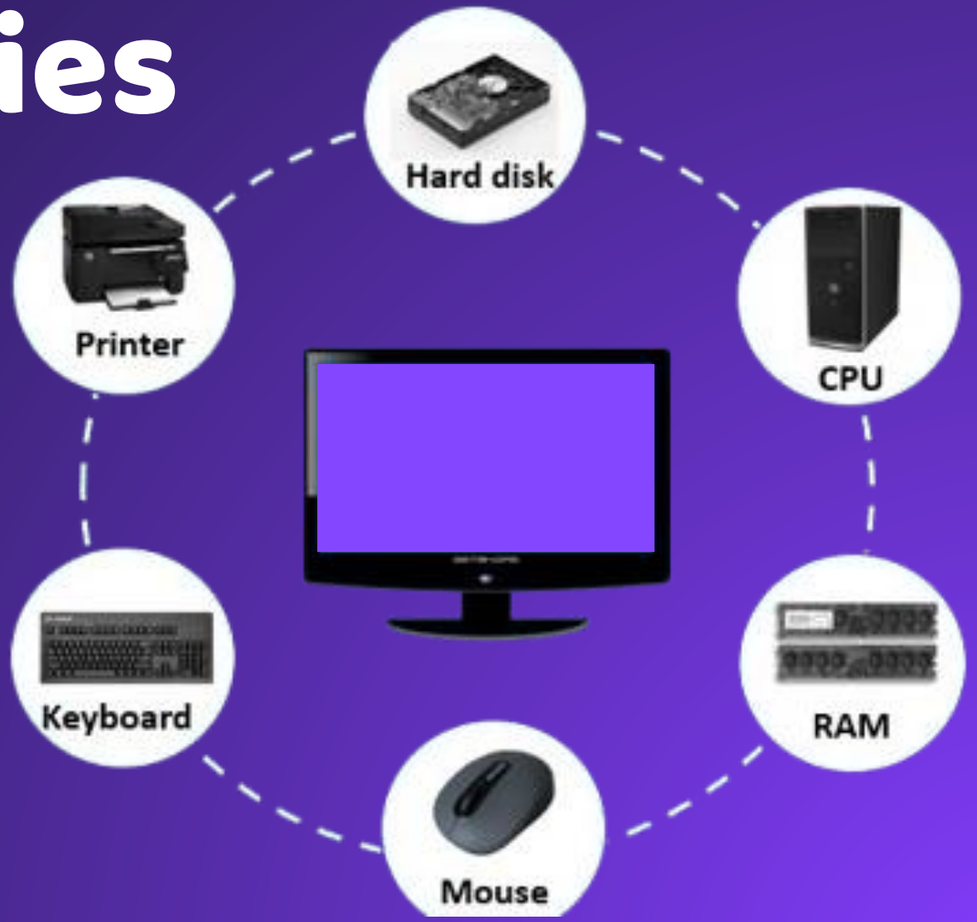
AtliQ technologies

Agenda:

- Situation
- Task
- Action
- Result



Situation:

Atliq Hardwares (imaginary company) is one of the leading computer hardware producers in India and well expanded in other countries too.

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

They want to expand their data analytics team by adding several junior data analysts. Tony Sharma, their data analytics director wanted to hire someone who is good at both tech and soft skills. Hence, he decided to conduct a SQL challenge which will help him understand both the skills.

Tasks:

Imagine yourself as the applicant for this role and perform the following task

1. Check ‘ad-hoc-requests.pdf’ - there are 10 ad hoc requests for which the business needs insights.
2. You need to run a SQL query to answer these requests.
3. The target audience of this dashboard is top-level management - hence you need to create a presentation to show the insights.

Actions :

Requests 1:

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

```
SELECT DISTINCT(market) FROM dim_customer
WHERE customer="Atliq Exclusive" && region="APAC";
```

	market
▶	India
	Indonesia
	Japan
	Philiphines
	South Korea
	Australia
	Newzealand
	Bangladesh

Insight:

Atliq Exclusive operates its business in 8 International Market
In the APAC region.

Requests 2:

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

```
SELECT
    COUNT(CASE WHEN fiscal_year="2020" THEN product_code END)  AS unique_product_2020,
    COUNT(CASE WHEN fiscal_year="2021" THEN product_code END)  AS unique_product_2021,
    (COUNT(CASE WHEN fiscal_year="2021" THEN product_code END) -
    COUNT(CASE WHEN fiscal_year="2020" THEN product_code END) ) /
    COUNT(CASE WHEN fiscal_year="2020" THEN product_code END) * 100 AS percentage_chg
FROM fact_gross_price;
```

	unique_product_2020	unique_product_2021	percentage_chg
▶	245	334	36.3265

Insight:

Total of 36% Increase has occur from the past 1 year
In total number of Products.

Requests 3:

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

```sql
SELECT segment, COUNT(DISTINCT(product_code)) AS product_counts
FROM dim_product
GROUP BY segment
ORDER BY product_counts DESC;
```

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

Insight:

In Segments, Notebook Top's the table In Total Number Product
Which is 48% Higher then the rest of the Segment.
The second one is Accessories with 41%.

While the Networking come's at bottom having Only 2%.

Requests 4:

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

```sql
SELECT
    pro.segment,
    COUNT(CASE WHEN gp.fiscal_year="2020" THEN pro.product_code END)  AS unique_product_2020,
    COUNT(CASE WHEN gp.fiscal_year="2021" THEN pro.product_code END)  AS unique_product_2021,
    (COUNT(CASE WHEN gp.fiscal_year="2021" THEN pro.product_code END) -
    COUNT(CASE WHEN gp.fiscal_year="2020" THEN pro.product_code END) ) AS difference
FROM fact_gross_price gp
JOIN dim_product pro ON gp.product_code = pro.product_code
GROUP BY pro.segment
ORDER BY difference DESC;
```

segment	unique_product_2020	unique_product_2021	difference
Accessories	69	103	34
Peripherals	59	75	16
Notebook	92	108	16
Desktop	7	22	15
Storage	12	17	5
Networking	6	9	3

Insight:

Storage and Networking are the most Concurring In term’s
Of Product Increase.

Requests 5:

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

```
(
    SELECT
        mc.product_code,
        pro.product,
        mc.manufacturing_cost
    FROM fact_manufacturing_cost mc
    JOIN dim_product pro
    ON mc.product_code = pro.product_code
    ORDER BY mc.manufacturing_cost DESC
    LIMIT 1
)
UNION ALL
(
    SELECT
    mc.product_code,
    pro.product,
    mc.manufacturing_cost
```

product_code	product	manufacturing_cost
A6120110206	AQ HOME Allin1 Gen 2	240.5364
A2118150101	AQ Master wired x1 Ms	0.8920

Insight:

Above are the 2 Products With highest and lowest manufacturing costs.

Requests 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.

```sql
SELECT
    c.customer_code,
    c.customer,
    id.pre_invoice_discount_pct
FROM dim_customer c
    JOIN fact_pre_invoice_deductions id
    ON c.customer_code = id.customer_code
WHERE id.fiscal_year="2021" && c.market="india"
    && id.pre_invoice_discount_pct >
    (SELECT AVG(pre_invoice_discount_pct)
        FROM fact_pre_invoice_deductions)
ORDER BY id.pre_invoice_discount_pct DESC
LIMIT 5;
```

customer_code	customer	pre_invoice_discount_pct
90002009	Flipkart	0.3083
90002006	Viveks	0.3038
90002003	Ezone	0.3028
90002002	Croma	0.3025
90002016	Amazon	0.2933

Insight:

Top 5 customer Who have receive discount Greater then the Average.

Requests 7:

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

```sql
SELECT
    EXTRACT(YEAR FROM s.date) AS Year,
    EXTRACT(MONTH FROM s.date) AS Month,
    ROUND(SUM(sold_quantity * gross_price),0)
    AS Gross_Sales
FROM fact_sales_monthly s
    JOIN fact_gross_price P
    ON s.product_code = p.product_code
    JOIN dim_customer c
    ON s.customer_code = c.customer_code
WHERE c.customer="Atliq Exclusive"
GROUP BY Year, Month
ORDER BY Year ASC, Gross_Sales DESC;
```

Year	Month	Gross_Sales
2019	12	190597
2020	11	677431
2020	12	495575
2020	9	451511
2020	10	423277
2020	1	179213
2020	8	143099
2020	2	122893
2020	7	84140
2020	6	65593
2020	5	39959
2020	3	17492
2020	4	17416
2021	3	441901

Insight:

Winter Season Is mostly more profitable then summer.

Requests 8:

In which quarter of 2020, got the maximum total_sold_quantity?

```
SELECT
    EXTRACT(QUARTER FROM date) AS QUARTER,
    SUM(sold_quantity) AS Total_Sold_Quantity
FROM fact_sales_monthly
WHERE fiscal_year="2020"
GROUP BY QUARTER
ORDER BY Total_Sold_Quantity DESC;
```

QUARTER	Total_Sold_Quantity
4	54217
1	49773
3	46483
2	43173

Insight:

1st And 4th Quarter has the most Quantity Sold.

Requests 9:

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

```sql
SELECT
    c.channel,
    SUM(s.sold_quantity * p.gross_price)
    AS Gross_Sales
FROM dim_customer c
JOIN fact_sales_monthly s
    ON c.customer_code=s.customer_code
JOIN fact_gross_price P
    ON s.product_code=p.product_code
WHERE s.fiscal_year="2021"
GROUP BY c.channel
ORDER BY Gross_Sales DESC;
```

channel	Gross_Sales
Retailer	41959452.9759
Direct	9097887.7876
Distributor	6410930.5106

Insight:

Retailer Channel bring the most Gross Sales in fiscal year 2021,
41.9M Approximately 270% more then the rest of the channels.