



AtliQ Finance & Supply Chain Report

Presented by Atharva Sutar



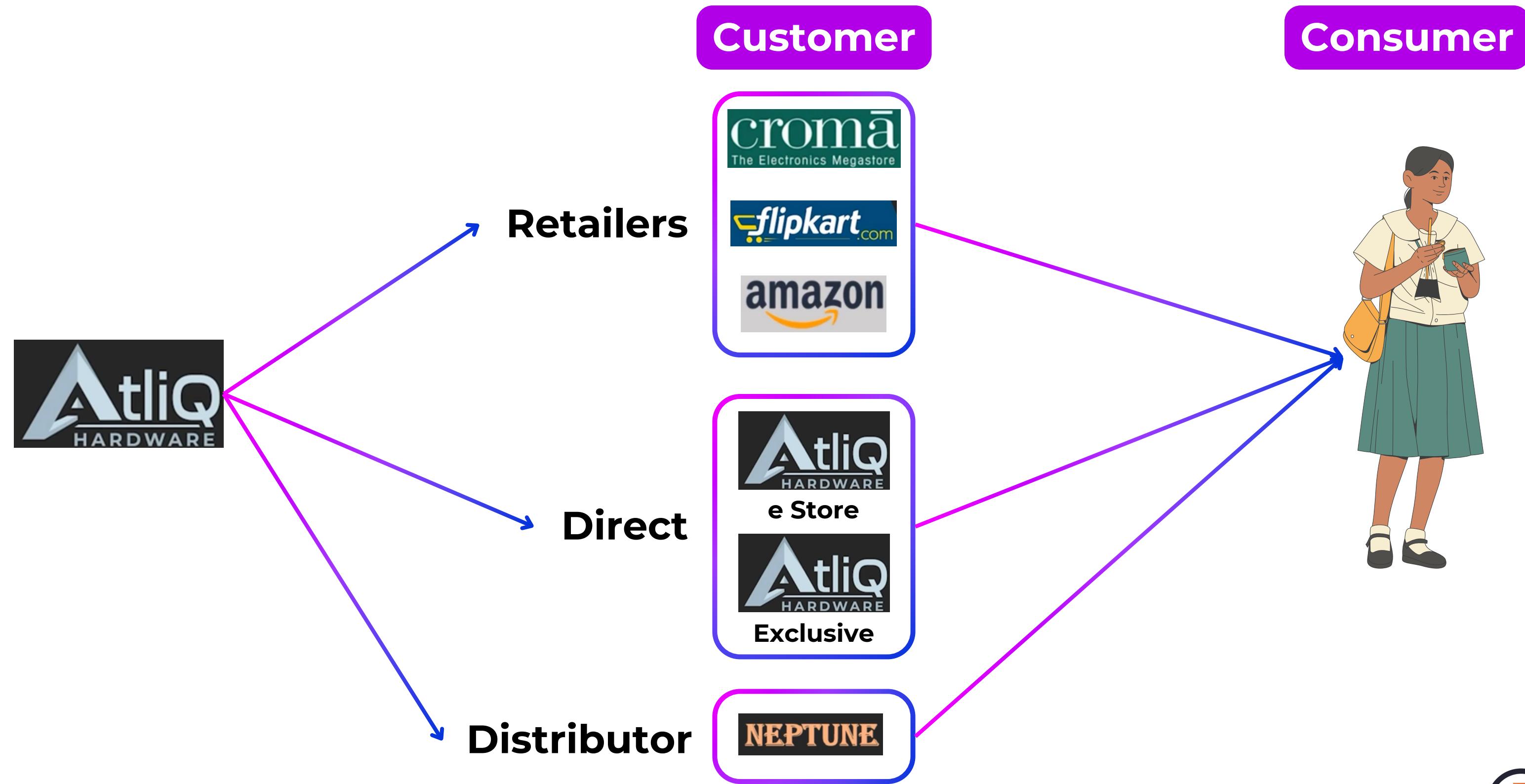
About AtliQ Hardware

AtliQ Hardware stands at the forefront of the technology landscape, weaving innovation and reliability into every product it creates. With a global footprint, AtliQ has become synonymous with cutting-edge computer hardware and peripherals. Let's explore what sets this company apart:



- Precision Craftsmanship:
 - AtliQ's commitment to quality craftsmanship is unwavering. Whether it's a sleek laptop, a robust printer, or a high-performance gaming mouse, each product undergoes rigorous testing and refinement.
 - The result? Devices that seamlessly integrate into users' lives, enhancing productivity, creativity, and entertainment.
- Diverse Product Portfolio:
 - Personal Computers (PCs): AtliQ's PCs cater to a wide spectrum of users—from casual home users to power-hungry professionals. Whether you need a compact desktop or a powerhouse workstation, AtliQ has you covered.
 - Printers and Peripherals: AtliQ's printers deliver crisp documents and vibrant images. Their ergonomic mice ensure precision and comfort during long work hours.
 - Laptops: AtliQ's laptops combine sleek design with robust performance. From ultrabooks for on-the-go professionals to gaming laptops for enthusiasts, there's a model for everyone.

AtliQ Hardware Business Model



Tools and Requests



MySQL



Microsoft Excel

**10 Ad Hoc
Requests**

Finance Analytics Requests:-

1. Generate a report for Croma India product wise sales for F.Y. 2021.
2. Generate monthly gross sales report for Croma India for all the years.
3. Generate monthly gross sales report for any customer using stored procedure.
4. Create a stored proc that can retrieve market badge. If total sold quantity > 5 million that market is considered "Gold", else "Silver".
5. Get top 5 market by net sales in fiscal year 2021.
6. Create a stored procedure that takes market, fiscal year and top n as an input and returns top n customers by net sales in that given fiscal year and market.
7. Find customer wise net sales distribution per region for FY 2021.
8. Find customer wise net sales distribution per region for FY 2021.
9. Find out top 3 products from each division by total quantity sold in a given year.

Supply Chain Analytics Requests:-

1. Generate a Forecast Accuracy Report.

Problem Statement



The growing size of Excel files has caused performance issues, leading to unresponsiveness and inefficiency.

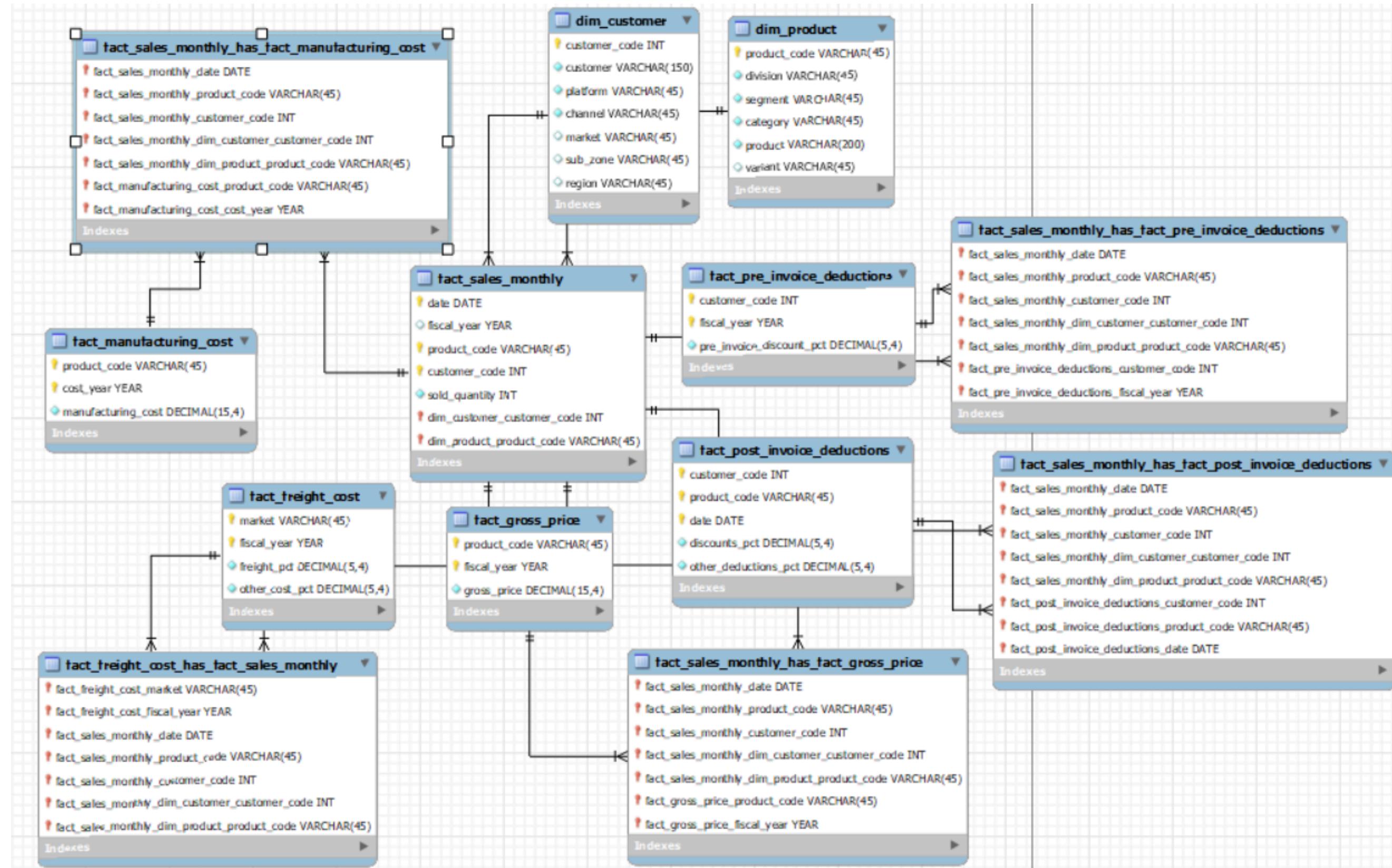
To address this, AtliQ Hardware has initiated a project by assembling a team of data analysts. They will use MySQL as their database management system to extract meaningful insights from the data. These insights will help the company improve decision-making and optimize operations, ultimately enhancing overall performance.

Report Overview



This report aims to analyze and extract valuable insights from a database containing information about sales, products, customers and regions for AtliQ Hardware. My goal is to address specific questions related to sales reports, market analysis and supply chain forecasting.

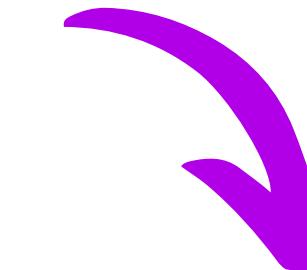
Database ER Diagram



Q1. Generate a report for Croma India product wise sales for F.Y. 2021.



```
SELECT s.date, p.product, p.variant, s.sold_quantity,  
g.gross_price AS gross_price_per_item, ROUND(s.sold_quantity*g.gross_price,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.fiscal_year=get_fiscal_year(s.date)  
AND g.product_code=s.product_code  
WHERE customer_code=90002002 AND get_fiscal_year(s.date)=2021;
```



More 2985 rows.

Date	Product	Variant	Sold Quantity	Gross Price Per Item	Gross Price Total
01-09-2020	AQ Dracula HDD â€“ 3.5 Inch SATA 6 Gb/s 5400 RPM 256 MB Cache	Standard	202	19.0573	3849.57
01-09-2020	AQ Dracula HDD â€“ 3.5 Inch SATA 6 Gb/s 5400 RPM 256 MB Cache	Plus	162	21.4565	3475.95
01-09-2020	AQ Dracula HDD â€“ 3.5 Inch SATA 6 Gb/s 5400 RPM 256 MB Cache	Premium	193	21.7795	4203.44
01-09-2020	AQ Dracula HDD â€“ 3.5 Inch SATA 6 Gb/s 5400 RPM 256 MB Cache	Premium Plus	146	22.9729	3354.04
01-09-2020	AQ WereWolf NAS Internal Hard Drive HDD â€“ 8.89 cm	Standard	149	23.6987	3531.11
01-09-2020	AQ WereWolf NAS Internal Hard Drive HDD â€“ 8.89 cm	Plus	107	24.7312	2646.24
01-09-2020	AQ WereWolf NAS Internal Hard Drive HDD â€“ 8.89 cm	Premium	123	23.6154	2904.69
01-09-2020	AQ Zion Saga	Standard	146	23.7223	3463.46
01-09-2020	AQ Zion Saga	Plus	236	27.1027	6396.24
01-09-2020	AQ Zion Saga	Premium	137	28.0059	3836.81
01-09-2020	AQ Mforce Gen X	Standard 3	23	19.5235	449.04
01-09-2020	AQ Mforce Gen X	Plus 1	82	19.9239	1633.76
01-09-2020	AQ Mforce Gen X	Plus 2	86	20.0766	1726.59
01-09-2020	AQ Mforce Gen X	Plus 3	48	19.9365	956.95
01-09-2020	AQ Mforce Gen Y	Standard 1	138	22.3984	3090.98
01-09-2020	AQ Mforce Gen Y	Standard 2	72	24.9298	1794.95
01-09-2020	AQ Mforce Gen Y	Standard 3	38	26.5871	1010.31
01-09-2020	AQ Mforce Gen Y	Plus 1	149	26.1081	3890.11
01-09-2020	AQ Mforce Gen Y	Plus 2	29	29.7008	861.32
01-09-2020	AQ Mforce Gen Y	Plus 3	28	31.2439	874.83
01-09-2020	AQ Mforce Gen Y	Premium 1	171	32.4427	5547.7
01-09-2020	AQ Mforce Gen Y	Premium 2	118	30.5816	3608.63
01-09-2020	AQ Mforce Gen Z	Standard 1	51	30.4696	1553.95
01-09-2020	AQ Mforce Gen Z	Standard 2	191	34.0973	6512.58

Q2. Generate monthly gross sales report for Croma India for all the years.



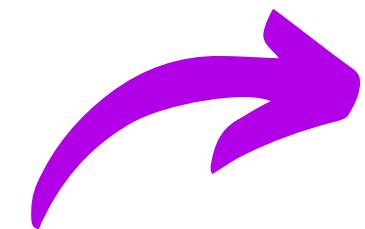
```
SELECT MONTH(s.date) AS Months,  
SUM(ROUND(s.sold_quantity*g.gross_price,2)) as Monthly_Sales  
FROM fact_sales_monthly s  
JOIN fact_gross_price g  
ON g.fiscal_year=get_fiscal_year(s.date)  
AND g.product_code=s.product_code  
WHERE customer_code=90002002 GROUP BY date;
```



Date	Monthly Sales	Date2	Monthly Sales_
01-09-2017	\$ 1,22,407.57	01-12-2019	\$ 14,88,174.01
01-10-2017	\$ 1,62,687.56	01-01-2020	\$ 8,12,929.77
01-12-2017	\$ 2,45,673.84	01-02-2020	\$ 8,62,762.82
01-01-2018	\$ 1,27,574.73	01-04-2020	\$ 1,30,520.91
01-02-2018	\$ 1,44,799.54	01-05-2020	\$ 1,45,049.08
01-04-2018	\$ 1,30,643.92	01-06-2020	\$ 3,62,545.18
01-05-2018	\$ 1,39,165.06	01-08-2020	\$ 7,99,327.63
01-06-2018	\$ 1,25,735.36	01-09-2020	\$ 22,96,919.58
01-08-2018	\$ 1,25,409.90	01-10-2020	\$ 31,09,316.96
01-09-2018	\$ 3,43,337.14	01-12-2020	\$ 40,78,790.04
01-10-2018	\$ 4,40,562.10	01-01-2021	\$ 23,03,086.42
01-12-2018	\$ 6,53,944.72	01-02-2021	\$ 23,55,170.55
01-01-2019	\$ 3,59,025.06	01-04-2021	\$ 22,53,575.01
01-02-2019	\$ 3,56,607.19	01-05-2021	\$ 21,81,587.87
01-04-2019	\$ 3,79,549.74	01-06-2021	\$ 22,88,587.49
01-05-2019	\$ 3,40,152.29	01-08-2021	\$ 23,49,478.81
01-06-2019	\$ 3,43,792.08	01-09-2021	\$ 1,11,92,823.18
01-08-2019	\$ 3,38,108.87	01-10-2021	\$ 1,39,08,229.35
01-09-2019	\$ 8,08,250.42	01-12-2021	\$ 1,95,37,146.58
01-10-2019	\$ 10,92,622.30		

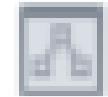
Q3. Generate monthly gross sales report for any customer using stored procedure.

```
CREATE PROCEDURE `get_monthly_gross_sales_for_customer`(  
    in_customer_codes TEXT  
)  
BEGIN  
    SELECT  
        s.date, SUM(ROUND(s.sold_quantity*g.gross_price,2)) as monthly_sales  
    FROM fact_sales_monthly s  
    JOIN fact_gross_price g ON g.fiscal_year=get_fiscal_year(s.date)  
    AND g.product_code=s.product_code  
    WHERE FIND_IN_SET(s.customer_code, in_customer_codes) > 0  
    GROUP BY s.date ORDER BY s.date DESC;  
END
```



Result on
next slide

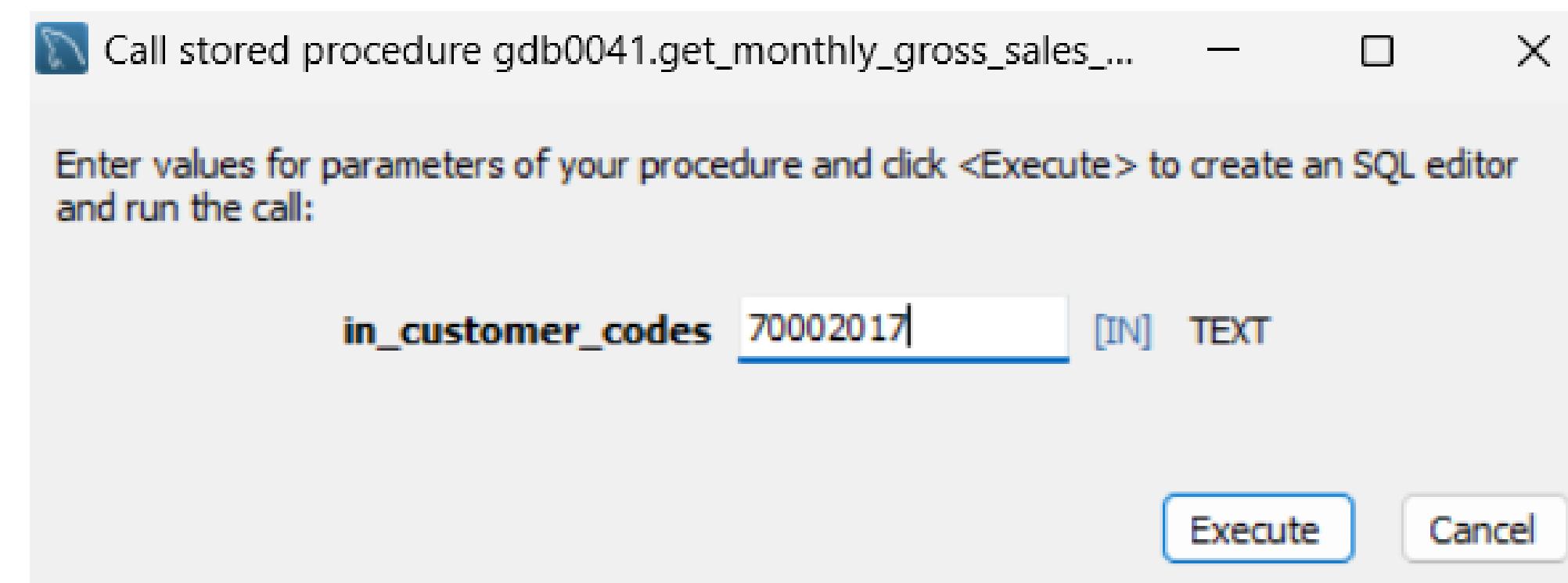
Q3. Generate monthly gross sales report for any customer using stored procedure.



`get_monthly_gross_sales_for_customer`



By clicking this, a dialog box will appear.



By executing this, we will get monthly sales report for any customer we want.

Q4. Create a stored procedure that can retrieve market badge. (If total sold quantity > 5 million that market is considered "Gold", else "Silver")

```
CREATE PROCEDURE `get_market_badge`(
    IN in_market VARCHAR(45),
    IN in_fiscal_year YEAR,
    OUT out_level VARCHAR(45)
)
BEGIN
    DECLARE qty INT DEFAULT 0;

    IF in_market = "" THEN
        SET in_market="India";
    END IF;
    SELECT SUM(s.sold_quantity) INTO qty
    FROM fact_sales_monthly s
    JOIN dim_customer c ON s.customer_code=c.customer_code
    WHERE get_fiscal_year(s.date)=in_fiscal_year AND c.market=in_market;

    IF qty > 5000000 THEN
        SET out_level = 'Gold';
    ELSE
        SET out_level = 'Silver';
    END IF;
END
```

Q5. Get top 5 market by net sales in fiscal year 2021.



```
● ● ●  
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;
```

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

Q6. Create a stored procedure that takes market, fiscal_year and top n as an input and returns top n customers by net sales in that given fiscal year and market.

```
CREATE PROCEDURE `get_top_n_customers_by_net_sales`(
    in_market VARCHAR(45),
    in_fiscal_year INT,
    in_top_n INT
)
BEGIN
    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=in_fiscal_year AND s.market=in_market
    GROUP BY customer
    ORDER BY net_sales_mln DESC
    LIMIT in_top_n;
END
```

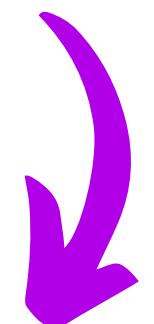


Call stored procedure gdb0041.get_top_n_customers_by_...

Enter values for parameters of your procedure and click <Execute> to create an SQL editor and run the call:

in_market	India	[IN] VARCHAR(45)
in_fiscal_year	2021	[IN] INT
in_top_n	3	[IN] INT

Execute Cancel

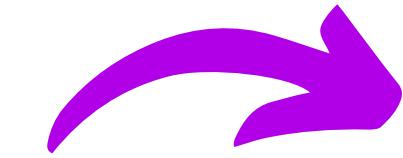


customer	net_sales_mln
Amazon	30
Atliq Exclusive	23.98
Flipkart	12.96

Q7. Find out customer wise net sales percentage contribution

```
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
*, net_sales_mln * 100 / sum(net_sales_mln) OVER() AS pct_net_sales
FROM cte1
ORDER BY net_sales_mln DESC
```



customer	net_sales_mln	pct_net_sales
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	16.1	1.954121
Electricalslytical	15.64	1.898289
Acclaimed Stores	14.32	1.738075
Propel	14.14	1.716228
Novus	12.91	1.566938
Expression	12.9	1.565724
Reliance Digital	12.75	1.547518
walmart	12.63	1.532953
Costco	12.19	1.479548
Staples	11.49	1.394587
Girias	11.3	1.371526
Vijay Sales	11.27	1.367884
Path	11.02	1.337541
Lotus	10.53	1.278068
More 65 rows		

Q8. Find customer wise net sales distribution per region for FY 2021.



```
WITH cte1 AS(
SELECT c.customer,c.region, ROUND(SUM(net_sales) / 1000000,2) AS net_sales_mln
FROM gdb0041.net_sales n
JOIN dim_customer c ON n.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, pct_share_region DESC
```

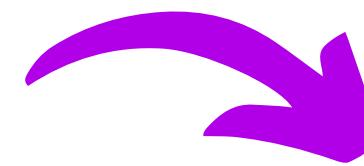
customer	region	net_sales_mln	pct_share_region
Amazon	APAC	57.41	12.988688
Atliq Exclusive	APAC	51.58	11.669683
Atliq e Store	APAC	36.97	8.364253
Leader	APAC	24.52	5.547511
Sage	APAC	22.85	5.169683
Neptune	APAC	21.01	4.753394
Electricalsociety	APAC	16.25	3.676471
Propel	APAC	14.14	3.199095
Synthetic	APAC	14.14	3.199095
Flipkart	APAC	12.96	2.932127
Novus	APAC	12.91	2.920814
Expression	APAC	12.9	2.918552
Girias	APAC	11.3	2.556561
Vijay Sales	APAC	11.27	2.549774
Ebay	APAC	11.14	2.520362
Reliance Digital	APAC	11.1	2.511312
Electricalslytical	APAC	11.08	2.506787
Lotus	APAC	10.53	2.382353
Ezone	APAC	10.3	2.330317
Viveks	APAC	10.09	2.282805
Croma	APAC	9.88	2.235294
Zone	APAC	6.91	1.563348
Acclaimed Stores	APAC	5.79	1.309955

More 89 rows

Q9. Find out top 3 products from each division by total quantity sold in a given year.

```
CREATE PROCEDURE `get_top_n_products_per_division_by_qty_sold`(
    in_fiscal_year INT,
    in_top_n INT
)
BEGIN
    WITH cte1 AS(
        SELECT p.division, p.product, SUM(sold_quantity) AS total_qty
        FROM fact_sales_monthly s
        JOIN dim_product p ON p.product_code=s.product_code
        WHERE fiscal_year = in_fiscal_year
        GROUP BY p.product),
    cte2 AS(
        SELECT *, DENSE_RANK() OVER(PARTITION BY division ORDER BY total_qty DESC) AS drnk
        FROM cte1)

    SELECT * FROM cte2 WHERE drnk <= in_top_n;
END
```



Call stored procedure gdb0041.get_top_n_products_per_... — X

Enter values for parameters of your procedure and click <Execute> to create an SQL editor and run the call:

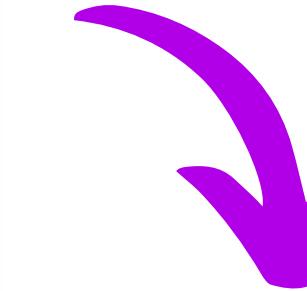
in_fiscal_year 2021 [IN] INT
in_top_n 3 [IN] INT

Execute Cancel

Q10. Generate a Forecast Accuracy Report. (Supply Chain Analytics)

```
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-s.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;
```



More 175 rows.

customer_code	customer_name	market	total_sold_qty	total_forecast_qty	net_error	net_error_pct	abs_error	abs_error_pct	forecast_accuracy
90013120	Coolblue	Italy	109547	133532	23985	18	70467	52.77	47.23
70010048	Atliq e Store	Bangladesh	119439	142010	22571	15.9	75711	53.31	46.69
90023027	Costco	Canada	236189	279962	43773	15.6	149303	53.33	46.67
90023026	Relief	Canada	228988	273492	44504	16.3	146948	53.73	46.27
90017051	Forward Stores	Portugal	86823	118067	31244	26.5	63568	53.84	46.16
90017058	Mbit	Portugal	86860	110195	23335	21.2	59473	53.97	46.03
90023028	walmart	Canada	239081	283323	44242	15.6	153058	54.02	45.98
90023024	Sage	Canada	246397	287233	40836	14.2	155610	54.18	45.82
90015146	Mbit	Norway	147152	210507	63355	30.1	114189	54.24	45.76
90013124	Amazon	Italy	110898	136116	25218	18.5	73826	54.24	45.76
90017054	Flawless Stores	Portugal	84371	114698	30327	26.4	62483	54.48	45.52
70027208	Atliq e Store	Brazil	33713	47321	13608	28.8	25784	54.49	45.51
90015147	Chiptec	Norway	154897	223867	68970	30.8	122100	54.54	45.46
80001019	Neptune	China	1113979	1275248	161269	12.6	695779	54.56	45.44
90015144	Sound	Norway	160074	225637	65563	29.1	123257	54.63	45.37
90009130	Logic Stores	Newzealand	103290	110175	6885	6.2	60225	54.66	45.34
90015149	UniEuro	Norway	142086	212500	70414	33.1	116172	54.67	45.33
90021088	Electricalslytical	United Kingdom	224350	323689	99339	30.7	176975	54.67	45.33
90017050	Electricalsara Stores	Portugal	85272	114688	29416	25.6	62760	54.72	45.28
70013125	Atliq Exclusive	Italy	101658	123428	21770	17.6	67546	54.73	45.27
90021094	Coolblue	United Kingdom	208512	301367	92855	30.8	165043	54.76	45.24
70009134	Atliq e Store	Newzealand	103747	110791	7044	6.4	60726	54.81	45.19
90013118	Fnac-Darty	Italy	101847	126289	24442	19.4	69242	54.83	45.17
70023031	Atliq Exclusive	Canada	234114	286297	52183	18.2	157171	54.9	45.1
90023025	Premium Stores	Canada	220808	266351	45543	17.1	146235	54.9	45.1
70017060	Atliq e Store	Portugal	89925	120744	30819	25.5	66285	54.9	45.1
90013122	Radio Popular	Italy	100746	123516	22770	18.4	67822	54.91	45.09
90017053	Info Stores	Portugal	84149	111740	27591	24.7	61373	54.92	45.08
90017059	Amazon	Portugal	87828	114154	26326	23.1	62720	54.94	45.06
90002007	Girias	India	746226	778757	32531	4.2	427909	54.95	45.05

Thank you

Atharva Sutar

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