



## Finance & Supply Chain Analytics

AtliQ Hardware operates in the fast-moving consumer goods (FMCG) sector, catering to a diverse customer base spanning brick-and-mortar retailers, e-commerce platforms, and various distribution channels.

To tackle Excel file size issues and to make informed decisions AtliQ used MySQL to analyze their data.

## Product Wise Sales Report for FY-2021 (for a particular customer)

```
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 date
limit 1000000;
```

Input Query

	date	product_code	product	variant	sold_quantity	gross_price	gross_price_total
▶	2020-09-01	A0118150101	AQ Dracula HDD – 3.5 Inch SATA...	Standard	202	19.0573	3849.57
	2020-09-01	A0118150102	AQ Dracula HDD – 3.5 Inch SATA...	Plus	162	21.4565	3475.95
	2020-09-01	A0118150103	AQ Dracula HDD – 3.5 Inch SATA...	Premium	193	21.7795	4203.44
	2020-09-01	A0118150104	AQ Dracula HDD – 3.5 Inch SATA...	Premium Plus	146	22.9729	3354.04
	2020-09-01	A0219150201	AQ WereWolf NAS Internal Hard ...	Standard	149	23.6987	3531.11
	2020-09-01	A0219150202	AQ WereWolf NAS Internal Hard ...	Plus	107	24.7312	2646.24
	2020-09-01	A0220150203	AQ WereWolf NAS Internal Hard ...	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
	2020-09-01	A0519150203	AQ Mforce Gen Y	Standard 3	38	26.5871	1010.31
	2020-09-01	A0519150204	AQ Mforce Gen Y	Plus 1	149	26.1081	3890.11
	2020-09-01	A0519150205	AQ Mforce Gen Y	Plus 2	29	29.7008	861.32
	2020-09-01	A0519150206	AQ Mforce Gen Y	Plus 3	28	31.2439	874.83
	2020-09-01	A0519150207	AQ Mforce Gen Y	Premium 1	171	32.4427	5547.70

Output

## Gross Sales Monthly (for a particular customer)

```
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;
```

Input Query

	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
	2019-12-01	1488174.0158

Output

## Yearly Report of Total Gross Sales (for a particular customer)

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

Input Query

	fiscal_year	yearly_sales
▶	2018	1324097.48
	2019	3555079.19
	2020	6502182.12
	2021	23216512.73
	2022	44638199.11

Output

# Report for Top Markets, Products, Customers by Net Sales For A Given FY

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

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

select c.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 fiscal_year = 2021
group by c.customer
order by net_sales_mln desc
limit 5;
```

Input  
Queries

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

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

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

Output



# Region Wise Market Share %

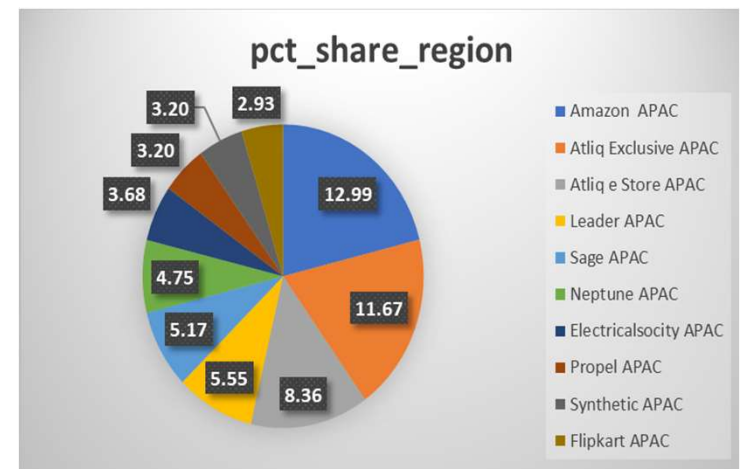
```
with cte1 as (
    select c.customer, c.region,
           round(sum(net_sales)/1000000,2) as net_sales_mln
    from net_sales s

    join dim_customer c
      on s.customer_code = c.customer_code

    where fiscal_year = 2021
    group by c.customer, c.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
Sound	APAC	3.44	0.778281
Surface Stores	APAC	2.78	0.628959
Logic Stores	APAC	2.21	0.500000
Epic Stores	APAC	1.93	0.436652
Path	APAC	1.92	0.434389
Control	APAC	1.62	0.366516
Nomad Stores	APAC	1.55	0.350679
All-Out	APAC	1.06	0.239819
Electricalsbea...	APAC	0.95	0.214932
Flawless Stores	APAC	0.90	0.203620
Info Stores	APAC	0.89	0.201357
Atliq e Store	EU	19.83	9.874514
Amazon	EU	19.77	9.844637
Atliq Exclusive	EU	13.39	6.667663
UniEuro	EU	9.63	4.795339
Expert	EU	8.38	4.172891
Chip 7	EU	7.23	3.600239
Radio Popular	EU	6.95	3.460811
Media Markt	EU	6.88	3.425954
Elkj�p	EU	6.76	3.366199
Sorefoz	EU	6.13	3.052485

Input  
Query &  
Output



Data Visualization for APAC region

## Region Wise Top 2 Markets by Gross Sales For FY-2021

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

Input Query

	market	region	gross_sales_mln	rnk
▶	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

Output

# Net Error % & Forecast Accuracy For Customers

```
with cte1 as (
    select
        s.customer_code,
        sum(s.sold_quantity) as total_sold_quantity,
        sum(s.forecast_quantity) as total_forecast_quantity,
        sum((sold_quantity-forecast_quantity)) as net_err,
        sum((sold_quantity-forecast_quantity))*100/sum(forecast_quantity) as net_err_pct,
        sum(abs(sold_quantity-forecast_quantity)) as abs_err,
        sum(abs(sold_quantity-forecast_quantity))*100/sum(forecast_quantity) as abs_err_pct
    from fact_actuals_est s
    where s.fiscal_year = 2021
    group by customer_code)

select
    a.customer_code,
    c.customer, c.market,
    a.total_sold_quantity, a.total_forecast_quantity,
    a.net_err, a.net_err_pct, a.abs_err, a.abs_err_pct,
    if (abs_err_pct > 100, 0, 100-abs_err_pct) as forecast_accuracy
from cte1 a
join dim_customer c
using(customer_code)
order by forecast_accuracy;
```

Input Query

customer_code	customer	market	total_sold_quantity	total_forecast_quantity	net_err	net_err_pct	abs_err	abs_err_pct	forecast_accuracy
70014142	Atiq Exclusive	Netherlands	81324	44740	36584	81.7702	47940	107.1524	0.0000
70014143	Atiq e Store	Netherlands	81942	45345	36597	80.7079	48575	107.1232	0.0000
90014135	Electricalsance Stores	Netherlands	82731	46718	36013	77.0859	48449	103.7052	0.0000
90014136	Reliance Digital	Netherlands	84808	48442	36366	75.0712	48472	100.0619	0.0000
90014137	Media Markt	Netherlands	77931	44802	33129	73.9454	45767	102.1539	0.0000
90014138	Mbit	Netherlands	79249	43779	35470	81.0206	45846	104.7214	0.0000
90014139	Elkjøp	Netherlands	83198	46240	36958	79.9265	48450	104.7794	0.0000
90014140	Radio Popular	Netherlands	85581	47577	38004	79.8789	49774	104.6178	0.0000
90014141	Amazon	Netherlands	77462	43905	33557	76.4309	45033	102.5692	0.0000
90007197	Amazon	South Korea	344240	226857	117383	51.7432	191047	84.2147	15.7853
90019202	Argos (Sainsbury's)	Sweden	26581	18218	8363	45.9051	15273	83.8347	16.1653
90019203	Amazon	Sweden	27550	19060	8490	44.5435	15928	83.5677	16.4323
70007198	Atiq Exclusive	South Korea	345667	228104	117563	51.5392	188585	82.6750	17.3250
70007199	Atiq e Store	South Korea	358064	236637	121427	51.3136	194953	82.3848	17.6152
80007196	Leader	South Korea	1456255	986574	469681	47.6073	807109	81.8093	18.1907
90012036	Billa	Germany	118242	80386	37856	47.0928	65686	81.7132	18.2868
90012034	Otto	Germany	112107	76252	35855	47.0217	62241	81.6254	18.3746
90012035	Notebillig	Germany	116882	80144	36738	45.8400	65022	81.1315	18.8685
90012037	Saturn	Germany	110414	77018	33396	43.3613	62258	80.8356	19.1644
80007195	Sage	South Korea	1443568	976823	466745	47.7819	786971	80.5643	19.4357
70012043	Atiq e Store	Germany	114116	80288	33828	42.1333	64402	80.2137	19.7863

Output