Atliq Hardware - Data Analysis Using SQL

1. Project Overview

AtliQ Hardware, a computer hardware supplier with a head office in Delhi and regional offices across India, faces challenges in tracking sales in a dynamically changing market.
The sales director, Bhavan Patel, struggles with inconsistent verbal reports from regional managers and an overwhelming volume of Excel files, making it difficult to get clear, accurate sales insights.

You are tasked with analyzing the company's sales dataset to answer the following overarching business question: **"How can the company leverage sales data to identify trends, improve sales volume, identify sales leaks and accurate sales insights to enable data-driven decisions that improve sales performance, and optimize marketing and product strategies?"**

2. Exploratory Data Analysis using Python

1. **Show all customer records -** SELECT * FROM customers;

```
4 •   SELECT * FROM customers;
5
6
```

Result Grid | Filter Rows: | Edit:

customer_code	custmer_name	customer_type
Cus001	Surge Stores	Brick & Mortar
Cus002	Nomad Stores	Brick & Mortar
Cus003	Excel Stores	Brick & Mortar
Cus004	Surface Stores	Brick & Mortar
Cus005	Premium Stores	Brick & Mortar
Cus006	Electricalsara Stores	Brick & Mortar
Cus007	Info Stores	Brick & Mortar
Cus008	Acclaimed Stores	Brick & Mortar
Cus009	Electricalsquipo Stores	Brick & Mortar
Cus010	Atlas Stores	Brick & Mortar
Cus011	Flawless Stores	Brick & Mortar
Cus012	Integration Stores	Brick & Mortar
Cus013	Unity Stores	Brick & Mortar
Cus014	Forward Stores	Brick & Mortar
Cus015	Electricalsbea Stores	Brick & Mortar
Cus016	Logic Stores	Brick & Mortar
Cus017	Epic Stores	Brick & Mortar
Cus018	Electricalslance Stores	Brick & Mortar
Cus019	Electricalsopedia Stores	Brick & Mortar
Cus020	Nixon	E-Commerce
Cus021	Modular	E-Commerce
Cus022	Electricalslytical	E-Commerce

customers 1 ×

2. **Show total number of customers -** SELECT count(*) FROM customers;

```
6 •  SELECT count(*) FROM customers;
```

Result Grid | Filter Rows: | Export: | Wra

count(*)
38

3. **Show transactions for Chennai market (market code for chennai is Mark001 -** SELECT * FROM transactions where market_code='Mark001';

```
6 •  SELECT * FROM transactions where market_code='Mark001';
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

product_code	customer_code	market_code	order_date	sales_qty	sales_amount	currency	profit_margin_percentage	profit_margin	cost_price
Prod110	Cus001	Mark001	2017-10-10	1	1190	INR	-0.21	-249.9	1439.9
Prod265	Cus001	Mark001	2017-10-10	1	162	INR	-0.27	-43.74	205.74
Prod302	Cus001	Mark001	2017-10-10	1	51	INR	-0.09	-4.59	55.59
Prod110	Cus001	Mark001	2017-10-25	1	1190	INR	0.05	59.5	1130.5
Prod302	Cus001	Mark001	2017-11-06	1	356	INR	-0.08	-28.48	384.48
Prod265	Cus001	Mark001	2017-11-16	1	481	INR	0.3	144.3	336.7
Prod126	Cus001	Mark001	2017-12-11	1	65	INR	-0.29	-18.85	83.85
Prod110	Cus001	Mark001	2018-01-10	1	1190	INR	0.27	321.3	868.7
Prod275	Cus001	Mark001	2018-02-08	1	657	INR	0.35	229.95	427.05
Prod265	Cus001	Mark001	2018-04-12	1	162	INR	-0.26	-42.12	204.12
Prod110	Cus001	Mark001	2018-05-15	1	1190	INR	-0.14	-166.6	1356.6
Prod275	Cus001	Mark001	2018-06-11	1	657	INR	0.02	13.14	643.86
Prod303	Cus001	Mark001	2018-06-11	1	139	INR	0.09	12.51	126.49
Prod110	Cus001	Mark001	2018-07-13	1	1194	INR	0.33	394.02	799.98
Prod265	Cus001	Mark001	2018-09-12	1	162	INR	0.36	58.32	103.68
Prod303	Cus001	Mark001	2018-09-12	1	139	INR	0.34	47.26	91.74
Prod110	Cus001	Mark001	2018-09-28	1	1194	INR	-0.28	-334.32	1528.32
Prod110	Cus001	Mark001	2018-10-10	1	1194	INR	-0.09	-107.46	1301.46
Prod303	Cus001	Mark001	2018-10-10	1	69	INR	0.13	8.97	60.03
Prod275	Cus001	Mark001	2018-10-22	1	657	INR	-0.3	-197.1	854.1
Prod110	Cus001	Mark001	2018-11-08	1	1194	INR	0.4	477.6	716.4
Prod265	Cus001	Mark001	2018-11-08	1	560	INR	0.22	123.2	436.8

transactions 3 ×

4. **Show distrinct product codes that were sold in Chennai -** SELECT distinct product_code FROM transactions where market_code='Mark001';

```
7 •  SELECT distinct product_code FROM transactions where market_code='Mark001';
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

product_code
Prod110
Prod265
Prod302
Prod126
Prod275
Prod303
Prod128
Prod065
Prod121
Prod131
Prod090
Prod061
Prod273
Prod301
Prod279
Prod278
Prod290
Prod269
Prod296
Prod117
Prod298
Prod270

transactions 4 ×

5. **Show transactions where currency is US dollars -** SELECT * from transactions where currency="USD"

```
8 •  SELECT * from transactions where currency="USD"
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

product_code	customer_code	market_code	order_date	sales_qty	sales_amount	currency	profit_margin_percentage	profit_margin	cost_price
Prod003	Cus005	Mark004	2017-11-20	59	500	USD	0.31	11625	25875
Prod003	Cus005	Mark004	2017-11-22	36	250	USD	0.17	3187.5	15562.5

6. **Show transactions in 2020 join by date table -** SELECT transactions.***, date.*** FROM transactions INNER JOIN date ON transactions.order_date=date.date where date.year=2020;

```
9 •  SELECT transactions.*, date.* FROM transactions INNER JOIN date ON transactions.order_date=date.date where date.year=2020;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

product_code	customer_code	market_code	order_date	sales_qty	sales_amount	currency	profit_margin_percentage	profit_margin	cost_price	date	cy_date
Prod279	Cus020	Mark011	2020-01-02	1	102	INR	0.14	14.28	87.72	2020-01-02	2020-01-01
Prod279	Cus020	Mark011	2020-01-08	1	102	INR	0.34	34.68	67.32	2020-01-08	2020-01-01
Prod279	Cus020	Mark011	2020-01-09	1	102	INR	-0.16	-16.32	118.32	2020-01-09	2020-01-01
Prod279	Cus020	Mark011	2020-01-10	1	102	INR	0.02	2.04	99.96	2020-01-10	2020-01-01
Prod279	Cus020	Mark011	2020-01-20	1	102	INR	-0.1	-10.2	112.2	2020-01-20	2020-01-01
Prod278	Cus020	Mark011	2020-01-03	1	102	INR	-0.05	-5.1	107.1	2020-01-03	2020-01-01
Prod294	Cus020	Mark011	2020-01-08	1	102	INR	0.32	32.64	69.36	2020-01-08	2020-01-01
Prod294	Cus020	Mark011	2020-01-17	1	102	INR	0.17	17.34	84.66	2020-01-17	2020-01-01
Prod131	Cus020	Mark011	2020-01-15	1	102	INR	-0.29	-29.58	131.58	2020-01-15	2020-01-01
Prod290	Cus020	Mark011	2020-01-15	1	102	INR	0.17	17.34	84.66	2020-01-15	2020-01-01
Prod292	Cus020	Mark011	2020-01-15	1	102	INR	-0.19	-19.38	121.38	2020-01-15	2020-01-01
Prod056	Cus020	Mark011	2020-01-16	1	102	INR	0.17	17.34	84.66	2020-01-16	2020-01-01
Prod295	Cus020	Mark011	2020-01-17	1	102	INR	-0.13	-13.26	115.26	2020-01-17	2020-01-01
Prod292	Cus020	Mark011	2020-01-21	1	102	INR	-0.18	-18.36	120.36	2020-01-21	2020-01-01
Prod056	Cus020	Mark011	2020-01-27	1	102	INR	-0.16	-16.32	118.32	2020-01-27	2020-01-01
Prod056	Cus020	Mark011	2020-01-31	1	102	INR	-0.13	-13.26	115.26	2020-01-31	2020-01-01
Prod292	Cus020	Mark011	2020-02-02	1	102	INR	0	0	102	2020-02-02	2020-02-01
Prod290	Cus020	Mark011	2020-02-02	1	102	INR	-0.33	-33.66	135.66	2020-02-02	2020-02-01
Prod292	Cus020	Mark011	2020-02-04	1	102	INR	0.2	20.4	81.6	2020-02-04	2020-02-01

7. **Show total revenue in year 2020 -** SELECT SUM(transactions.sales_amount) FROM transactions INNER JOIN date ON transactions.order_date=date.date where date.year=2020 and transactions.currency="INR\r" or transactions.currency="USD\r";

```
13 •  SELECT * FROM transactions WHERE currency = "USD";
14 •  SELECT transactions.*, date.* FROM transactions
15    INNER JOIN date ON transactions.order_date = date.date  WHERE date.year = 2020;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

product_code	customer_code	market_code	order_date	sales_qty	sales_amount	currency	profit_margin_percentage	profit_margin	cost_price
Prod003	Cus005	Mark004	2017-11-20	59	500	USD	0.31	11625	25875
Prod003	Cus005	Mark004	2017-11-22	36	250	USD	0.17	3187.5	15562.5

8. **Show total revenue in year 2020, January Month -** SELECT SUM(transactions.sales_amount) FROM transactions INNER JOIN date ON transactions.order_date=date.date where date.year=2020 and and date.month_name="January" and (transactions.currency="INR\r" or transactions.currency="USD\r");

```
17 •  SELECT SUM(t.sales_amount) FROM transactions t  INNER JOIN `date` d      ON t.order_date = d.date
18    WHERE d.year = 2020   AND d.month_name = 'January'    AND (TRIM(t.currency) = 'INR' OR TRIM(t.currency) = 'USD');
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

SUM(t.sales_amount)
25656567

9. **Show total revenue in year 2020 in Chennai**

SELECT SUM(transactions.sales_amount) FROM transactions INNER JOIN date ON transactions.order_date=date.date where date.year=2020 and transactions.market_code="Mark001";

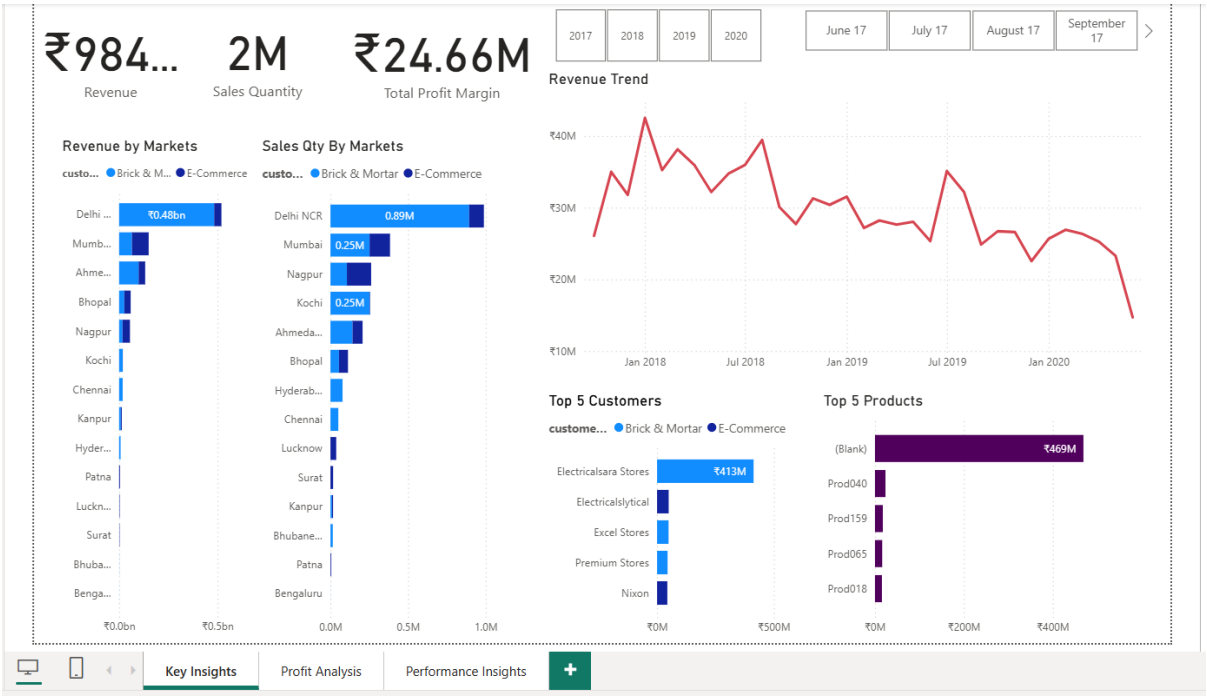
```
20 •  SELECT SUM(transactions.sales_amount) FROM transactions INNER JOIN date ON transactions.order_date=date.date where date.year=2020 and
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

SUM(transactions.sales_amount)
2463024

Dashboard in Power BI

Finally, we built an interactive dashboard in Power BI to present insights visually.


₹984...
Revenue
2M
Sales Quantity
₹24.66M
Total Profit Margin
2017
2018
2019
2020
June 17
July 17
August 17
September 17
Revenue Trend
₹40M
₹30M
₹20M
₹10M
Jan 2018
Jul 2018
Jan 2019
Jul 2019
Jan 2020
Revenue by Markets
custo... Brick & M... E-Commerce
Delhi ...
Mumb...
Ahme...
Bhopal
Nagpur
Kochi
Chennai
Kanpur
Hyder...
Patna
Luckn...
Surat
Bhuba...
Benga...
₹0.48bn
₹0.0bn
₹0.5bn
Sales Qty By Markets
custo... Brick & Mortar E-Commerce
Delhi NCR
Mumbai
Nagpur
Kochi
Ahmeda...
Bhopal
Hyderab...
Chennai
Lucknow
Surat
Kanpur
Bhubane...
Patna
Bengaluru
0.89M
0.25M
0.25M
0.0M
0.5M
1.0M
Top 5 Customers
custome... Brick & Mortar E-Commerce
Electricalsara Stores
Electricalslytical
Excel Stores
Premium Stores
Nixon
₹413M
₹0M
₹500M
Top 5 Products
(Blank)
Prod040
Prod159
Prod065
Prod018
₹469M
₹0M
₹200M
₹400M
Key Insights
Profit Analysis
Performance Insights