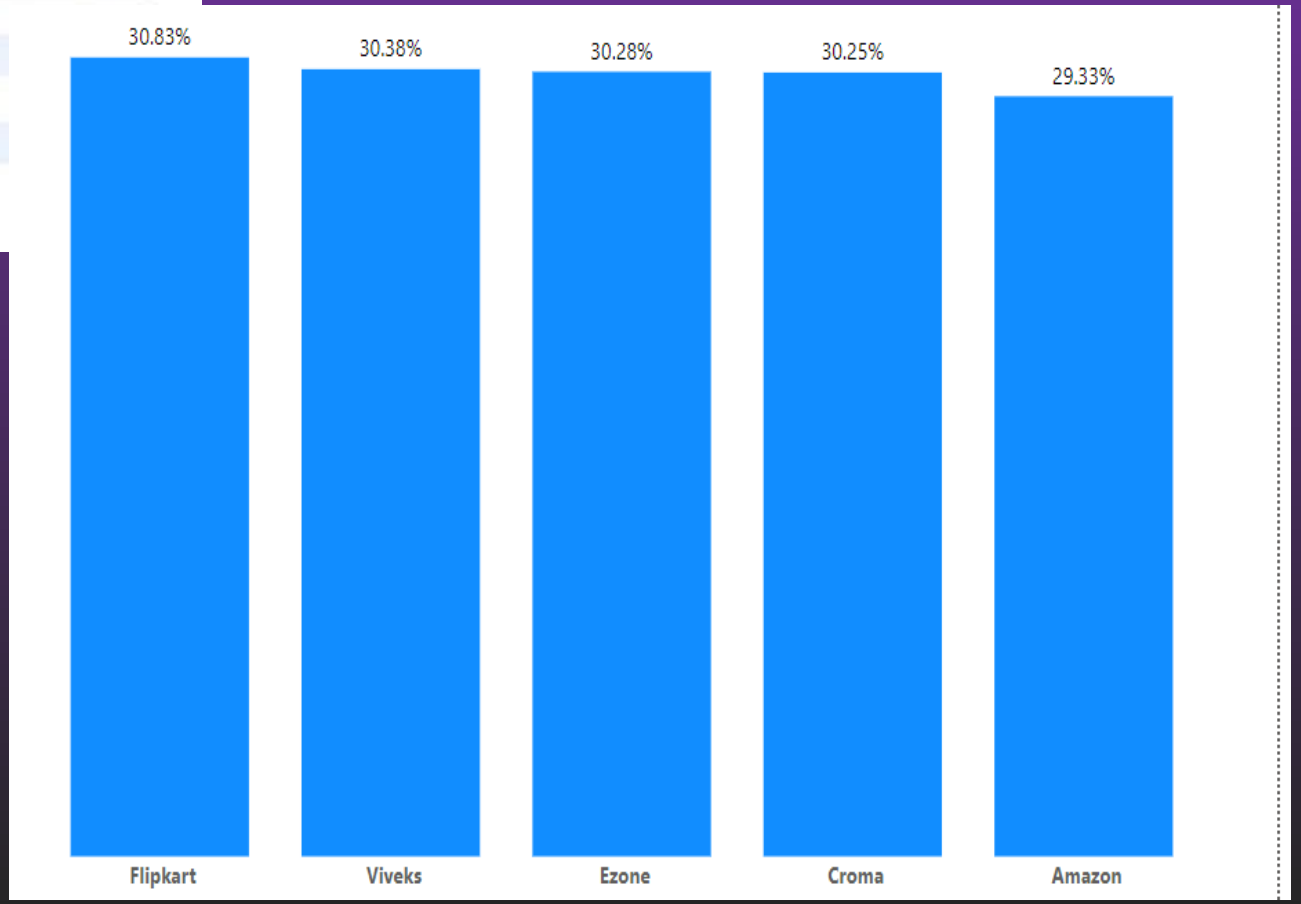


7. Get the complete report of the Gross sales amount for the customer “Atliq-Exclusive” for each month. This analysis helps to get an idea of low and high-performing months and take strategic decisions.

```sql
with cte1 as (
select
    monthname(s.date) as A,
    year(s.date) as B ,
    s.fiscal_year,
    (g.gross_price*s.sold_quantity) as C
from fact_sales_monthly s
join fact_gross_price g on s.product_code=g.product_code
join dim_customer c on s.customer_code=c.customer_code
where c.customer="Atliq Exclusive")

select A as month,B as Year, round(sum(C),2) as Gross_sales_amount from cte1
group by month,Year
order by year;
```

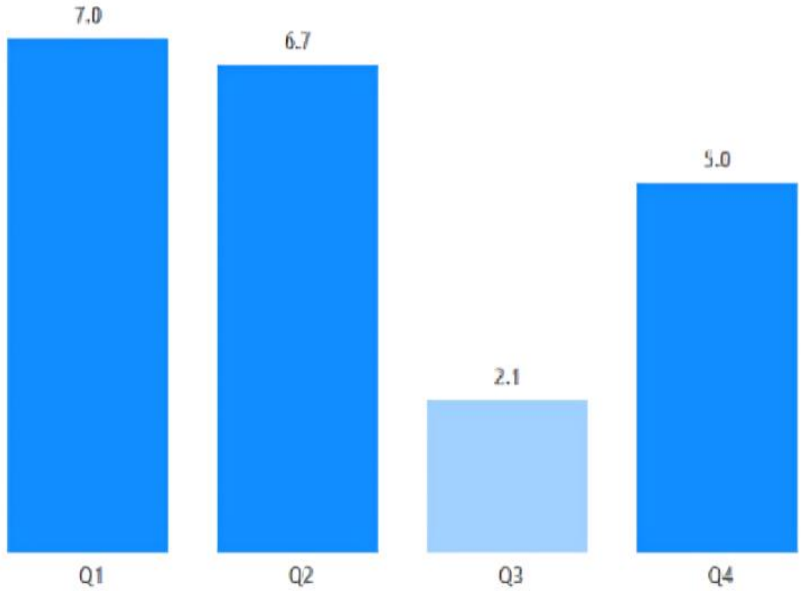
month	Year	Gross_sales_amount
September	2019	9092670.34
October	2019	10378637.6
November	2019	15231894.97
December	2019	9755795.06
January	2020	9584951.94
February	2020	8083995.55
March	2020	766976.45
April	2020	800071.95
May	2020	1586964.48
June	2020	3429736.57
July	2020	5151815.4
August	2020	5638281.83
September	2020	19530271.3
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	11483530.3
May	2021	19204309.41
June	2021	15457579.66
July	2021	19044968.82
August	2021	11324548.34

This analysis helps to get an idea of low and high-performing months and take strategic decisions.

8. In which quarter of 2020, got the maximum total_sold_quantity?

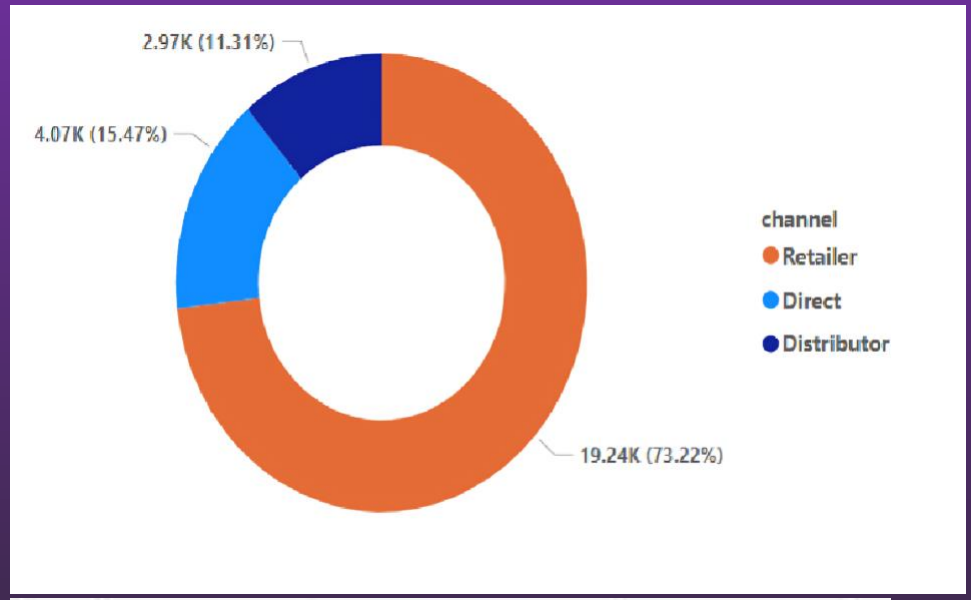
```sql
SELECT
 case
    when month(date) in ( 9,10,11) then "Q1"
    when month(date) in (12,1,2) then "Q2"
    when month(date) in (3,4,5) then "Q3"
    when month(date) in (6,7,8) then "Q4"
    end as Quater,
    round(sum(sold_quantity)/1000000,2) as total_sold_quantity_mln
from fact_sales_monthly
where fiscal_year=2020
group by Quater;
```

Quater	total_sold_quantity_mln
Q1	7.01
Q2	6.65
Q3	2.08
Q4	5.04



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

```sql
with cte1 as (
select c.channel,
        sum(s.sold_quantity*g.gross_price) as total_sales
from fact_sales_monthly s
join  fact_gross_price g on s.product_code=g.product_code
join  dim_customer c on s.customer_code=c.customer_code
where s.fiscal_year=2021
group by c.channel
)
select
    channel,
    round(total_sales/100000,2) as gross_sales_mln,
    round((total_sales)/sum(total_sales)over() *100,2) as percentage
from cte1
order by percentage desc;
```



	channel	gross_sales_mln	percentage
▶	Retailer	19241.70	73.22
	Direct	4066.87	15.47
	Distributor	2971.76	11.31

10. Get the Top 3 products in each division that have a high total_sold_quantity in the fiscal_year 2021?

```sql
with cte1 as(select
        p.division,
        s.product_code,
        p.product,
        sum(s.sold_quantity) as total_sold_quantity,
        rank() over(partition by division order by sum(s.sold_quantity) desc)
from fact_sales_monthly s
join dim_product p on s.product_code=p.product_cod
where s.fiscal_year=2021
group by p.product,division,s.product_code)

select * from cte1
where rank_order in (1,2,3);
```

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

Graph View

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!

If you have any questions or need assistance, please feel free to reach out to me. I'll be happy to help.

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