ATLIQ HARDWARES

Finance & Supply Chain Analysis

Presented By : Bilal Ahmed

Introduction

Atliq Hardware is a leading
company that supplies product
such as computer hardware
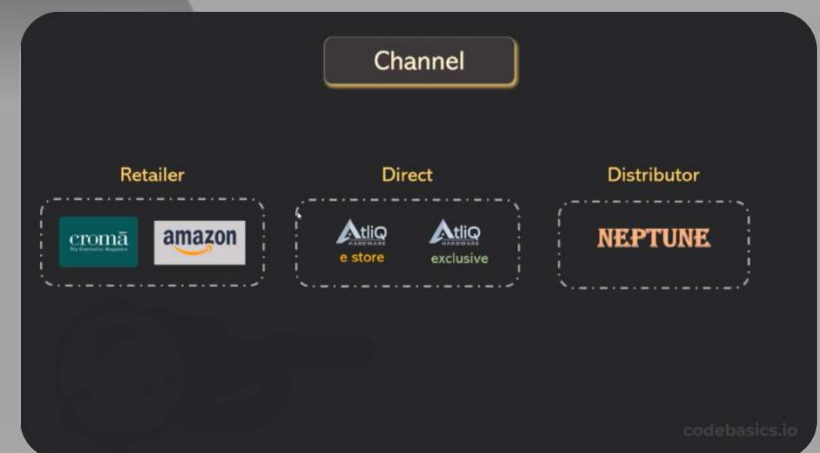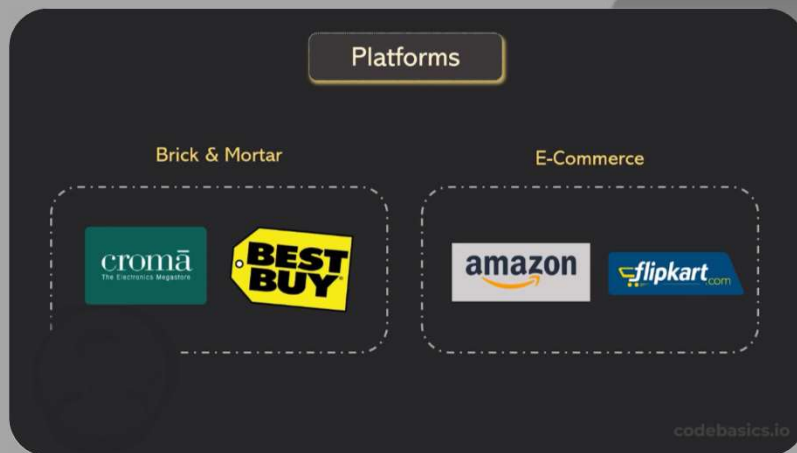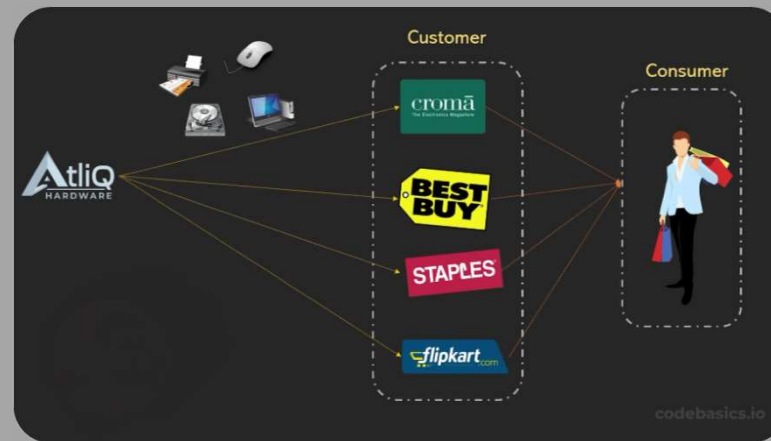and peripherals to client across
the world.

Problem Statement

Atliq Hardware is a company that deals in computer hardware and peripheral sales, Currently, they are using Excel to manage

their business data, As the company grows, maintaining and analyzing data in Excel has become challenging. To address these limitations, they aim to migrate their data to a SQL database
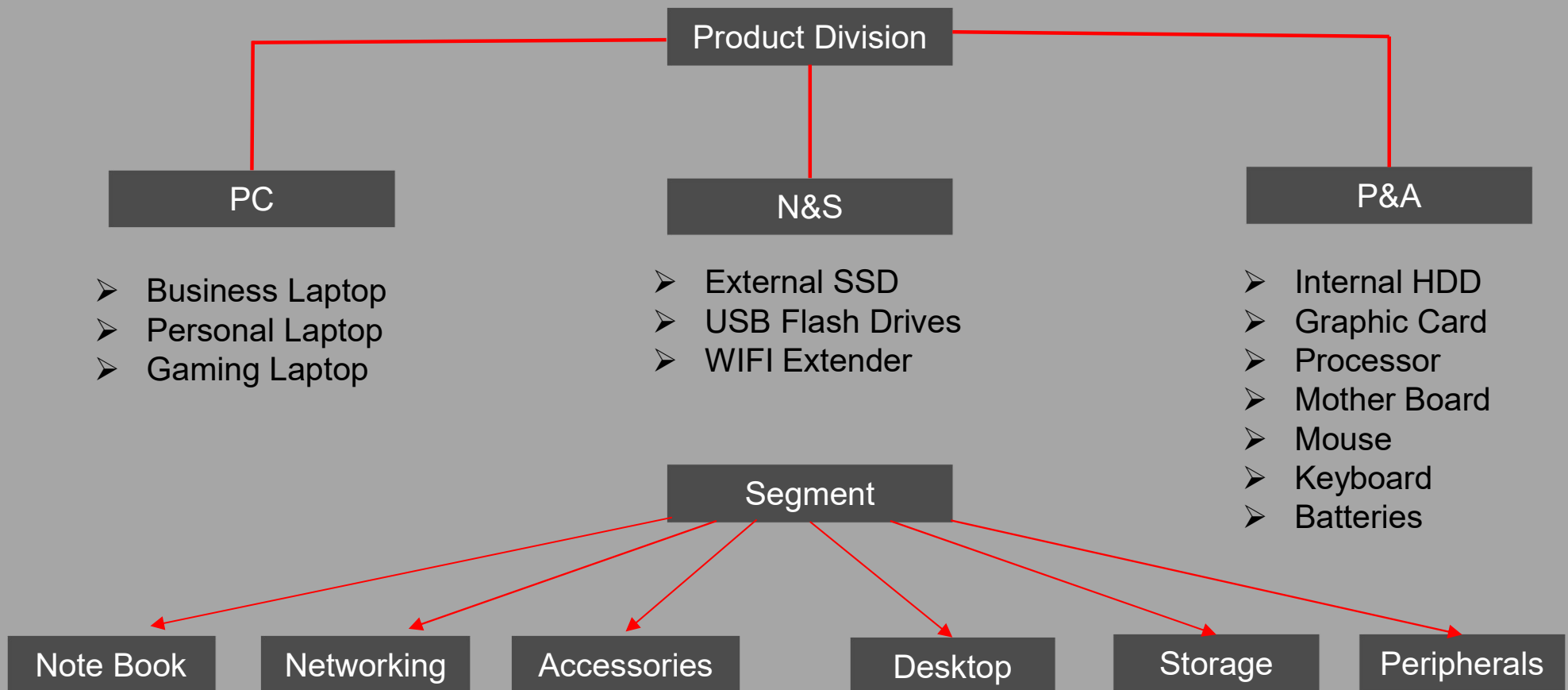
Project Overview

The project aims to analyze and extract valuable insights from the provided database, which includes information about sales, products, customers, and regions for Atliq Hardware. Specifically, it seeks to address questions related to **sales reporting**, **market analysis**, **customer performance**, and **supply chain forecasting**.

ATLIQ HARDWARE : Business Model

ATLIQ HARDWARE : Products

Product Division

PC
- Business Laptop
- Personal Laptop
- Gaming Laptop

N&S
- External SSD
- USB Flash Drives
- WIFI Extender

P&A
- Internal HDD
- Graphic Card
- Processor
- Mother Board
- Mouse
- Keyboard
- Batteries

Segment

| Note Book | Networking | Accessories | Desktop | Storage | Peripherals |

DATA SETS

DATA Base – gdb0041 ➡️ Tables

Dimension Table

➤ dim_customer
➤ dim_ product

Fact Table

➤ fact_sales_monthly
➤ fact_gross_price
➤ fact_pre_invoice_deductions
➤ fact_post_invoice_deductions
➤ fact_manufacturing_cost
➤ fact_ freight_cost
➤ fact_forcast_monthly

Croma India Sales Report for FY 2021

SQL Query

```sql
SELECT
 s.date, s. product_code,
 p.product, p.variant, s.sold_quantity,
 gp.gross_price,
Round(gp.gross_price * sold_quantity,2) as gross_price_total
FROM fact_sales_monthly s
JOIN dim_product p
    on p.product_code = s.product_code
JOIN fact_gross_price gp
    on gp.product_code = s.product_code
    and gp.fiscal_year = get_fiscal_year(s.date)
```

OutPut

date	product_code	product	variant	sold_quantity	gross_price	gross_price_total
2020-09-01	A0118150101	AQ Dracula HDD – 3.5 Inch SATA 6 Gb/s 5400 R....	Standard	202	19.0573	3849.57
2020-09-01	A0118150102	AQ Dracula HDD – 3.5 Inch SATA 6 Gb/s 5400 R...	Plus	162	21.4565	3475.95
2020-09-01	A0118150103	AQ Dracula HDD – 3.5 Inch SATA 6 Gb/s 5400 R...	Premium	193	21.7795	4203.44
2020-09-01	A0118150104	AQ Dracula HDD – 3.5 Inch SATA 6 Gb/s 5400 R...	Premium Plus	146	22.9729	3354.04
2020-09-01	A0219150201	AQ WereWolf NAS Internal Hard Drive HDD – 8....	Standard	149	23.6987	3531.11
2020-09-01	A0219150202	AQ WereWolf NAS Internal Hard Drive HDD – 8....	Plus	107	24.7312	2646.24
2020-09-01	A0220150203	AQ WereWolf NAS Internal Hard Drive HDD – 8....	Premium	123	23.6154	2904.69
2020-09-01	A0320150301	AQ Zion Saga	Standard	146	23.7223	3463.46
2020-09-01	A0321150302	AQ Zion Saga	Plus	236	27.1027	6396.24
2020-09-01	A0321150303	AQ Zion Saga	Premium	137	28.0059	3836.81
2020-09-01	A0418150103	AQ Mforce Gen X	Standard 3	23	19.5235	449.04
2020-09-01	A0418150104	AQ Mforce Gen X	Plus 1	82	19.9239	1633.76
2020-09-01	A0418150105	AQ Mforce Gen X	Plus 2	86	20.0766	1726.59
2020-09-01	A0418150106	AQ Mforce Gen X	Plus 3	48	19.9365	956.95
2020-09-01	A0519150201	AQ Mforce Gen Y	Standard 1	138	22.3984	3090.98

Gross Monthly Total Sales Report For Croma

SQL Query

```sql
SELECT
    s.date,
    SUM(gp.gross_price*s.sold_quantity) as gross_price_total
FROM fact_sales_monthly s
JOIN fact_gross_price gp
ON
    gp.product_code  = s.product_code and
    gp.fiscal_year = get_fiscal_year(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

Yearly Gross Sales Report For Croma India

SQL Query

```sql
SELECT
    gp.fiscal_year,
    SUM(ROUND(gp.gross_price*s.sold_quantity,2)) AS gross_price_total
FROM fact_sales_monthly s
JOIN fact_gross_price gp
ON
    gp.product_code  = s.product_code AND
    gp.fiscal_year = get_fiscal_year(date)
WHERE customer_code = 90002002
GROUP BY gp.fiscal_year
ORDER BY gp.fiscal_year ASC
```

OutPut

fiscal_year	gross_price_total
2018	1324097.48
2019	3555079.19
2020	6502182.12
2021	23216512.73
2022	44638199.11

Top 5 Market For FY 2021

SQL Query

```sql
SELECT
market,
Round(sum(net_sales)/1000000,2) AS net_sales_mln
FROM gdb0041.net_sales
WHERE fiscal_year = 2021
GROUP BY market
ORDER BY net_sales_mln DESC
LIMIT 5
```

OutPut

market	net_sales_mln
India	210.67
USA	132.05
South Korea	64.01
Canada	45.89
United Kingdom	44.73

Top 5 Customer For FY 2021

SQL Query

```sql
SELECT
c.customer,
Round(sum(net_sales)/1000000,2) AS net_sales_mln
FROM gdb0041.net_sales ns
JOIN dim_customer c
ON c.customer_code = ns.customer_code
WHERE fiscal_year = 2021
GROUP BY c.customer
ORDER BY net_sales_mln DESC
LIMIT 5
```

OutPut

customer	net_sales_mln
Amazon	109.03
Atliq Exclusive	79.92
Atliq e Store	70.31
Sage	27.07
Flipkart	25.25

Net Sales % Share By Customer

SQL Query

```sql
WITH cte1 AS (
    SELECT
            customer,
            round(sum(net_sales)/1000000,2) AS net_sales_mln
    FROM net_sales s
    JOIN dim_customer c
        ON s.customer_code=c.customer_code
    WHERE s.fiscal_year=2021
        GROUP BY customer)
SELECT
        *,
        ROUND(net_sales_mln*100/sum(net_sales_mln) OVER(),2) AS pct_net_sales
FROM cte1
ORDER BY net_sales_mln DESC
```

OutPut

customer	net_sales_mln	pct_net_sales
Amazon	109.03	13.23
Atliq Exclusive	79.92	9.70
Atliq e Store	70.31	8.53
Sage	27.07	3.29
Flipkart	25.25	3.06
Leader	24.52	2.98
Neptune	21.01	2.55
Ebay	19.88	2.41
Electricalsocity	16.25	1.97
Synthetic	16.10	1.95
Electricalslytical	15.64	1.90

Net Sales % Share By Region

SQL Query

OutPut

```sql
WITH cte1 AS (
    SELECT
            customer,region,
            round(sum(net_sales)/1000000,2) AS net_sales_mln
    FROM net_sales s
    JOIN dim_customer c
        ON s.customer_code=c.customer_code
    WHERE s.fiscal_year=2021
    GROUP BY customer,region)
    SELECT
        *,
        net_sales_mln*100/sum(net_sales_mln) OVER(partition by region) AS pct_share_region
    FROM cte1
    ORDER BY region,net_sales_mln DESC
```

customer	region	net_sales_mln	pct_share_region
Amazon	APAC	57.41	12.988688
Atliq Exclusive	APAC	51.58	11.669683
Atliq e Store	APAC	36.97	8.364253
Leader	APAC	24.52	5.547511
Sage	APAC	22.85	5.169683
Neptune	APAC	21.01	4.753394
Electricalsocity	APAC	16.25	3.676471
Propel	APAC	14.14	3.199095
Synthetic	APAC	14.14	3.199095
Flipkart	APAC	12.96	2.932127
Novus	APAC	12.91	2.920814
Expression	APAC	12.90	2.918552
Girias	APAC	11.30	2.556561
Vijay Sales	APAC	11.27	2.549774
Ebay	APAC	11.14	2.520362
Reliance Digital	APAC	11.10	2.511312

Supply Chain - Forecast Accuracy FY 2021

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),1) 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_error_pct	abs_error	abs_error_pct	forecast_accuracy
90025209	Electricalsbea Stores	Columbia	13178	15428	2065	13.4	8051	52.18	47.82
90013120	Coolblue	Italy	109547	133532	23944	17.9	70378	52.70	47.30
70010048	Atliq e Store	Bangladesh	119439	142010	22547	15.9	75645	53.27	46.73
90023027	Costco	Canada	236189	279962	43760	15.6	149274	53.32	46.68
70027208	Atliq e Store	Brazil	33713	47321	13342	28.2	25398	53.67	46.33
90023026	Relief	Canada	228988	273492	44495	16.3	146921	53.72	46.28
90017051	Forward Stores	Portugal	86823	118067	31151	26.4	63449	53.74	46.26
90017058	Mbit	Portugal	86860	110195	23242	21.1	59348	53.86	46.14
90023028	walmart	Canada	239081	283323	44233	15.6	153039	54.02	45.98
90023024	Sage	Canada	246397	287233	40835	14.2	155585	54.17	45.83
90013124	Amazon	Italy	110898	136116	25185	18.5	73759	54.19	45.81
90015146	Mbit	Norway	147152	210507	63339	30.1	114135	54.22	45.78
90017054	Flawless Stores	Portugal	84371	114698	30260	26.4	62378	54.38	45.62
90015147	Chiptec	Norway	154897	223867	68948	30.8	122050	54.52	45.48
80001019	Neptune	China	1113979	1275248	161269	12.6	695779	54.56	45.44

Conclusion

➢ In Year 2022 Atliq Hardware make the maximum Sale

➢ India was the biggest market for Atliq Hardware in year 2021

➢ AQ BZ Allin I was the highest selling product with 33.75 million net sales 2021

➢ In 2021, Colombia, Chile, and Brazil had the lowest net sales

Thank You

Bilal Ahmed