

Add on Research 1

Product Performance by Region: Analyze the total gross sales and gross profit for each product segment by region (APAC, EU, NA). The final output contains these fields: (segment, region, total_sold_qty, gross_sales_mln, total_manufacturing_cost_mln, gross_profit_mln). Identify the most and least profitable regions for each product segment.

Solution

```
SELECT
  dp.segment,
  dc.region,
  SUM(fsm.sold_quantity) AS total_sold_qty,
  ROUND(SUM(fsm.sold_quantity * fgp.gross_price)/1000000,2) AS gross_sales_mln,
  ROUND(SUM(fsm.sold_quantity * fmc.manufacturing_cost)/1000000,2) AS total_manufacturing_cost_mln,
  ROUND(SUM(fsm.sold_quantity * (fgp.gross_price - fmc.manufacturing_cost))/1000000,2) AS gross_profit_mln
FROM fact_sales_monthly fsm
JOIN dim_product dp ON fsm.product_code = dp.product_code
JOIN dim_customer dc ON fsm.customer_code = dc.customer_code
JOIN fact_gross_price fgp ON fsm.product_code = fgp.product_code AND fsm.fiscal_year = fgp.fiscal_year
JOIN fact_manufacturing_cost fmc ON fsm.product_code = fmc.product_code AND fsm.fiscal_year = fmc.cost_year
GROUP BY dp.segment, dc.region
ORDER BY dp.segment, gross_profit_mln DESC;
```

	segment	region	total_sold_qty	gross_sales_mln	total_manufacturing_cost_mln	gross_profit_mln
▶	Accessories	APAC	24468471	344.31	103.00	241.31
	Accessories	EU	10268344	145.79	43.61	102.18
	Accessories	NA	9557913	133.95	40.08	93.87
	Accessories	LATAM	232229	3.10	0.93	2.17
	Desktop	APAC	72064	52.71	15.85	36.85
	Desktop	EU	30126	22.00	6.62	15.38
	Desktop	NA	28296	20.70	6.23	14.48
	Desktop	LATAM	354	0.25	0.08	0.18
	Networking	APAC	2352801	79.62	23.68	55.94
	Networking	EU	955577	32.48	9.66	22.82
	Networking	NA	911622	30.80	9.16	21.64
	Networking	LATAM	24278	0.80	0.24	0.56
	Notebook	APAC	1017469	391.38	117.13	274.24
	Notebook	EU	421878	162.82	48.73	114.09
	Notebook	NA	400037	153.65	45.98	107.67
	Notebook	LATAM	8968	3.27	0.98	2.29
	Peripherals	APAC	4473998	251.51	75.05	176.46
	Peripherals	EU	1858431	104.91	31.30	73.60
	Peripherals	NA	1758058	99.00	29.54	69.46
	Peripherals	LATAM	43516	2.36	0.70	1.66
	Storage	APAC	6659172	91.31	27.38	63.94
	Storage	EU	2736912	37.42	11.21	26.21
	Storage	NA	2592234	35.56	10.66	24.90
	Storage	LATAM	64723	0.89	0.27	0.62

SQL Query

SQL Query Result

Graphical Depiction



Gross Profit
by Segment, Region

Strategic Insights



APAC Dominates: APAC consistently outperforms other regions in all product segments, generating the highest gross profits, with **Accessories** and **Notebooks** driving the most substantial returns.

LATAM Struggles: LATAM **underperforms** significantly **across all segments**, contributing minimal gross profits, indicating limited market potential.

EU and NA: Both regions perform solidly, particularly in **Accessories** and **Notebooks**, with **EU** showing higher profitability in Networking and Storage.

Profit Distribution: **Notebooks** and **Accessories** stand out as top profit-generating segments across regions, while **Desktop** and **Networking** show moderate profitability.

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Add on Research 2

Sales Channel Efficiency: Compare the yearly average order size and frequency of orders across different sales channels (Retailer, Direct, Distributor). The final output contains these fields: (channel, fiscal_year, avg_order_size, order_frequency).

Solution

```
SELECT
  dc.channel,
  fsm.fiscal_year,
  ROUND(AVG(fsm.sold_quantity),2) AS avg_order_size,
  COUNT(fsm.customer_code) AS order_frequency
FROM fact_sales_monthly fsm
JOIN dim_customer dc USING(customer_code)
GROUP BY dc.channel, fsm.fiscal_year
ORDER BY avg_order_size DESC;
```

SQL Query

SQL Query Result

	channel	fiscal_year	avg_order_size	order_frequency
▶	Distributor	2021	374.74	15030
	Distributor	2020	217.83	10690
	Retailer	2021	77.18	476640
	Direct	2021	66.50	116438
	Retailer	2020	52.40	280470
	Direct	2020	51.79	72363

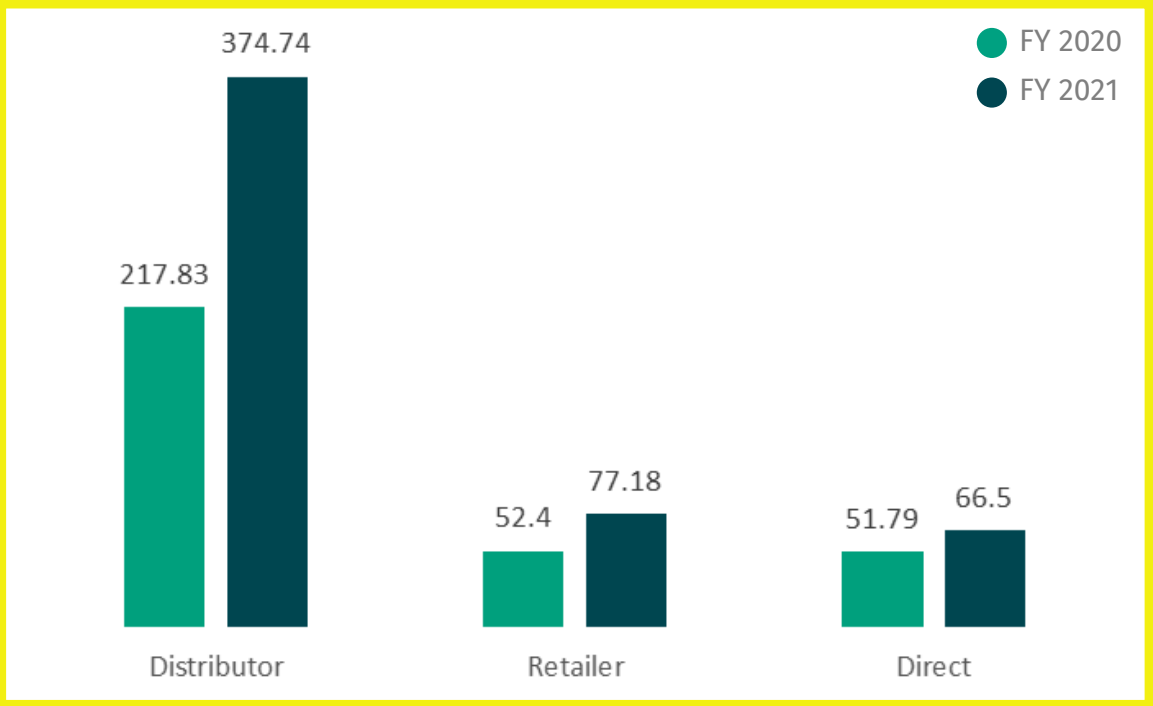
Strategic Insights

Distributors show the **highest average order size** but significantly **fewer orders** compared to other channels, with a substantial increase in both metrics from **2020** to **2021**.

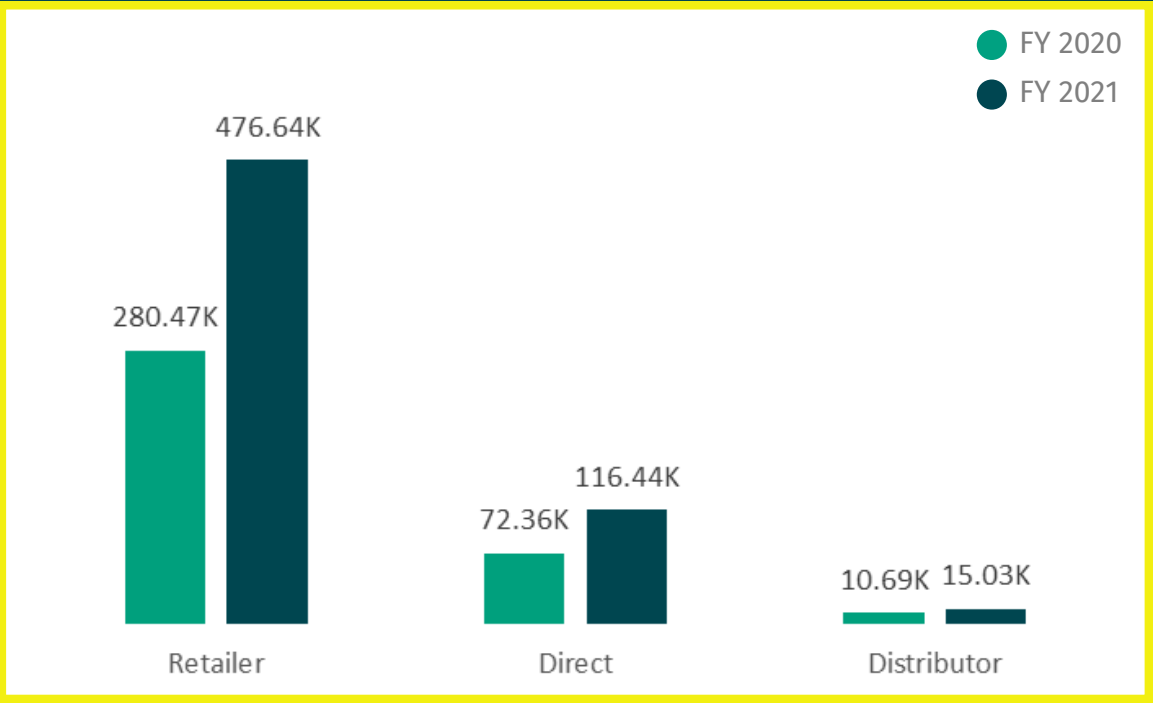
Retailers have the **highest order frequency** across all channels, with a **moderate increase** in **average order size** from **2020** to **2021**.

Direct Sales exhibit the **lowest average order size** but show **steady growth** in both **order size** and **frequency** year-over-year, indicating potential for further expansion.

Graphical Depiction



Yearly Avg Order Size by Channels



Yearly Order Frequency by Channels

Add on Research 3

Impact of Discounts on Sales: Analyze the impact of different discount rates on sales volumes.
The final output contains these fields: (customer, market, fiscal_year, discount_rate, gross_sales_mln, total_sold_quantity).
Identify top 10 customer in 2021 by gross_sales.

Solution

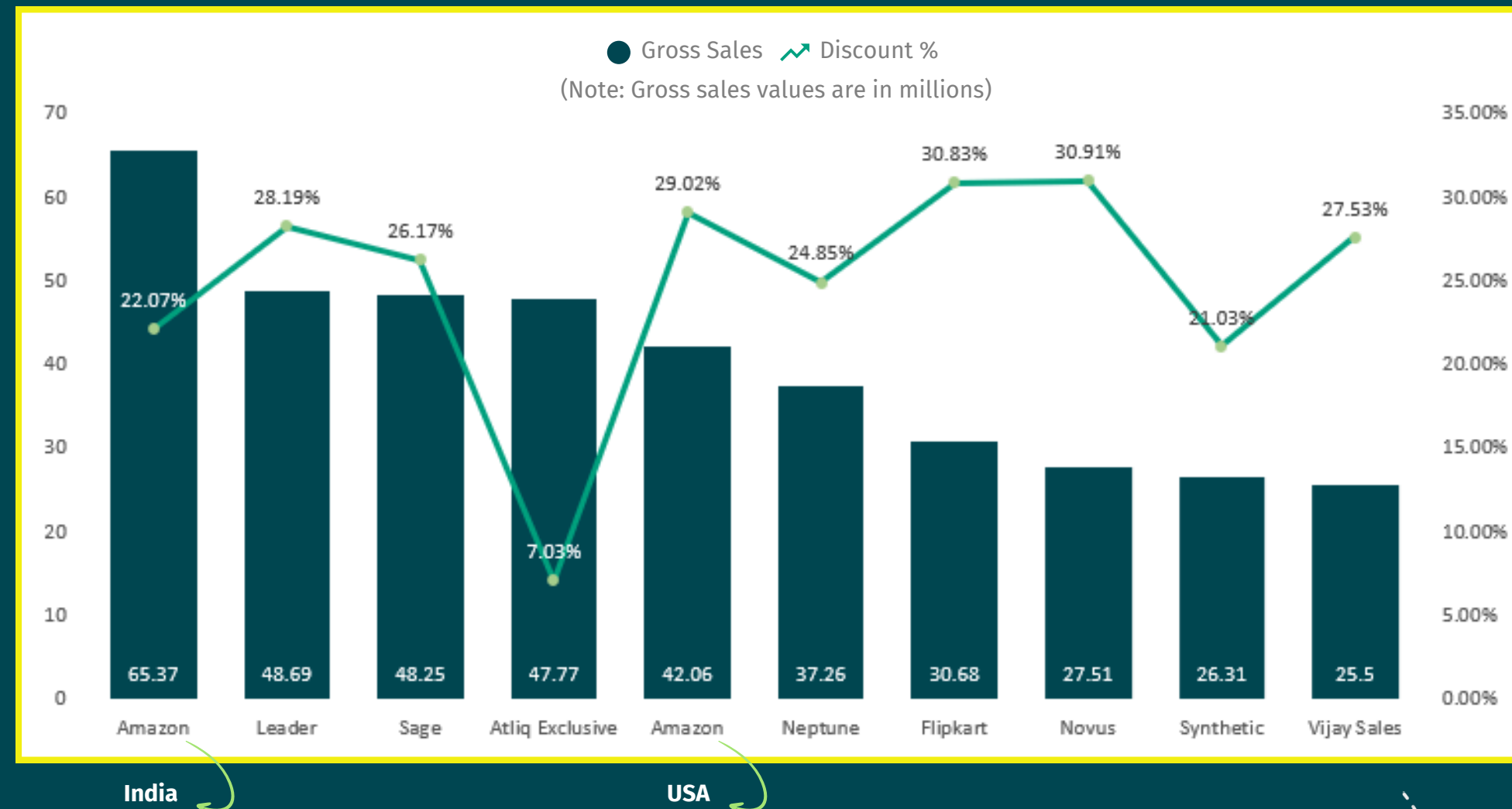
```
SELECT
  dc.customer,
  dc.market,
  fsm.fiscal_year,
  fp.pre_invoice_discount_pct AS discount_rate,
  ROUND(SUM(fsm.sold_quantity * fgp.gross_price) /1000000, 2) AS gross_sales_mln,
  SUM(fsm.sold_quantity) AS total_sold_quantity
FROM fact_sales_monthly fsm
JOIN fact_pre_invoice_deductions fp ON fsm.customer_code = fp.customer_code AND fsm.fiscal_year = fp.fiscal_year
JOIN fact_gross_price fgp ON fsm.product_code = fgp.product_code AND fsm.fiscal_year = fgp.fiscal_year
JOIN dim_customer dc ON fsm.customer_code = dc.customer_code
WHERE fsm.fiscal_year = 2021
GROUP BY
  dc.customer, dc.market, fsm.fiscal_year
ORDER BY gross_sales_mln DESC
LIMIT 10;
```

	customer	market	fiscal_year	discount_rate	gross_sales_mln	total_sold_quantity
▶	Amazon	India	2021	0.2207	65.37	1971428
	Leader	South Korea	2021	0.2819	48.69	1456255
	Sage	South Korea	2021	0.2617	48.25	1443568
	Atliq Exclusive	India	2021	0.0703	47.77	1453369
	Amazon	USA	2021	0.2902	42.06	1269708
	Neptune	China	2021	0.2485	37.26	1113979
	Flipkart	India	2021	0.3083	30.68	912784
	Novus	Philiphines	2021	0.3091	27.51	829053
	Synthetic	Philiphines	2021	0.2103	26.31	789531
	Vijay Sales	India	2021	0.2753	25.50	769180

SQL Query Result

SQL Query

Graphical Depiction



Top 10 Customers by Gross Sales - FY 21 (With Discount %)

Strategic Insights



Top Customer: Amazon India led gross sales in 2021 with **\$65.37 million**, selling nearly **2 million units** with a **22% discount rate**.

Strong Regional Players: South Korea's **Leader** and **Sage** both recorded significant gross sales, around **\$48 million** each, benefiting from discount rates of **28%** and **26%**, respectively.

Discount-Sales Relationship: Despite having a lower discount rate (**7%**), **AtliQ Exclusive** achieved **\$47.77 million** in gross sales, showcasing its effective market presence in India.

India's Dominance: Four Indian customers (**Amazon India, AtliQ Exclusive India, Flipkart, Vijay Sales**) ranked **in the top 10**, demonstrating the impact of competitive discounting strategies and the strength of India's market.

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