PROJECT PRESENTATION ON THE ATLIQ DATA STORY: A SQL NARRATIVE OF FINANCE AND SUPPLY CHAIN BY ABHINAV GHOSH

PROBLEM STATEMENT :

Atliq Hardwares, a prominent player in the computer hardware industry, found itself at a critical juncture. Despite its market leadership, the company recognized a pressing need to enhance its decision-making process. The rapid evolution of the tech landscape demanded swift and informed strategic moves, yet the absence of actionable insights hindered their progress.

The management team identified a clear gap: a lack of data-driven clarity. They realized that without a comprehensive understanding of market trends, customer behavior, and operational efficiency, they risked losing their competitive edge.

PROJECT GOAL:

By meticulously dissecting Atliq Hardwares' vast dataset, we will delve deep into its sales trends, seasonal variations, and customer purchase patterns to identify opportunities for growth and optimization. We will analyze product performance, customer preferences, and market dynamics to optimize the product portfolio and drive innovation.

Through this comprehensive analysis, we will empower Atliq Hardwares to make data-driven decisions that will optimize resource allocation, enhance decision-making, improve customer experience, identify emerging trends, and mitigate risks. By unlocking the power of data, we will equip Atliq Hardwares to navigate the dynamic tech market with confidence and achieve sustainable growth.

ATLIQ HARDWARES BUSINESS MODEL:
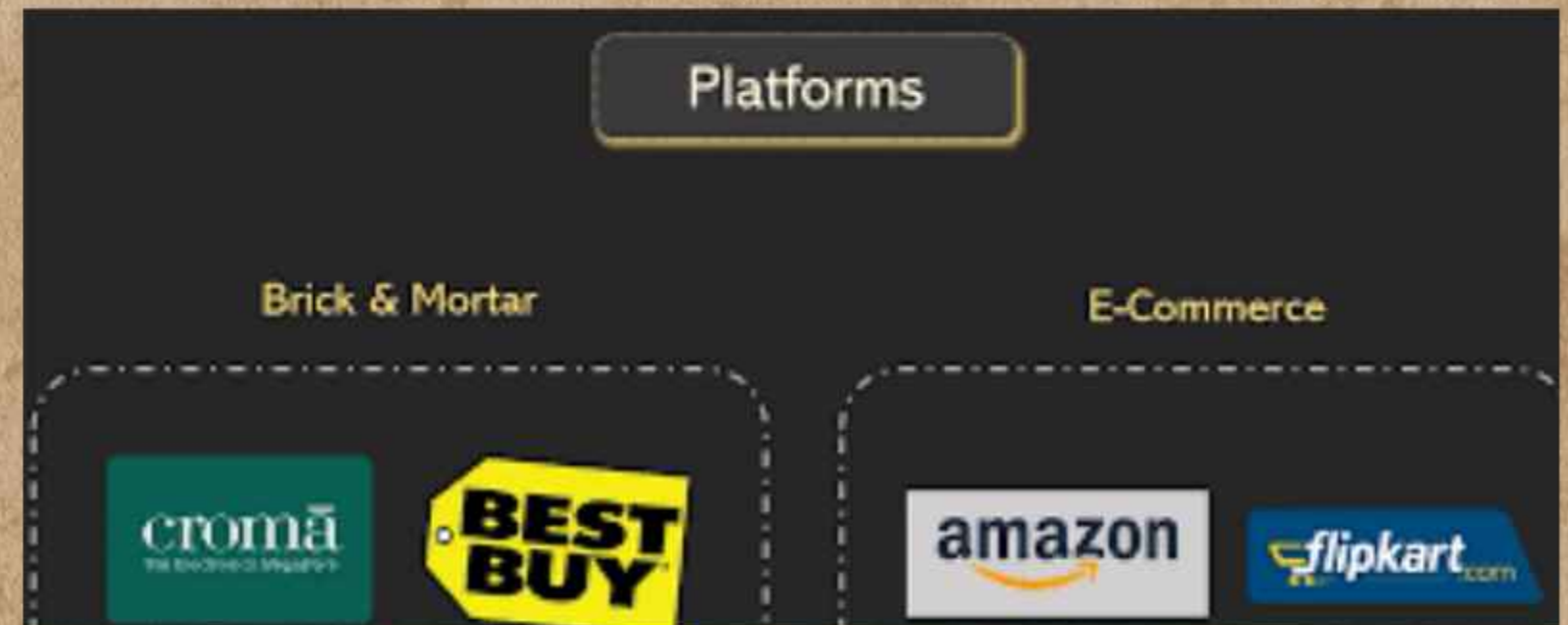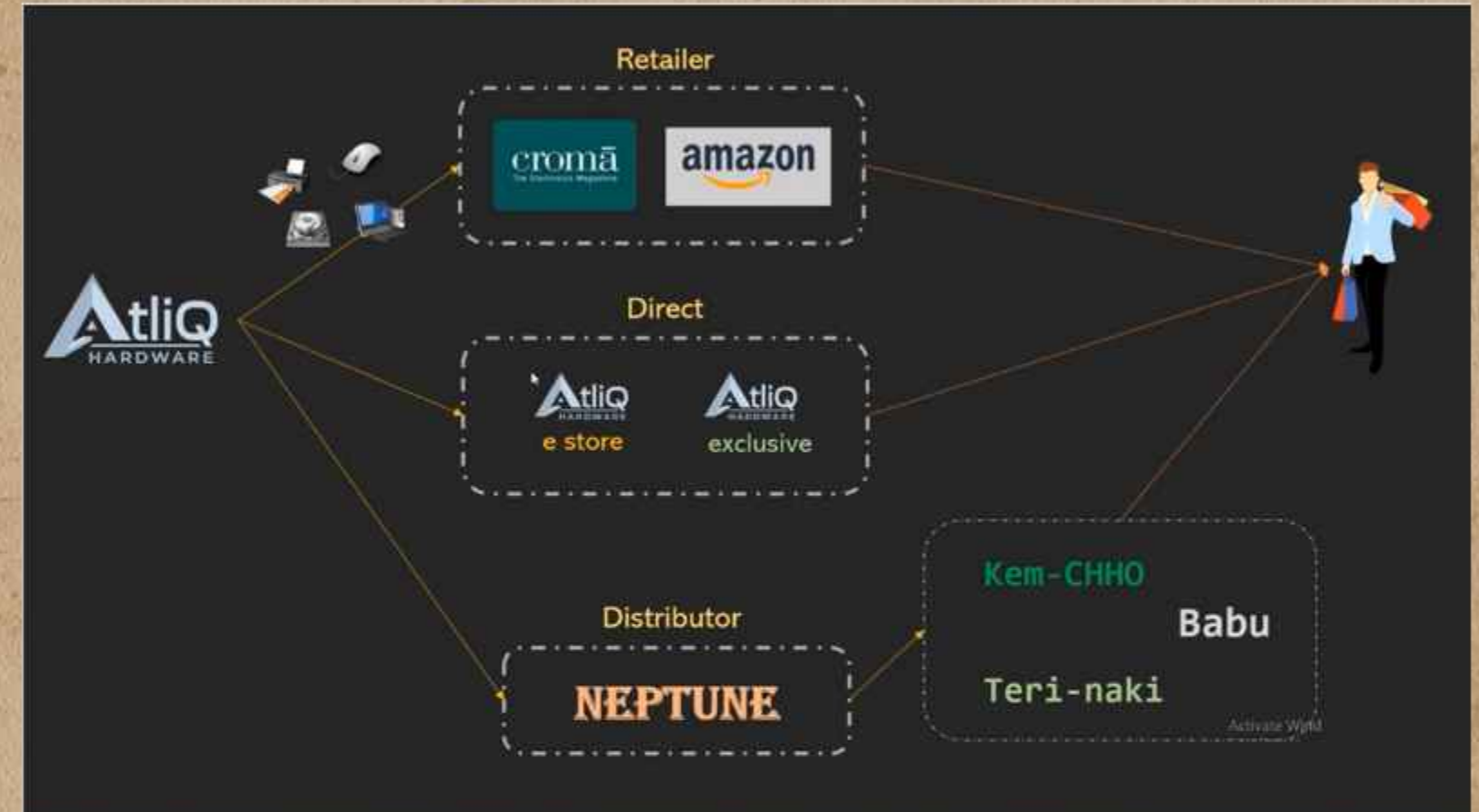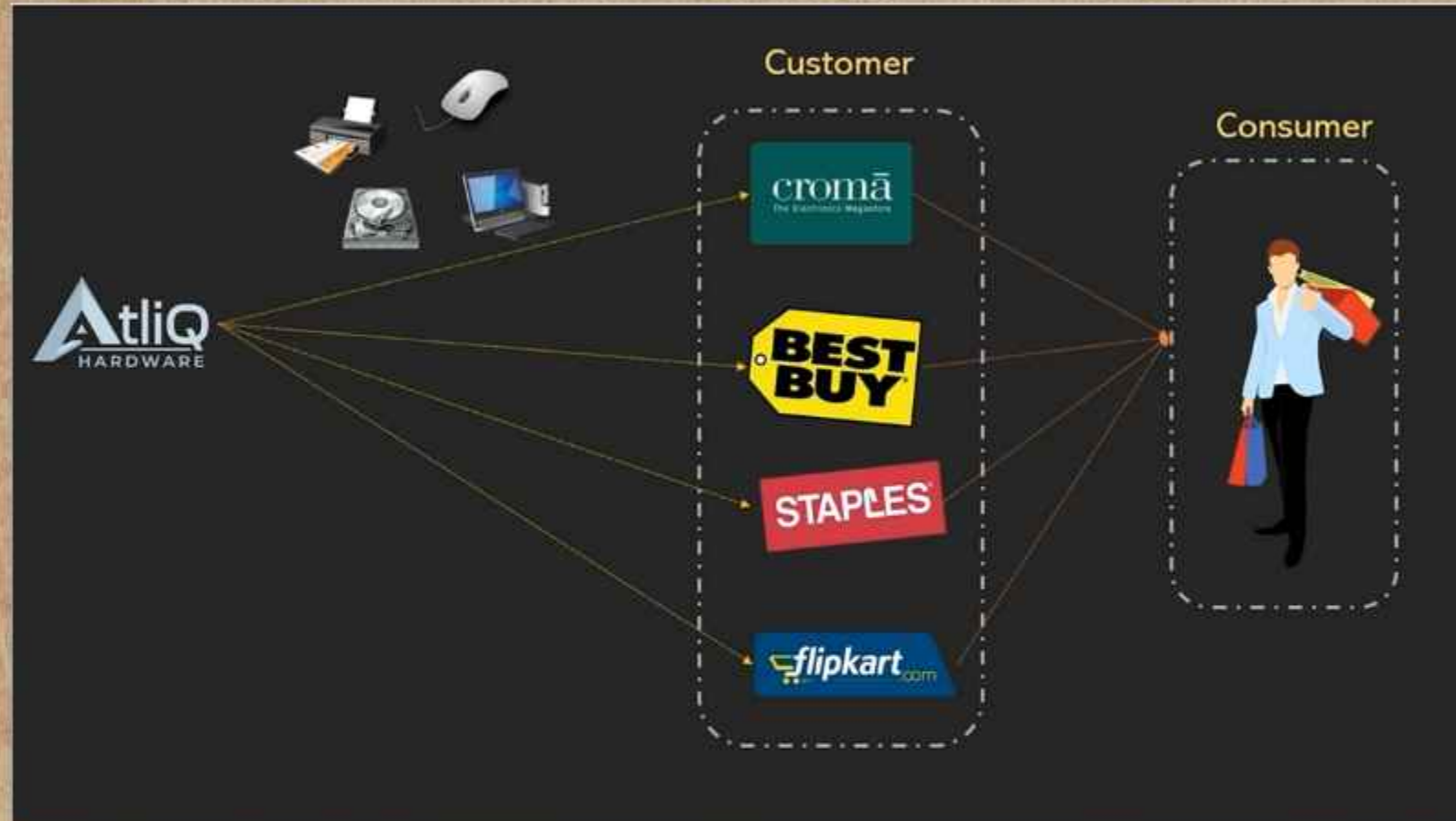
DATA SETS:

Product-wise Sales Report for Croma India – Fiscal Year 2021:

SQL QUERY:

```sql
select
s.date, s.product_code, s.sold_quantity,
p.product, p.variant, g.gross_price,
g.gross_price*s.sold_quantity as gross_price_total
from fact_sales_monthly s
join dim_product p
on p.product_code = s.product_code
join fact_gross_price g
on
g.product_code = s.product_code and
g.fiscal_year = get_fiscal_year(s.date)
where
customer_code = 90002002 and
get_fiscal_year (date) = 2021
order by date asc
limit 1000000
```

OUTPUT:

date	product_code	sold_quantity	product	variant	gross_price	gross_price_total
2020-09-01	A0118150101	202	AQ Dracula HDD – 3.5 Inch SATA 6 G...	Standard	19.0573	3849.5746
2020-09-01	A0118150102	162	AQ Dracula HDD – 3.5 Inch SATA 6 G...	Plus	21.4565	3475.9530
2020-09-01	A0118150103	193	AQ Dracula HDD – 3.5 Inch SATA 6 G...	Premium	21.7795	4203.4435
2020-09-01	A0118150104	146	AQ Dracula HDD – 3.5 Inch SATA 6 G...	Premium Plus	22.9729	3354.0434
2020-09-01	A0219150201	149	AQ WereWolf NAS Internal Hard Drive ...	Standard	23.6987	3531.1063
2020-09-01	A0219150202	107	AQ WereWolf NAS Internal Hard Drive ...	Plus	24.7312	2646.2384
2020-09-01	A0220150203	123	AQ WereWolf NAS Internal Hard Drive ...	Premium	23.6154	2904.6942
2020-09-01	A0320150301	146	AQ Zion Saga	Standard	23.7223	3463.4558
2020-09-01	A0321150302	236	AQ Zion Saga	Plus	27.1027	6396.2372
2020-09-01	A0321150303	137	AQ Zion Saga	Premium	28.0059	3836.8083
2020-09-01	A0418150103	23	AQ Mforce Gen X	Standard 3	19.5235	449.0405
2020-09-01	A0418150104	82	AQ Mforce Gen X	Plus 1	19.9239	1633.7598
2020-09-01	A0418150105	86	AQ Mforce Gen X	Plus 2	20.0766	1726.5876
2020-09-01	A0418150106	48	AQ Mforce Gen X	Plus 3	19.9365	956.9520
2020-09-01	A0519150201	138	AQ Mforce Gen Y	Standard 1	22.3984	3090.9792
2020-09-01	A0519150202	72	AQ Mforce Gen Y	Standard 2	24.9298	1794.9456
2020-09-01	A0519150203	38	AQ Mforce Gen Y	Standard 3	26.5871	1010.3098
2020-09-01	A0519150204	149	AQ Mforce Gen Y	Plus 1	26.1081	3890.1069
2020-09-01	A0519150205	29	AQ Mforce Gen Y	Plus 2	29.7008	861.3232
2020-09-01	A0519150206	28	AQ Mforce Gen Y	Plus 3	31.2439	874.8292
2020-09-01	A0519150207	171	AQ Mforce Gen Y	Premium 1	32.4427	5547.7017

Gross Monthly Sales Report for Croma:

SQL QUERY:

```sql
select
s.date,
sum(g.gross_price*s.sold_quantity) as gross_price_total
from fact_sales_monthly s
join fact_gross_price g
on g.product_code = s.product_code and
g.fiscal_year = get_fiscal_year(s.date)
where customer_code = 90002002
group by s.date
order by s.date asc
```

OUTPUT:

date	gross_price_total
2017-09-01	122407.5582
2017-10-01	162687.5716
2017-12-01	245673.8042
2018-01-01	127574.7372
2018-02-01	144799.5182
2018-04-01	130643.8976
2018-05-01	139165.0975
2018-06-01	125735.3786
2018-08-01	125409.8801
2018-09-01	343337.1651
2018-10-01	440562.0754
2018-12-01	653944.7486
2019-01-01	359025.0186
2019-02-01	356607.1729
2019-04-01	379549.6850
2019-05-01	340152.2349
2019-06-01	343792.0420
2019-08-01	338108.8774
2019-09-01	808250.4406
2019-10-01	1092622.1983

Annual Gross Sales Report for Croma India:

SQL QUERY:

```sql
select
get_fiscal_year(s.date) as fiscal_year,
round(sum(g.gross_price*s.sold_quantity), 2) as total_gross_sales_amount
from fact_sales_monthly s
join fact_gross_price g
on
g.product_code = s.product_code and
g.fiscal_year = get_fiscal_year(s.date)
where customer_code = 90002002
group by get_fiscal_year(s.date)
```

OUTPUT:

fiscal_year	total_gross_sales_amount
2018	1324097.44
2019	3555079.02
2020	6502181.91
2021	23216512.22
2022	44638198.92

Top Markets for Fiscal Year 2021:

SQL QUERY:

```sql
select
s.market,
round(sum(net_sales)/1000000, 2) as net_sales_mln
from net_sales s
where s.fiscal_year = 2021
group by s.market
order by net_sales_mln desc
limit 5
```

OUTPUT:

market	net_sales_mln
India	210.48
USA	131.86
South Korea	64.15
Canada	45.78
United Kingdom	44.88

Top Customers for Fiscal Year 2021:

SQL QUERY:

```sql
select
c.customer,
round(sum(net_sales)/1000000, 2) as net_sales_mln
from net_sales s
join dim_customer c
on c.customer_code = s.customer_code
where s.fiscal_year = 2021
group by c.customer
order by net_sales_mln desc
limit 5
```

OUTPUT:

customer	net_sales_mln
Amazon	109.16
Atliq Exclusive	79.91
Atliq e Store	70.13
Sage	27.12
Flipkart	25.22

Net Sales % Share by Customers:

SQL QUERY:

```sql
with cte1 as (
select
c.customer,
round(sum(net_sales)/1000000, 2) as net_sales_mln
from net_sales s
join dim_customer c
on c.customer_code = s.customer_code
where s.fiscal_year = 2021
group by c.customer)


select
*,
round(net_sales_mln * 100 / sum(net_sales_mln) over(), 2) as pct
from cte1
order by net_sales_mln desc
limit 10
```

OUTPUT:

customer	net_sales_mln	pct
Amazon	109.16	13.26
Atliq Exclusive	79.91	9.71
Atliq e Store	70.13	8.52
Sage	27.12	3.29
Flipkart	25.22	3.06
Leader	24.58	2.99
Neptune	20.96	2.55
Ebay	19.84	2.41
Electricalsocity	16.21	1.97
Synthetic	16.09	1.95

Net Sales % Share by Region – APAC:

SQL QUERY:

```sql
with cte1 as(select
c.customer,c.region,
round(sum(net_sales)/1000000, 2) as net_sales_mln
from net_sales s
join dim_customer c
on c.customer_code = s.customer_code
where s.fiscal_year = 2021
group by c.customer, c.region)

select *,
round(net_sales_mln * 100 / sum(net_sales_mln) over(partition by region), 2) as pct
from cte1
order by region, net_sales_mln desc
```

OUTPUT:

customer	region	net_sales_mln	pct
Amazon	APAC	57.50	13.02
Atliq Exclusive	APAC	51.53	11.67
Atliq e Store	APAC	36.87	8.35
Leader	APAC	24.58	5.56
Sage	APAC	22.90	5.18
Neptune	APAC	20.96	4.74
Electricalsocity	APAC	16.21	3.67
Propel	APAC	14.14	3.20
Synthetic	APAC	14.14	3.20
Flipkart	APAC	12.93	2.93
Novus	APAC	12.89	2.92
Expression	APAC	12.83	2.90
Girias	APAC	11.31	2.56
Vijay Sales	APAC	11.20	2.54
Reliance Digital	APAC	11.13	2.52
Ebay	APAC	11.08	2.51
Electricalslytical	APAC	11.01	2.49
Lotus	APAC	10.54	2.39
Ezone	APAC	10.34	2.34
Viveks	APAC	10.15	2.30
Croma	APAC	9.91	2.24

Top 2 Markets in Each Region by Gross Sales:

SQL QUERY:

```sql
with cte1 as ( select
c.market,
c.region,
round(sum(gross_price_total)/1000000, 2) as gross_sales_mln
from gross_sales s
join dim_customer c
on c.customer_code = s.customer_code
where fiscal_year = 2021
group by market, region
order by gross_sales_mln desc),
cte2 as ( select *,
dense_rank() over(partition by region order by gross_sales_mln desc) as drnk
from cte1)
select *
from cte2 where drnk <= 2
```

OUTPUT:

market	region	gross_sales_mln	drnk
India	APAC	455.05	1
South Korea	APAC	131.86	2
United Kingdom	EU	78.11	1
France	EU	67.62	2
Mexico	LATAM	2.30	1
Brazil	LATAM	2.14	2
USA	NA	264.46	1
Canada	NA	89.78	2

Supply Chain Forecasted Quantity:

SQL QUERY:

```sql
with forecast_err_table as (
select
s.customer_code as customer_code,
c.customer as customer_name,
c.market as market,
sum(s.sold_quantity) as total_sold_qty,
sum(s.forecast_quantity) as total_forecast_qty,
sum(s.forecast_quantity-s.sold_quantity) as net_error,
round(sum(s.forecast_quantity-s.sold_quantity) * 100 / sum(s.forecast_quantity),2) as net_error_pct,
sum(abs(s.forecast_quantity-s.sold_quantity)) as abs_error,
round(sum(abs(s.forecast_quantity-sold_quantity)) * 100 / sum(s.forecast_quantity),2) as abs_error_pct
from fact_act_est s
join dim_customer c
on s.customer_code = c.customer_code
where s.fiscal_year = 2021
group by customer_code
)
select
*,
if (abs_error_pct > 100, 0, 100.0 - abs_error_pct) as forecast_accuracy
from forecast_err_table
order by forecast_accuracy desc;
```

OUTPUT:

customer_code	customer_name	market	total_sold_qty	total_forecast_qty	net_error	net_err
90013120	Coolblue	Italy	109547	133532	23985	17.96
70010048	Atliq e Store	Bangladesh	119439	142010	22571	15.89
90023027	Costco	Canada	236189	279962	43773	15.64
90023026	Relief	Canada	228988	273492	44504	16.27
90017051	Forward Stores	Portugal	86823	118067	31244	26.46
90017058	Mbit	Portugal	86860	110195	23335	21.18
90023028	walmart	Canada	239081	283323	44242	15.62
90023024	Sage	Canada	246397	287233	40836	14.22
90015146	Mbit	Norway	147152	210507	63355	30.10
90013124	Amazon	Italy	110898	136116	25218	18.53
90017054	Flawless Stores	Portugal	84371	114698	30327	26.44
70027208	Atliq e Store	Brazil	33713	47321	13608	28.76
90015147	Chiptec	Norway	154897	223867	68970	30.81
80001019	Neptune	China	1113979	1275248	161269	12.65
90015144	Sound	Norway	160074	225637	65563	29.06
90009130	Logic Stores	Newzealand	103290	110175	6885	6.25
90015149	UniEuro	Norway	142086	212500	70414	33.14
90021088	Electricalslytical	United Kingdom	224350	323689	99339	30.69
90017050	Electricalsara St...	Portugal	85272	114688	29416	25.65
70013125	Atliq Exclusive	Italy	101658	123428	21770	17.64
90021094	Coolblue	United Kingdom	208513	301367	92855	30.81

CONCLUSION:

AMAZON RECORDED THE HIGHEST NET SALES IN FISCAL YEAR 2021, WITH A TOTAL OF $109.03M, FOLLOWED BY ATLIQ EXCLUSIVE WITH $79.92M.

THE INDIAN MARKET GENERATED THE MAXIMUM NET SALES, AMOUNTING TO $210.67M IN FISCAL YEAR 2021, FOLLOWED BY THE USA WITH $132.05M.

AMAZON CONTRIBUTED 13.23% OF THE TOTAL NET SALES AMONG ALL CUSTOMERS IN FISCAL YEAR 2021.

IN THE APAC REGION, AMAZON ACCOUNTED FOR THE HIGHEST NET SALES SHARE OF 12.99% AMONG ALL CUSTOMERS IN 2021.

IN TERMS OF TOTAL GROSS SALES, INDIA RANKS FIRST IN THE APAC REGION.

THANK YOU VERY MUCH!