

# CONSUMER GOODS

**Atliq Hardwares is one of the leading computer hardware producers in India and well expanded in other countries too.**

**Task:**

However, the management noticed that they do not get enough insights to make quick and smart data-informed decisions.

for this they give some ad\_hoc request which we have to solve using SQL queries

By solving this request we get some business insights that help to take quick decisions.

No	Ad-Hoc Request
1	Provide the list of markets in which customer "Atliq Exclusive"
	operates its business in the APAC region.
2	What is the percentage of unique product increase in 2021 vs. 2020?
3	Provide a report with all the unique product counts for each segment
	and sort them in descending order of product counts.
4	Which segment had the most increase in unique products in 2021 vs 2020.
5	Get the products that have the highest and lowest manufacturing costs.
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.
7	Get the complete report of the Gross sales amount for the customer
	"Atliq Exclusive" for each month.
8	In which quarter of 2020, got the maximum total_sold_quantity?
9	Which channel helped to bring more gross sales in the fiscal year 2021
	and the percentage of contribution?
10	Get the Top 3 products in each division that have a high
	total_sold_quantity in the fiscal_year 2021?

Request: 1)

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

### Input

```
SELECT market FROM dim_customer  
where customer="Atliq Exclusive" and region="APAC";
```

### Output

country
India
Indonesia
Japan
Philippines
South Korea
Australia
Newzealand
Bangladesh
India

### Insights

1)Atliq Exclusive's presence in India, Indonesia, Japan, the Philippines, South Korea, Australia, New Zealand, and Bangladesh indicates purchasing power.

2)Atliq Exclusive can adjust its business plans, products, and marketing to make the most of the different opportunities in each market in the APAC region.

Request: 2)

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

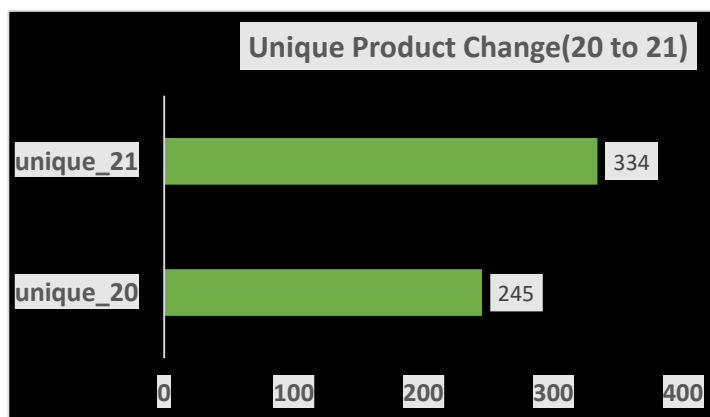
### Input

```
select x.unique_20,  
y.unique_21,  
round((unique_21-unique_20)*100/unique_20,2) as  
chg_percentage  
from  
(SELECT count(distinctrow(product_code)) as unique_20  
FROM gdb023.fact_sales_monthly where fiscal_year=2020)  
as x  
join (SELECT count(distinctrow(product_code)) as unique_21  
FROM gdb023.fact_sales_monthly where fiscal_year=2021)  
as y
```

### Output

unique_20	unique_21	chg_percentage
245	334	36.33

### Visuals



### Insights

1) From 2020 to 2021, Unique Product count increase from 245 to 334 it shows significant growth in product diversity

2) The growth change percentage is 36.33% indicating potential innovation, market expansion, or diversification of offerings.

Request: 3)

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

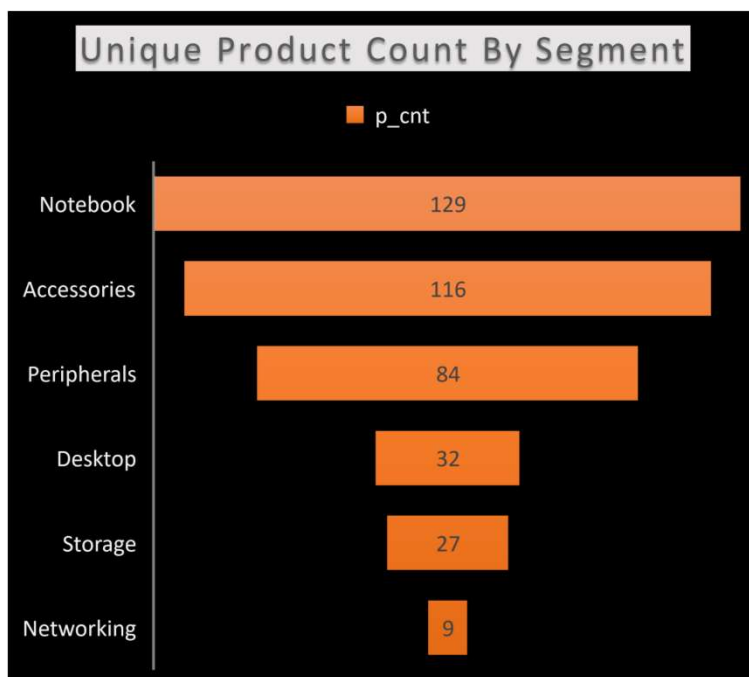
### Input

```
SELECT segment,  
count(product) as p_cnt  
FROM dim_product  
group by segment  
order by p_cnt desc;
```

### Output

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

### Visuals



### Insights

1) Notebooks and Accessories have the highest variety among the segments, indicating a wide range of options available for consumers. This reflects a strong demand for portable solutions in the market.

2) Peripherals also offer a significant selection.

3) The relatively lower variety in desktops compared to notebooks suggests a prevailing preference for portable computing solutions among consumers.

4) Storage solutions and networking products have relatively fewer unique options, indicating a narrower range of choices in these segments compared to others in the market.

Request: 4)

Which segment had the most increase in unique products in 2021 vs 2020?

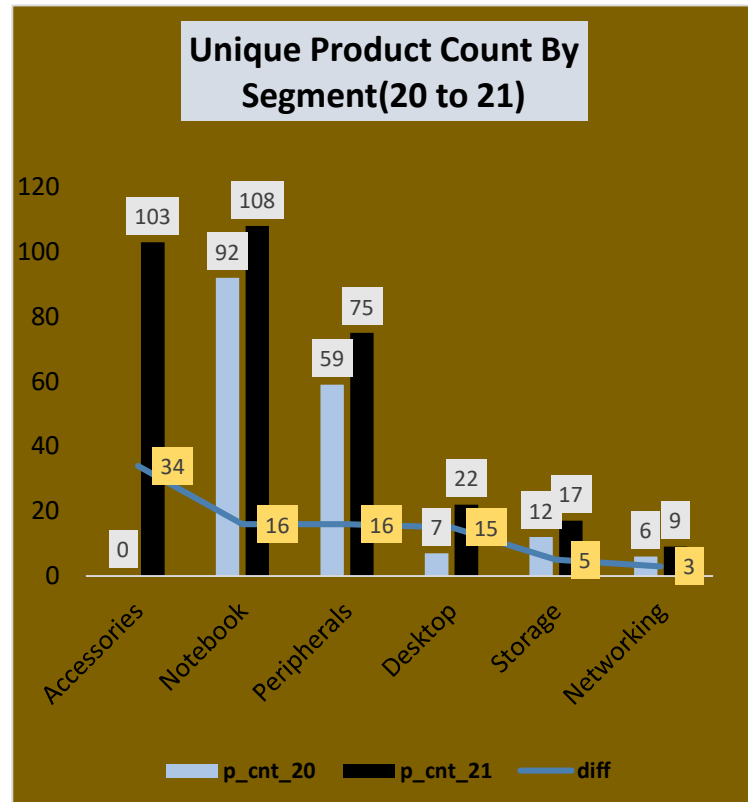
### Input

```
with x as
(
SELECT
p.segment,
count(distinct(p.product_code)) as
p_cnt_20
FROM dim_product p
join fact_sales_monthly f
on p.product_code=f.product_code
where f.fiscal_year="2020"
group by p.segment),
y as
(
SELECT
p.segment,
count(distinct(p.product_code)) as
p_cnt_21
FROM dim_product p
join fact_sales_monthly f
on p.product_code=f.product_code
where f.fiscal_year="2021"
group by p.segment)
select
x.segment,
p_cnt_20,
p_cnt_21,
abs(p_cnt_20-p_cnt_21) as diff
from x
join y
on x.segment=y.segment
order by diff desc;
```

### Output

segment	p_cnt_20	p_cnt_21	diff
Accessories	fg	103	34
Notebook	92	108	16
Peripherals	59	75	16
Desktop	7	22	15
Storage	12	17	5
Networking	6	9	3

### Visuals



### Insights

- 1) Segment like Accessories has highest difference of unique product count from 2020 to 2021. This shows the highest demand of accessories in market.
- 2) Segment like networking has less demand in market as compared to other segment.
- 3) Using above data we conclude that the in which products demand of consumer increase and decrease.

Request: 5)

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

### Input

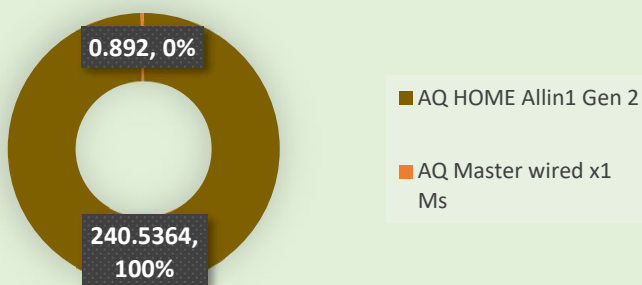
```
SELECT
p.product_code,
p.product,
m.manufacturing_cost
FROM dim_product p
join fact_manufacturing_cost m
on p.product_code=m.product_code
where m.manufacturing_cost in (
(select min(manufacturing_cost) from fact_manufacturing_cost),
(select max(manufacturing_cost) from fact_manufacturing_cost)
)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

### Output

product_code	product	manufacturing_cost
A6120110206	AQ HOME Allin1 Gen 2	240.5364
A2118150101	AQ Master wired x1 Ms	0.892

### Visuals

#### Highest and Lowest manufacturing\_cost of Product



### Insights

1) Product AQ HOME Allin1 Gen 2 has high manufacturing cost and AQ Master wired x1 Ms has low cost.

2) High manufacturing costs involve risks related to quality control and regulatory compliance, while low-cost manufacturing faces risks associated with supply chain disruptions and competitive pressures.

Request: 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.

### Input

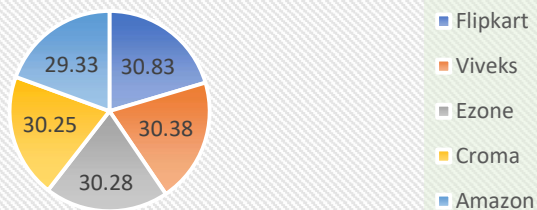
```
select
c.customer_code,
c.customer,
round(avg(pre.pre_invoice_discount_pct)*100,2) as avg_disc
FROM dim_customer c
join fact_pre_invoice_deductions pre
on c.customer_code=pre.customer_code
where pre.fiscal_year=2021 and c.market="India"
group by c.customer_code, c.customer
order by avg_disc desc limit 5;
```

### Output

customer_code	customer	avg_disc
90002009	Flipkart	30.83
90002006	Viveks	30.38
90002003	Ezone	30.28
90002002	Croma	30.25
90002016	Amazon	29.33

### Visuals

Top 5 customer by average discount %



### Insights

1) customer like flipkart, viveks, ezone, croma, amazon this are the top 5 customer in 2021 which has average discount percentage is high in india market

2)suggest strategic pricing, strong supplier relationships, and significant market influence, all of which are crucial in the competitive landscape of the Indian retail market.



### Request: 7)

Get the complete report of the Gross sales amount for the customer "Atliq Exclusive" for each month.

#### Input

```
SELECT monthname(f.date) as month,
f.fiscal_year,
round(sum(g.gross_price*f.sold_quantity),2)
as gross_sales_amount
FROM fact_sales_monthly f
join fact_gross_price g
on g.product_code=f.product_code and
g.fiscal_year=f.fiscal_year
join dim_customer c
on f.customer_code=c.customer_code
where c.customer="Atliq Exclusive"
group by month, f.fiscal_year
order by f.fiscal_year;
```

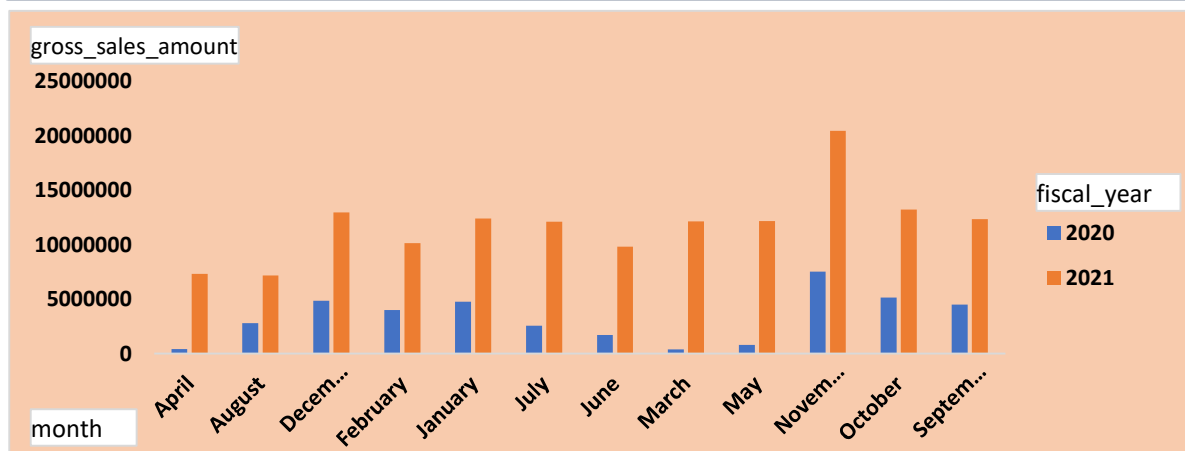
#### Output

month	fiscal_yr	gross_sales_amt
September	2020	4496259.67
October	2020	5135902.35
November	2020	7522892.56
December	2020	4830404.73
January	2020	4740600.16
February	2020	3996227.77
March	2020	378770.97
April	2020	395035.35
May	2020	783813.42
June	2020	1695216.6
July	2020	2551159.16
August	2020	2786648.26
September	2021	12353509.79
October	2021	13218636.2
November	2021	20464999.1
December	2021	12944659.65
January	2021	12399392.98
February	2021	10129735.57
March	2021	12144061.25
April	2021	7311999.95
May	2021	12150225.01
June	2021	9824521.01
July	2021	12092346.32
August	2021	7178707.59

#### Insights

- 1) In 2021, In november 21 we receive high gross sales amount and in august we receive low gross sales amount.
- 2) In 2020, In november we receive high gross sales amount and in march we receive low gross sales amount.

#### Visuals



Request: 8)

In which quarter of 2020, got the maximum total\_sold\_quantity?

### Input

```
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"
  else "Q4"
end
) as quarter,
sum(sold_quantity) as s_qty
FROM fact_sales_monthly
where fiscal_year=2020
group by quarter;
```

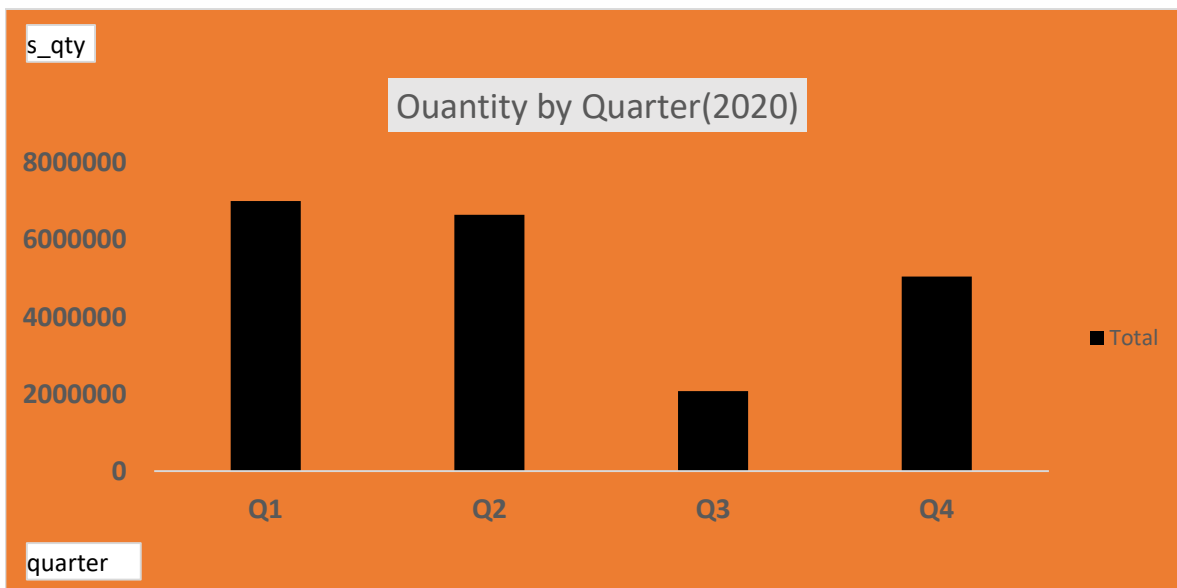
### Output

quarter	s_qty
Q1	7005619
Q2	6649642
Q3	2075087
Q4	5042541

### Insights

1) In 2020, Quarter number 1 has high sold quantity.

### Visuals



### Request: 9)

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

#### Input

```
with cte as
(SELECT c.channel,
round(sum(g.gross_price*f.sold_quantity)/1000000,2) as gross_sales_mln
FROM fact_sales_monthly f
join fact_gross_price g
on g.product_code=f.product_code and g.fiscal_year=f.fiscal_year
join dim_customer c
on f.customer_code=c.customer_code
where f.fiscal_year=2021
group by c.channel)

select channel,
gross_sales_mln,
gross_sales_mln*100/sum(gross_sales_mln) over() as pct
from cte
order by gross_sales_mln desc;
```

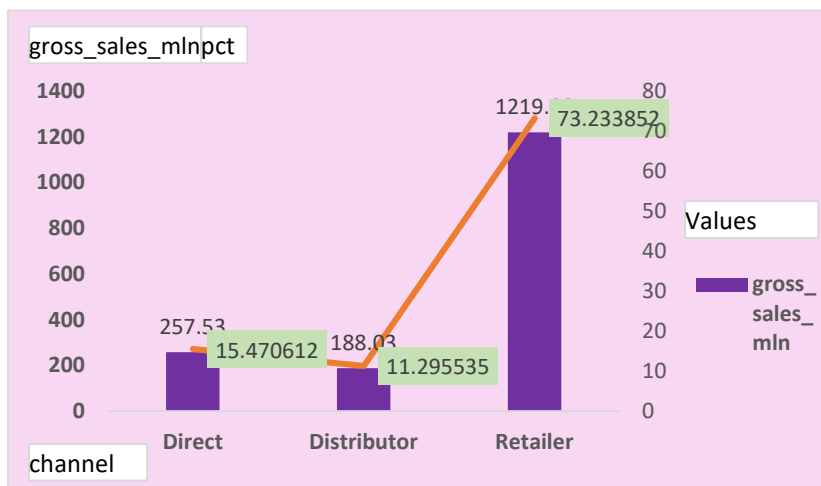
#### Output

channel	gross_sales_mln	pct
Retailer	1219.08	73.233852
Direct	257.53	15.470612
Distributor	188.03	11.295535

#### Insights

1) In 2021, The channel Retailer has highest gross sales amount and the channel direct has lowest.

#### Visuals



Request: 10)

Get the Top 3 products in each division that have a high total\_sold\_quantity in the fiscal\_year 2021?

#### Input

```
with cte as (SELECT
p.division,
p.product_code,
p.product,
sum(f.sold_quantity) as total_sold_qty,
rank() over(partition by p.division order by
sum(f.sold_quantity) desc) as rnk
FROM dim_product p
join fact_sales_monthly f
using(product_code)
where f.fiscal_year=2021
group by p.division, p.product_code, p.product)
select * from cte where rnk in (1,2,3);
```

#### Insights

1) IN 2021, Division like N&S, The top 3 product according to sold quantity is AQ Pen Drive 2 IN 1, AQ Pen Drive DRC , AQ Pen Drive DRC .

2) Division like P&A, The top 3 product according to sold quantity is AQ Gamers Ms ,AQ Maxima Ms ,AQ Maxima Ms

3) Division like PC, The top 3 product according to sold quantity is AQ Digit ,AQ Velocity, AQ Digit .

#### Output

division	product_code	product	sold_qty	rnk
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

#### Visuals

total\_sold\_qty|rnk

#### Top 3 product in P&A By quantity(2021)

