



# **AtliQ Hardware**

## Finance & Supply Chain Analytics

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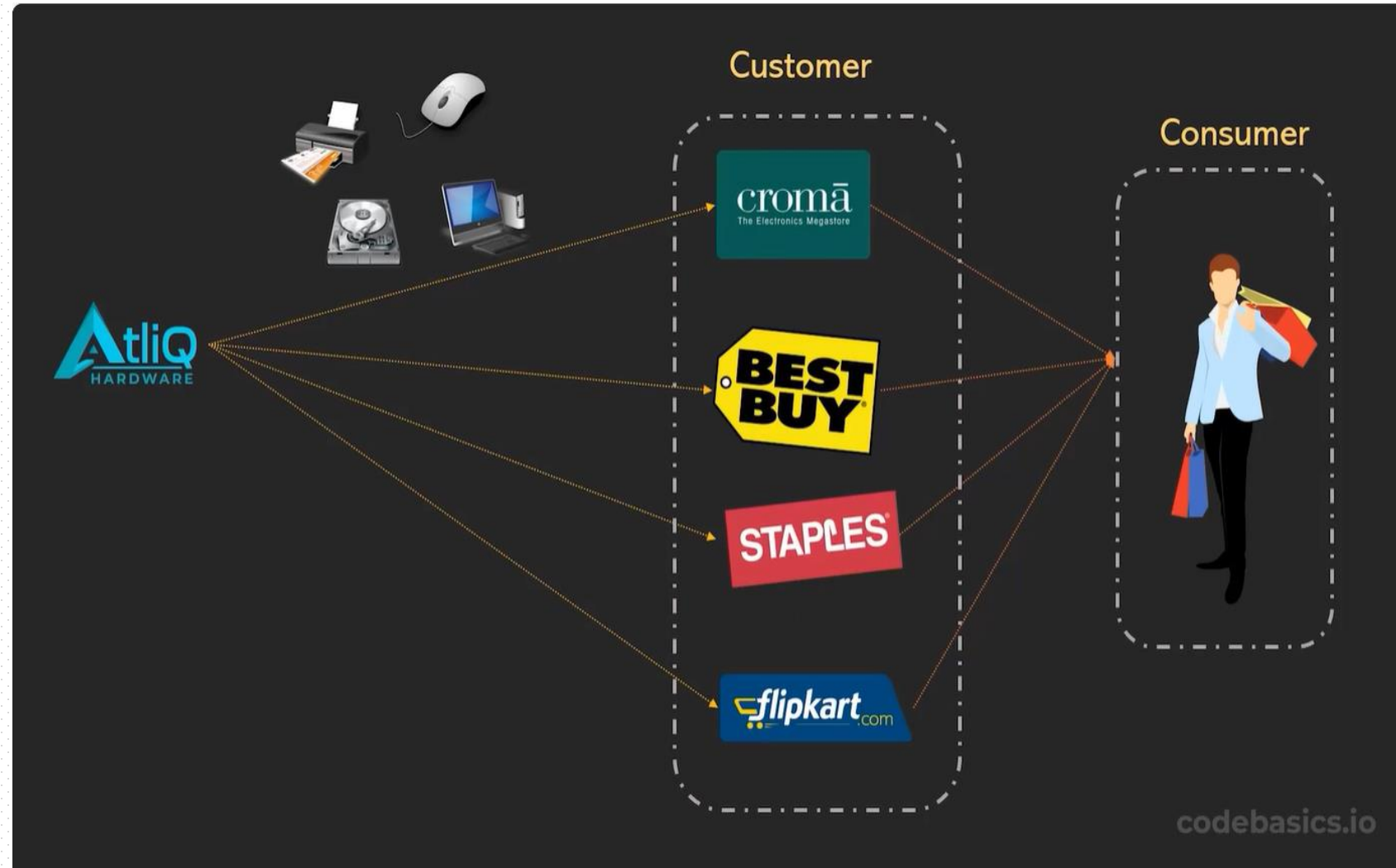
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# About AtliQ Hardware & It's Business Model

AtliQ Hardware is a global leader in electronics manufacturing, specializing in the production and distribution of an extensive high quality hardware products such as PC, Printers, Mouse and other various accessories around the world.





## Problem Statement

AtliQ Hardware currently facing performance challenges due to increasing size and complexity of Excel files. To address this the company has formed a dedicated team of data analysts to leverage MySQL for extracting valuable insights and enhancing operational efficiency.



## Project Overview

The Scope of this project entails conduction in-depth analysis of the dataset provided by AtliQ Hardware. The primary goal is to derive actionable insights regarding sales performance , market overview, customer behavior to forecast supply chain trends.



# Generate a detailed report of the individual product for Croma India for the Fiscal Year = 2021

```
select
  s.date,
  s.product_code,
  p.product,
  p.variant,
  s.sold_quantity,
  g.gross_price,
  round(g.gross_price*s.sold_quantity,2) as gross_price_total
from fact_sales_monthly s
join dim_product p
  on s.product_code=p.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 s.date asc;
```

date	product_code	product	variant	sold_quantity	gross_price	gross_price_total
2020-09-01	A0118150101	AQ Dracula HDD – 3.5 Inch SA...	Standard	202	19.0573	3849.57
2020-09-01	A0118150102	AQ Dracula HDD – 3.5 Inch SA...	Plus	162	21.4565	3475.95
2020-09-01	A0118150103	AQ Dracula HDD – 3.5 Inch SA...	Premium	193	21.7795	4203.44
2020-09-01	A0118150104	AQ Dracula HDD – 3.5 Inch SA...	Premium Plus	146	22.9729	3354.04
2020-09-01	A0219150201	AQ WereWolf NAS Internal Har...	Standard	149	23.6987	3531.11
2020-09-01	A0219150202	AQ WereWolf NAS Internal Har...	Plus	107	24.7312	2646.24
2020-09-01	A0220150203	AQ WereWolf NAS Internal Har...	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
2020-09-01	A0519150202	AQ Mforce Gen Y	Standard 2	72	24.9298	1794.95



Generate a yearly report for Croma India for the Fiscal Year and Total Gross Sales.

```
select
    get_fiscal_year(date) as fiscal_year,
    round(sum(s.sold_quantity*g.gross_price),2) as Yearly_Sales
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 s.customer_code=90002002
group by get_fiscal_year(date)
order by fiscal_year;
```

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



Generate a gross sales monthly report for Croma India for the Fiscal Year =2021.

```
select
    YEAR(s.date) as Year,
    monthname(s.date) as Months,
    round(sum(s.sold_quantity*p.gross_price),2) as gross_price_total
from
    fact_sales_monthly s
join fact_gross_price p
    on p.product_code=s.product_code and
       p.fiscal_year=get_fiscal_year(s.date)
where s.customer_code=90002002
group by s.date
order by s.date asc;
```

Year	Months	gross_price_total
2017	September	122407.56
2017	October	162687.57
2017	December	245673.80
2018	January	127574.74
2018	February	144799.52
2018	April	130643.90
2018	May	139165.10
2018	June	125735.38
2018	August	125409.88
2018	September	343337.17
2018	October	440562.08
2018	December	653944.75
2019	January	359025.02
2019	February	356607.17
2019	April	379549.69
2019	May	340152.23
2019	June	343792.04
2019	August	338108.88
2019	September	808250.44





Generate a report of Top 5 Customers By Net Sales for Fiscal Year = 2021.

```
select c.customer,  
       round(sum(net_sales)/1000000,2) as net_sales_millions  
from net_sales n  
join dim_customer c  
     using (customer_code)  
where n.fiscal_year=2021  
group by c.customer  
order by net_sales_millions desc  
limit 5;
```

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



Generate a report of Top 5 Markets By Net Sales for Fiscal Year = 2021.

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

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



Generate a report of Top 5 Products By Net Sales for Fiscal Year = 2021.

```
select p.product,  
       round(sum(net_sales)/1000000,2) as net_sales_millions  
from net_sales n  
join dim_product p  
on p.product_code=n.product_code  
where fiscal_year=2021  
group by p.product  
order by net_sales_millions desc  
limit 5;
```

product	net_sales_millions
AQ BZ Allin1	33.75
AQ Qwerty	27.84
AQ Trigger	26.95
AQ Gen Y	23.58
AQ Maxima	22.32



Generate a report of Net Sales for Customers with Global % for Fiscal Year = 2021.

```
with cte1 as(
    select c.customer,
           round(sum(net_sales)/1000000,2) as net_sales_millions
    from net_sales n
    join dim_customer c
    using (customer_code)
    where n.fiscal_year=2021
    group by c.customer
)

select *,
       net_sales_millions*100/sum(net_sales_millions) over() as global_percentage
from cte1
order by net_sales_millions desc;
```

customer	net_sales_millions	global_percentage
Amazon	109.03	13.233402
Atliq Exclusive	79.92	9.700206
Atliq e Store	70.31	8.533803
Sage	27.07	3.285593
Flipkart	25.25	3.064692
Leader	24.52	2.976089
Neptune	21.01	2.550067
Ebay	19.88	2.412914
Electricalsociety	16.25	1.972327
Synthetic	16.10	1.954121
Electricalslytical	15.64	1.898289
Acclaimed St...	14.32	1.738075
Propel	14.14	1.716228
Novus	12.91	1.566938
Expression	12.90	1.565724
Reliance Digital	12.75	1.547518



Generate a report of Net Sales % share for Customers in APAC region for Fiscal Year = 2021.

```
with cte2 as(
    select c.customer,
           round(sum(s.net_sales)/1000000,2) as net_sales_millions
    from net_sales s
    join dim_customer c
    using (customer_code)
    where fiscal_year=2021 and
           c.region="APAC"
    group by c.customer
)
select *,
       round(net_sales_millions*100/sum(net_sales_millions) over(),2) as global_percentage
from cte2
order by net_sales_millions desc
limit 10;
```

customer	net_sales_millions	global_percentage
Amazon	57.41	12.99
Atliq Exclusive	51.58	11.67
Atliq e Store	36.97	8.36
Leader	24.52	5.55
Sage	22.85	5.17
Neptune	21.01	4.75
Electricalsocity	16.25	3.68
Synthetic	14.14	3.20
Propel	14.14	3.20
Flipkart	12.96	2.93



Generate a report of Top 3 Products sold for each department for Fiscal Year = 2021.

```
with cte1 as (  
    select p.division, p.product,  
           sum(s.sold_quantity) as total_quantity  
    from fact_sales_monthly s  
    join dim_product p  
    on p.product_code=s.product_code  
    where fiscal_year=2021  
    group by p.division,p.product),  
  
cte2 as (  
    select *,  
           dense_rank() over(partition by division order by total_quantity ) as top_n  
    from cte1 )  
  
select * from cte2  
    where top_n<=3;
```

division	product	total_quantity	top_n
N & S	AQ Clx3	408502	1
N & S	AQ Pen Drive 2 IN 1	701373	2
N & S	AQ Wi Power Dx2	840169	3
P & A	AQ Marquee P4	79434	1
P & A	AQ LION x1	136481	2
P & A	AQ Electron 3 3600 Desktop Pr...	162525	3
PC	AQ HOME Allin1 Gen 2	13855	1
PC	AQ Home Allin1	18661	2
PC	AQ Gamer 1	42859	3



# Forecast Accuracy Report for Customer with Highest Forecast Accuracy for Fiscal Year 2021

```

1 • with forecast_err_table as (
2     select
3         s.customer_code as customer_code,
4         c.customer as customer,
5         c.market as market,
6         sum(s.sold_quantity) as total_sold_quantity,
7         sum(s.forecast_quantity) as total_forecast_quantity,
8         sum((forecast_quantity-sold_quantity)) as net_err,
9         round(sum((forecast_quantity-sold_quantity))*100/sum(forecast_quantity),1) as net_err_pct,
10        sum(abs(forecast_quantity-sold_quantity)) as abs_err,
11        round(sum(abs(forecast_quantity-sold_quantity))*100/sum(forecast_quantity),1) as abs_err_pct
12    from fact_act_est s
13    join dim_customer c
14    using (customer_code)
15    where s.fiscal_year=2021
16    group by s.customer_code)
17 select
18     *,
19     if(abs_err_pct>100,0, 100-abs_err_pct) as forecast_accuracy
20 from forecast_err_table
21 order by forecast_accuracy desc;

```

	customer_code	customer	market	total_sold_quantity	total_forecast_quantity	net_err	net_err_pct	abs_err	abs_err_pct	forecast_accuracy
▶	90013120	Coolblue	Italy	109547	133532	23985	18.0	70467	52.8	47.2
	90023027	Costco	Canada	236189	279962	43773	15.6	149303	53.3	46.7
	70010048	Atliq e Store	Bangladesh	119439	142010	22571	15.9	75711	53.3	46.7
	90023026	Relief	Canada	228988	273492	44504	16.3	146948	53.7	46.3
	90017051	Forward Stores	Portugal	86823	118067	31244	26.5	63568	53.8	46.2
	90017058	Mbit	Portugal	86860	110195	23335	21.2	59473	54.0	46.0
	90023028	walmart	Canada	239081	283323	44242	15.6	153058	54.0	46.0
	90015146	Mbit	Norway	147152	210507	63355	30.1	114189	54.2	45.8
	90013124	Amazon	Italy	110898	136116	25218	18.5	73826	54.2	45.8
	90023024	Sage	Canada	246397	287233	40836	14.2	155610	54.2	45.8
	90015147	Chiptec	Norway	154897	223867	68970	30.8	122100	54.5	45.5
	90017054	Flawless Stores	Portugal	84371	114698	30327	26.4	62483	54.5	45.5
	70027208	Atliq e Store	Brazil	33713	47321	13608	28.8	25784	54.5	45.5
	80001019	Neptune	China	1113979	1275248	161269	12.6	695779	54.6	45.4
	90015144	Sound	Norway	160074	225637	65563	29.1	123257	54.6	45.4
	70013125	Atliq Exclusive	Italy	101658	123428	21770	17.6	67546	54.7	45.3
	90009130	Logic Stores	Newzealand	103290	110175	6885	6.2	60225	54.7	45.3
	90015149	IliniEuro	Norway	142086	212500	70414	33.1	116172	54.7	45.3



## Findings

- AtliQ Hardware achieved record sales in 2022.
- India was the largest market in 2021 with sales of \$210.67M.
- Amazon generated the highest net sales in 2021 with \$109.03M.
- The AQ BZ All-in-One was top selling product in 2021 with sales \$33.75M.
- Cool Blue, Costco, AtliQ e store are the top 3 customers with highest forecast accuracy.