Summer Sales Analysis Documentation

Introduction

This document analyzes summer sales data from the Summer SALES database using SQL to uncover trends in product performance, time-based patterns, and pricing strategies. Key findings include identification of top-performing products, peak sales periods, and high-revenue price categories. Recommendations focus on optimizing inventory, staffing, and pricing to enhance profitability and operational efficiency. Detailed SQL queries and results support data-driven decision-making for retail optimization.

Objectives

The primary objectives of this analysis are:

- To understand the structure and contents of the sales dataset.
- To identify top-performing products, categories, and brands by revenue and quantity sold.
- To analyze sales trends across different time periods (e.g., hourly, daily, monthly).
- To evaluate pricing strategies and their impact on sales.
- To provide data-driven recommendations for optimizing sales performance.

QUERY

Database Setup and Preparation

The analysis begins by selecting the Summer SALES database and querying the summer table to understand its contents:

```
USE Summer SALES;
SELECT * FROM summer;     --orignal table name
```

To preserve the original data, a new table named summer_data was created as a copy of the summer table:

```
SELECT * INTO summer_data FROM summer;
SELECT * FROM summer_data;     --new table name
```

Data Type Verification and Modification

The structure of the summer_data table was examined using:

```
EXEC sp_help 'summer_data';
```

OUTPUT

Results Messages

	Name	Owner	Type	Created_datetime
1	summer	dbo	user table	2025-05-02 23:49:01.110

	Column_name	Type	Computed	Length	Prec	Scale	Nullable	TrimTrailingBlanks	FixedLenNullInSource	Collation
1	Product_ID	nvarchar	no	400			no	(n/a)	(n/a)	Latin1_General_CI_AS
2	Product_Name	nvarchar	no	400			no	(n/a)	(n/a)	Latin1_General_CI_AS
3	Category	nvarchar	no	400			no	(n/a)	(n/a)	Latin1_General_CI_AS
4	Sub_Category	nvarchar	no	400			no	(n/a)	(n/a)	Latin1_General_CI_AS
5	Brand_Name	nvarchar	no	400			no	(n/a)	(n/a)	Latin1_General_CI_AS
6	Product	nvarchar	no	400			no	(n/a)	(n/a)	Latin1_General_CI_AS
7	Price	float	no	8	53	NULL	no	(n/a)	(n/a)	NULL
8	DateTime	datetime2	no	8	27	7	no	(n/a)	(n/a)	NULL
9	Quantity	int	no	4	10	0	no	(n/a)	(n/a)	NULL
10	Revenue	float	no	8	53	NULL	no	(n/a)	(n/a)	NULL
11	Weekday_Number	int	no	4	10	0	no	(n/a)	(n/a)	NULL
12	Weekend_or_Weekdays	nvarchar	no	400			no	(n/a)	(n/a)	Latin1_General_CI_AS
13	Day	nvarchar	no	400			no	(n/a)	(n/a)	Latin1_General_CI_AS
14	Time	time	no	5	16	7	no	(n/a)	(n/a)	NULL
15	Hour	int	no	4	10	0	no	(n/a)	(n/a)	NULL
16	Shift	nvarchar	no	400			no	(n/a)	(n/a)	Latin1_General_CI_AS
17	Price_Category	nvarchar	no	400			no	(n/a)	(n/a)	Latin1_General_CI_AS

- The following modifications were made to align columns with appropriate data types:

```
-- Price to DECIMAL(10,2)
ALTER TABLE summer_data
ALTER COLUMN Price DECIMAL(10, 2);

-- Revenue to DECIMAL(10,2)
ALTER TABLE summer_data
ALTER COLUMN Revenue DECIMAL(10, 2);

-- Time to TIME(0)
ALTER TABLE summer_data
ALTER COLUMN Time TIME(0);

-- DateTime to DATE and renamed to Date
ALTER TABLE summer_data
ALTER COLUMN DateTime DATE;

EXEC sp_rename 'summer_data.DateTime', 'Date', 'COLUMN';
```

OUTPUT

Results Messages

	Name	Owner	Type	Created_datetime
1	summer_data	dbo	user table	2025-05-15 23:27:39.707

	Column_name	Type	Computed	Length	Prec	Scale	Nullable	TrimTrailingBlanks	FixedLenNullInSource	Collation
1	Product_ID	nvarchar	no	400			no	(n/a)	(n/a)	Latin1_General_CI_AS
2	Product_Name	nvarchar	no	400			no	(n/a)	(n/a)	Latin1_General_CI_AS
3	Category	nvarchar	no	400			no	(n/a)	(n/a)	Latin1_General_CI_AS
4	Sub_Category	nvarchar	no	400			no	(n/a)	(n/a)	Latin1_General_CI_AS
5	Brand_Name	nvarchar	no	400			no	(n/a)	(n/a)	Latin1_General_CI_AS
6	Product	nvarchar	no	400			no	(n/a)	(n/a)	Latin1_General_CI_AS
7	Price	decimal	no	9	10	2	yes	(n/a)	(n/a)	NULL
8	Date	date	no	3	10	0	yes	(n/a)	(n/a)	NULL
9	Quantity	int	no	4	10	0	no	(n/a)	(n/a)	NULL
10	Revenue	decimal	no	9	10	2	yes	(n/a)	(n/a)	NULL
11	Weekday_N...	int	no	4	10	0	no	(n/a)	(n/a)	NULL
12	Weekend_or...	nvarchar	no	400			no	(n/a)	(n/a)	Latin1_General_CI_AS
13	Day	nvarchar	no	400			no	(n/a)	(n/a)	Latin1_General_CI_AS
14	Time	time	no	3	8	0	yes	(n/a)	(n/a)	NULL
15	Hour	int	no	4	10	0	no	(n/a)	(n/a)	NULL
16	Shift	nvarchar	no	400			no	(n/a)	(n/a)	Latin1_General_CI_AS
17	Price_Category	nvarchar	no	400			no	(n/a)	(n/a)	Latin1_General_CI_AS

Table Statistics

- Total rows:

```
SELECT COUNT(*) AS TotalRows FROM summer_data;
```

OUTPUT

Results Messages

	TotalRows
1	91800

- Total columns:

```
SELECT COUNT(*) AS ColumnCount
FROM INFORMATION_SCHEMA.COLUMNS
WHERE TABLE_NAME = 'summer_data';
```

OUTPUT

Results Messages

	ColumnCount
1	17

Business Impact: Provides an overview of dataset size, aiding in performance optimization and resource planning.

Distinct Analysis

Business Impact: Detecting duplicates ensures data integrity, prevents inaccurate sales or inventory reporting, and supports reliable analysis for pricing strategies and product management. This helps maintain customer trust and optimizes operational efficiency.

Product ID and Name Duplicates

To identify potential duplicates, the following query groups records by Product_ID and Product_Name, filtering for counts greater than one:

```
SELECT Product_ID, Product_Name, COUNT(*) AS Count
FROM summer_data
GROUP BY Product_ID, Product_Name
HAVING COUNT(*) > 1
ORDER BY Count DESC;
```

OUTPUT

Results | Messages

	Product_ID	Product_Name	Count
1	BEC0764	Coca-Cola Zero Sugar 330 ml	208
2	FRA01580	Frozen Guava Slices (250 g)	201
3	FRB01604	Frozen Strawberry Ice Cream (200 g)	197
4	BEA0867	Amul Flavored Milk 200 ml	197
5	FRF0405	Banana, 1 kg	196
6	SNH0890	Haldiram's Aloo Tikki, 200g	196
7	FRL01814	Fresh Lychee Juice (250 ml)	196
8	FRH01558	Frozen Blueberries (200 g)	195
9	FRF0434	Lemon, 1 kg	195
10	BEP0795	Pure Life Drinking Water 1 L	194
11	FRH01634	Frozen Caramel Custard (200 g)	193

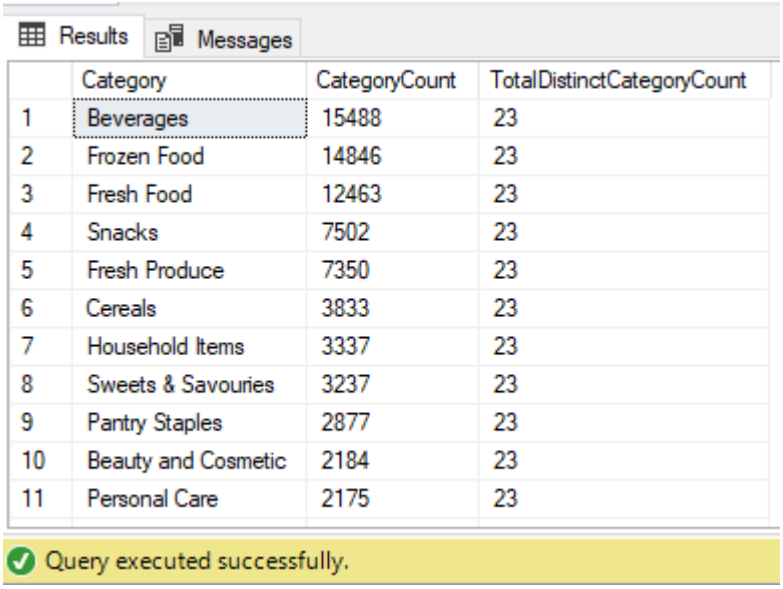
Query executed successfully.

Category Analysis

The distribution of categories was analyzed to understand product segmentation:

```
SELECT Category, COUNT(*) AS CategoryCount,
   (SELECT COUNT(DISTINCT Category) FROM summer) AS
TotalDistinctCategoryCount
FROM summer
GROUP BY Category
ORDER BY CategoryCount DESC;
```

OUTPUT



Results | Messages

	Category	CategoryCount	TotalDistinctCategoryCount
1	Beverages	15488	23
2	Frozen Food	14846	23
3	Fresh Food	12463	23
4	Snacks	7502	23
5	Fresh Produce	7350	23
6	Cereals	3833	23
7	Household Items	3337	23
8	Sweets & Savouries	3237	23
9	Pantry Staples	2877	23
10	Beauty and Cosmetic	2184	23
11	Personal Care	2175	23

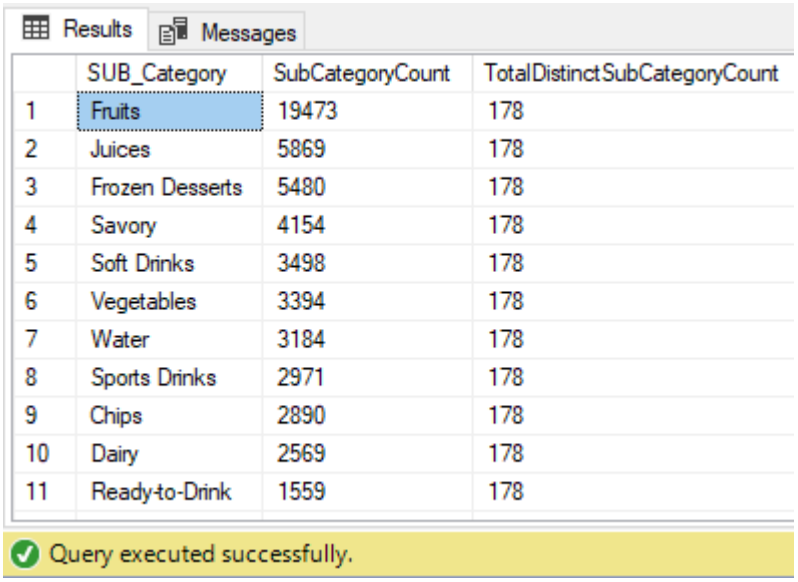
Query executed successfully.

Sub-Category Analysis

The distribution of sub-categories was analyzed to understand product segmentation:

```
SELECT
    SUB_Category,
    COUNT(*) AS SubCategoryCount,
    (SELECT COUNT(DISTINCT SUB_Category) FROM summer) AS
TotalDistinctSubCategoryCount
FROM summer
GROUP BY SUB_Category
ORDER BY SubCategoryCount DESC;
```

OUTPUT



Results | Messages

	SUB_Category	SubCategoryCount	TotalDistinctSubCategoryCount
1	Fruits	19473	178
2	Juices	5869	178
3	Frozen Desserts	5480	178
4	Savory	4154	178
5	Soft Drinks	3498	178
6	Vegetables	3394	178
7	Water	3184	178
8	Sports Drinks	2971	178
9	Chips	2890	178
10	Dairy	2569	178
11	Ready-to-Drink	1559	178

Query executed successfully.

--DISTINCT Brand_Name COUNT

```
SELECT
    Brand_Name,
    COUNT(*) AS BrandCount,
    (SELECT COUNT(DISTINCT Brand_Name) FROM summer) AS
TotalDistinctBrandCount
FROM summer
GROUP BY Brand_Name
ORDER BY BrandCount DESC;
```

Brand Performance Insights: Identifies top-performing brands by transaction volume, guiding marketing and inventory prioritization.

OUTPUT

Results | Messages

	Brand_Name	BrandCount	TotalDistinctBrandCount
1	Haldiram's	6416	585
2	Britannia	3604	585
3	Amul	3501	585
4	FreshFarm	3067	585
5	FruitJoy	2371	585
6	Mother Dairy	2190	585
7	GreenLeaf	1912	585
8	Balaji	1769	585
9	Green Valley	1497	585
10	Patanjali	1429	585
11	Real	991	585

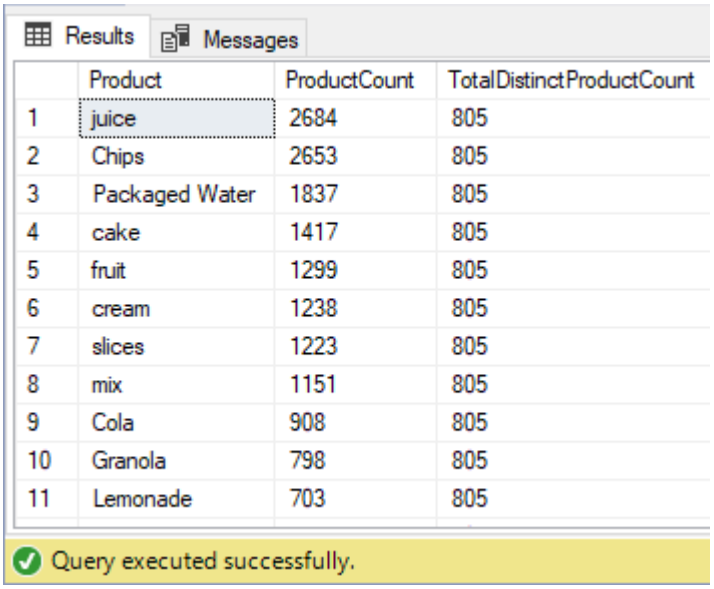
Query executed successfully.

--DISTINCT Product COUNT

```
SELECT
    Product,
    COUNT(*) AS ProductCount,
    (SELECT COUNT(DISTINCT Product) FROM summer) AS TotalDistinctProductCount
FROM summer
GROUP BY Product
ORDER BY ProductCount DESC;
```

Identifies top-selling products by transaction volume, guiding inventory stocking and marketing efforts.

OUTPUT



Results | Messages

	Product	ProductCount	TotalDistinctProductCount
1	juice	2684	805
2	Chips	2653	805
3	Packaged Water	1837	805
4	cake	1417	805
5	fruit	1299	805
6	cream	1238	805
7	slices	1223	805
8	mix	1151	805
9	Cola	908	805
10	Granola	798	805
11	Lemonade	703	805

Query executed successfully.

Sales Performance and Trends

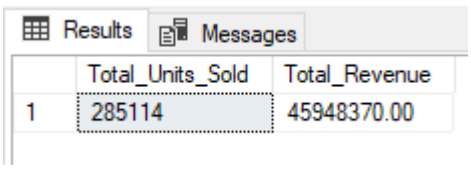
Total Sales and Revenue

The aggregate sales performance was calculated as:

```
SELECT SUM(Quantity) AS Total_Units_Sold,
    SUM(Revenue) AS Total_Revenue
FROM summer_data;
```

Provides a high-level overview of sales performance, enabling businesses to assess overall revenue and sales volume. Guides financial planning, inventory management, and strategic decisions by benchmarking performance against goals

OUTPUT



Results | Messages

	Total_Units_Sold	Total_Revenue
1	285114	45948370.00

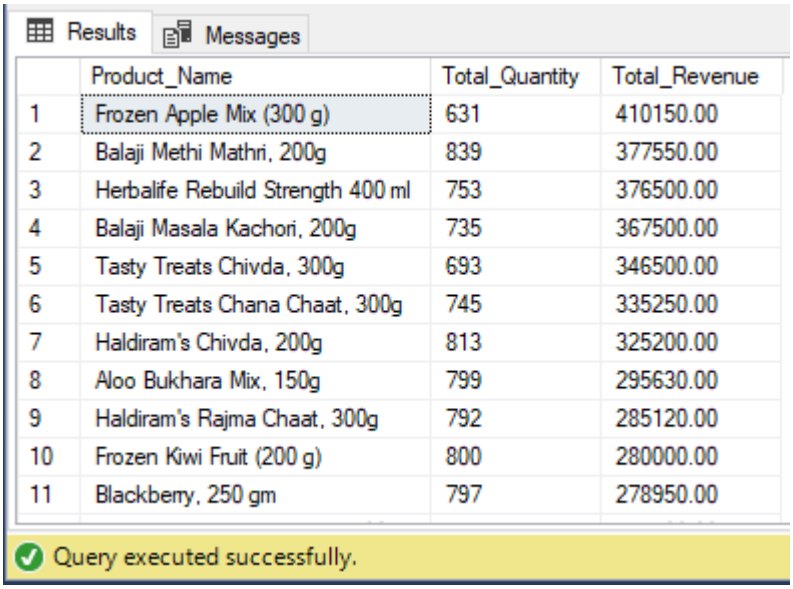
Top-Performing Products

Products were ranked by total revenue and quantity sold

```
SELECT Product_Name,
    SUM(Quantity) AS Total_Quantity,
    SUM(Revenue) AS Total_Revenue
FROM summer_data
GROUP BY Product_Name
ORDER BY Total_Revenue DESC;
```

It identifies top-performing products, guiding inventory, marketing, and pricing strategies to boost profitability and meet customer demand.

OUTPUT



Results | Messages

	Product_Name	Total_Quantity	Total_Revenue
1	Frozen Apple Mix (300 g)	631	410150.00
2	Balaji Methi Mathri, 200g	839	377550.00
3	Herbalife Rebuild Strength 400 ml	753	376500.00
4	Balaji Masala Kachori, 200g	735	367500.00
5	Tasty Treats Chivda, 300g	693	346500.00
6	Tasty Treats Chana Chaat, 300g	745	335250.00
7	Haldiram's Chivda, 200g	813	325200.00
8	Aloo Bukhara Mix, 150g	799	295630.00
9	Haldiram's Rajma Chaat, 300g	792	285120.00
10	Frozen Kiwi Fruit (200 g)	800	280000.00
11	Blackberry, 250 gm	797	278950.00

Query executed successfully.

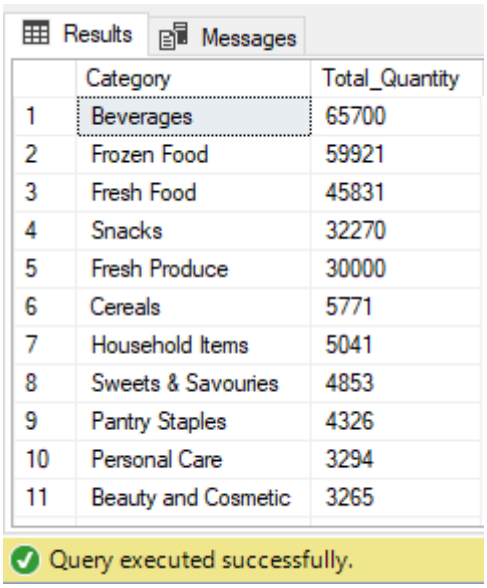
Top Categories

Categories and brands were evaluated for their contribution to sales:

```
SELECT Category, SUM(Quantity) AS Total_Quantity
FROM summer_data
GROUP BY Category
ORDER BY Total_Quantity DESC;
```

Highlights top-selling categories, guiding inventory stocking and marketing priorities.

OUTPUT



Results | Messages

	Category	Total_Quantity
1	Beverages	65700
2	Frozen Food	59921
3	Fresh Food	45831
4	Snacks	32270
5	Fresh Produce	30000
6	Cereals	5771
7	Household Items	5041
8	Sweets & Savouries	4853
9	Pantry Staples	4326
10	Personal Care	3294
11	Beauty and Cosmetic	3265

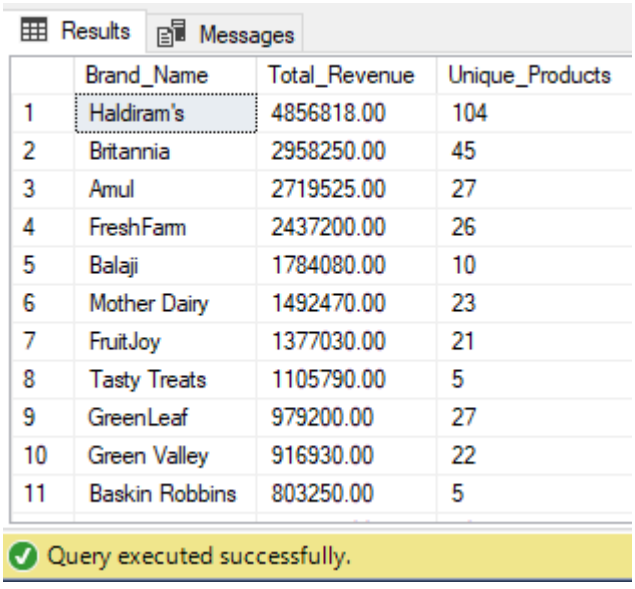
Query executed successfully.

Top Brands

```
SELECT Brand_Name, SUM(Revenue) AS Total_Revenue,
      COUNT(DISTINCT Product_ID) AS Unique_Products
FROM summer_data
GROUP BY Brand_Name
ORDER BY Total_Revenue DESC;
```

It highlights top-performing brands and their product diversity, guiding marketing, inventory, and partnership strategies to maximize profitability and optimize resource allocation.

OUTPUT



Results | Messages

	Brand_Name	Total_Revenue	Unique_Products
1	Haldiram's	4856818.00	104
2	Britannia	2958250.00	45
3	Amul	2719525.00	27
4	FreshFarm	2437200.00	26
5	Balaji	1784080.00	10
6	Mother Dairy	1492470.00	23
7	FruitJoy	1377030.00	21
8	Tasty Treats	1105790.00	5
9	GreenLeaf	979200.00	27
10	Green Valley	916930.00	22
11	Baskin Robbins	803250.00	5

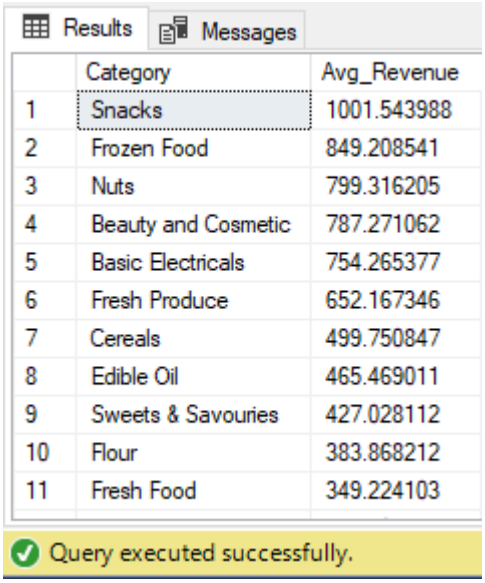
Query executed successfully.

--Average revenue per transaction by category

```
SELECT Category,
    AVG(Revenue)AS Avg_Revenue
FROM summer_data
GROUP BY Category
ORDER BY Avg_Revenue DESC;
```

Identifies high-value categories with the highest average revenue per transaction, guiding pricing strategies, targeted promotions, and inventory focus. Enables businesses to prioritize profitable categories, enhancing revenue optimization and customer targeting.

OUTPUT



Results | Messages

	Category	Avg_Revenue
1	Snacks	1001.543988
2	Frozen Food	849.208541
3	Nuts	799.316205
4	Beauty and Cosmetic	787.271062
5	Basic Electricals	754.265377
6	Fresh Produce	652.167346
7	Cereals	499.750847
8	Edible Oil	465.469011
9	Sweets & Savouries	427.028112
10	Flour	383.868212
11	Fresh Food	349.224103

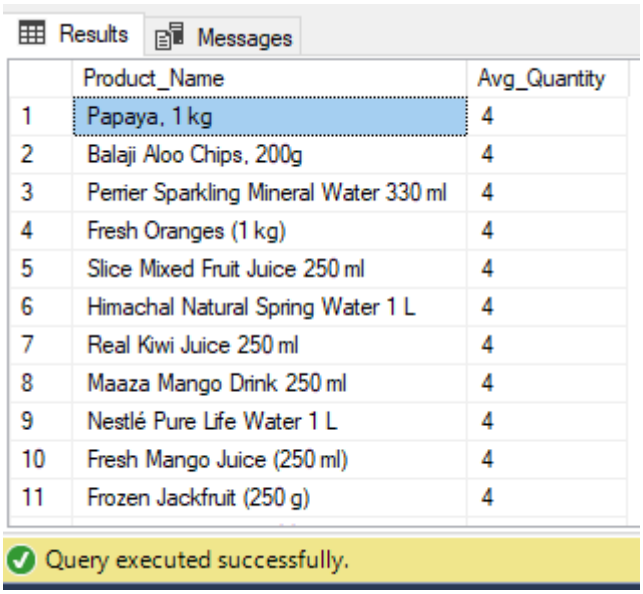
Query executed successfully.

--Average quantity sold per transaction

```
SELECT Product_Name, AVG(Quantity) AS Avg_Quantity
FROM summer_data
GROUP BY Product_Name
ORDER BY Avg_Quantity DESC;
```

Identifies products with high average quantities sold per transaction, informing inventory management, demand forecasting, and promotional strategies. Helps prioritize high-demand products to optimize stock levels and drive sales efficiency.

OUTPUT



Results | Messages

	Product_Name	Avg_Quantity
1	Papaya, 1 kg	4
2	Balaji Aloo Chips, 200g	4
3	Perrier Sparkling Mineral Water 330 ml	4
4	Fresh Oranges (1 kg)	4
5	Slice Mixed Fruit Juice 250 ml	4
6	Himachal Natural Spring Water 1 L	4
7	Real Kiwi Juice 250 ml	4
8	Maaza Mango Drink 250 ml	4
9	Nestlé Pure Life Water 1 L	4
10	Fresh Mango Juice (250 ml)	4
11	Frozen Jackfruit (250 g)	4

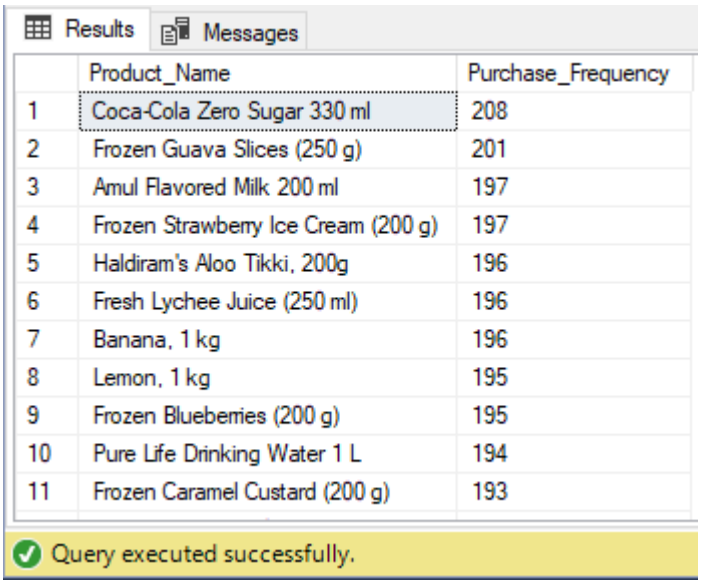
Query executed successfully.

--Top repeated purchase items

```
SELECT Product_Name, COUNT(*) AS Purchase_Frequency
FROM summer_data
GROUP BY Product_Name
ORDER BY Purchase_Frequency DESC;
```

Highlights top-repeated purchase items, enabling businesses to focus on high-demand products for inventory planning, targeted marketing, and loyalty programs. Drives sales growth by optimizing stock and promotions for frequently purchased items.

OUTPUT



Results | Messages

	Product_Name	Purchase_Frequency
1	Coca-Cola Zero Sugar 330 ml	208
2	Frozen Guava Slices (250 g)	201
3	Amul Flavored Milk 200 ml	197
4	Frozen Strawberry Ice Cream (200 g)	197
5	Haldiram's Aloo Tikki, 200g	196
6	Fresh Lychee Juice (250 ml)	196
7	Banana, 1 kg	196
8	Lemon, 1 kg	195
9	Frozen Blueberries (200 g)	195
10	Pure Life Drinking Water 1 L	194
11	Frozen Caramel Custard (200 g)	193

Query executed successfully.

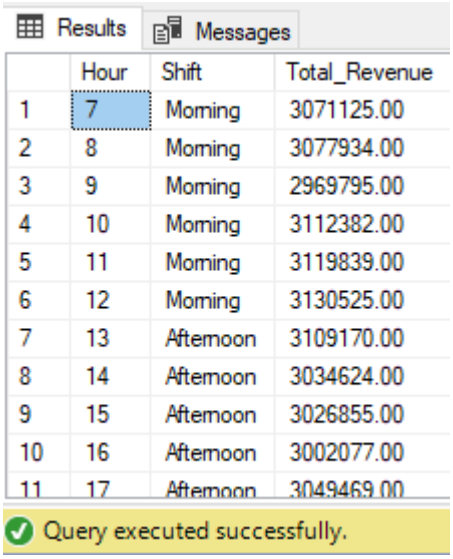
Time-Based Insights

--Sales by hour and shift

```
SELECT Hour, Shift, SUM(Revenue) AS Total_Revenue
FROM summer_data
GROUP BY Hour, Shift
ORDER BY Hour;
```

Identifies peak revenue-generating hours and shifts, enabling optimized staffing, inventory allocation, and promotional timing. Enhances operational efficiency and profitability by aligning resources with high-sales periods.

OUTPUT



Results | Messages

	Hour	Shift	Total_Revenue
1	7	Morning	3071125.00
2	8	Morning	3077934.00
3	9	Morning	2969795.00
4	10	Morning	3112382.00
5	11	Morning	3119839.00
6	12	Morning	3130525.00
7	13	Afternoon	3109170.00
8	14	Afternoon	3034624.00
9	15	Afternoon	3026855.00
10	16	Afternoon	3002077.00
11	17	Afternoon	3049469.00

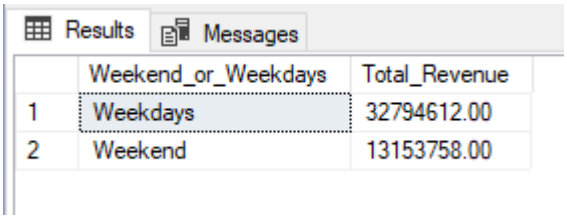
Query executed successfully.

--Weekday vs weekend comparison

```
SELECT Weekend_or_Weekdays, SUM(Revenue) AS Total_Revenue
FROM summer_data
GROUP BY Weekend_or_Weekdays;
```

Reveals revenue differences between weekdays and weekends, guiding staffing, inventory, and marketing strategies. Enables businesses to target high-revenue periods with promotions or optimize operations for cost efficiency during lower-revenue periods.

OUTPUT



Results | Messages

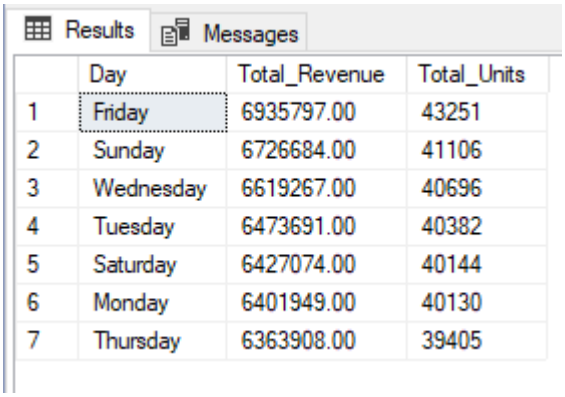
	Weekend_or_Weekdays	Total_Revenue
1	Weekdays	32794612.00
2	Weekend	13153758.00

--Daily sales trends

```
SELECT Day, SUM(Revenue) AS Total_Revenue, SUM(Quantity) AS Total_Units
FROM [dbo].[summer_data]
GROUP BY Day
ORDER BY Total_Revenue DESC;
```

Highlights high-performing days for revenue and sales volume, informing targeted promotions, staffing schedules, and inventory planning. Enables businesses to optimize operations and marketing strategies to capitalize on peak sales days, boosting profitability.

OUTPUT



Results | Messages

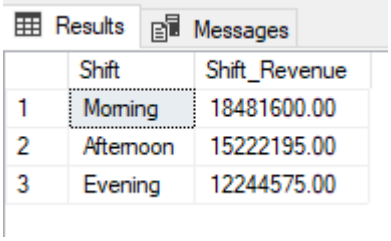
	Day	Total_Revenue	Total_Units
1	Friday	6935797.00	43251
2	Sunday	6726684.00	41106
3	Wednesday	6619267.00	40696
4	Tuesday	6473691.00	40382
5	Saturday	6427074.00	40144
6	Monday	6401949.00	40130
7	Thursday	6363908.00	39405

--Revenue by Shift

```
SELECT Shift, SUM(Revenue) AS Shift_Revenue
FROM summer_data
GROUP BY Shift
ORDER BY Shift_Revenue DESC;
```

Highlights high-revenue shifts, enabling optimized staffing, resource allocation, and promotional strategies. Helps businesses focus on peak performance periods to maximize profitability and operational efficiency.

OUTPUT



Results | Messages

	Shift	Shift_Revenue
1	Morning	18481600.00
2	Afternoon	15222195.00
3	Evening	12244575.00

--Time-based peak sales (weekends morning/evening)

```
SELECT Shift, Weekend_or_Weekdays, SUM(Revenue) AS Total_Revenue
FROM summer_data
GROUP BY Shift, Weekend_or_Weekdays
ORDER BY Total_Revenue DESC;
```

Identifies high-revenue shifts on weekends versus weekdays, enabling targeted staffing, inventory, and promotional strategies. Optimizes resource allocation and marketing efforts to capitalize on peak sales times, such as weekend mornings or evenings, to maximize profitability.

OUTPUT

Results | Messages

	Shift	Weekend_or_Weekdays	Total_Revenue
1	Morning	Weekdays	13155226.00
2	Afternoon	Weekdays	10924366.00
3	Evening	Weekdays	8715020.00
4	Morning	Weekend	5326374.00
5	Afternoon	Weekend	4297829.00
6	Evening	Weekend	3529555.00

--Shift-wise brand performance

```
SELECT Shift, Brand_Name, SUM(Revenue) AS Total_Revenue
FROM summer_data
GROUP BY Shift, Brand_Name
ORDER BY Total_Revenue DESC;
```

Identifies top-performing brands during specific shifts, enabling targeted promotions and inventory adjustments. Optimizes marketing and operational strategies by aligning resources with high-revenue brand-shift combinations, enhancing profitability and efficiency.

OUTPUT

Results | Messages

	Shift	Brand_Name	Total_Revenue
1	Morning	Haldiram's	1979613.00
2	Afternoon	Haldiram's	1594176.00
3	Evening	Haldiram's	1283029.00
4	Morning	Britannia	1199630.00
5	Morning	Amul	1119515.00
6	Morning	FreshFarm	977300.00
7	Afternoon	Britannia	959150.00
8	Afternoon	Amul	885155.00
9	Afternoon	FreshFarm	807370.00
10	Evening	Britannia	799470.00
11	Morning	Balaji	736540.00

Query executed successfully.

--Revenue by Month

```
SELECT FORMAT(Date, 'yyyy-MM') AS Month,
SUM(Revenue) AS Total_Revenue, SUM(Quantity) AS Total_Units
FROM summer_data
GROUP BY FORMAT(Date, 'yyyy-MM')
ORDER BY Month;
```

Reveals monthly sales trends, enabling businesses to identify peak revenue periods and adjust inventory, marketing, and staffing strategies accordingly. Supports financial forecasting and seasonal planning to optimize profitability and operational efficiency.

OUTPUT

Results | Messages

	Month	Total_Revenue	Total_Units
1	2024-03	15533029.00	96711
2	2024-04	14947463.00	92588
3	2024-05	15467878.00	95815

--Combined Time-Based Analysis

```
SELECT
    Day,Shift,Hour,
    SUM(Revenue) AS Total_Revenue,
    SUM(Quantity) AS Total_Quantity,
    COUNT(*) AS Transaction_Count
FROM summer_data
GROUP BY Day, Shift, Hour
ORDER BY Total_Revenue DESC;
```

Pinpoints high-revenue time slots (by day, shift, and hour), enabling optimized staffing, inventory, and promotional strategies. Enhances profitability by focusing resources on peak transaction periods and identifying trends in customer purchasing behavior.

OUTPUT

Results | Messages

	Day	Shift	Hour	Total_Revenue	Total_Quantity	Transaction_Count
1	Friday	Morning	8	491293.00	2958	973
2	Friday	Evening	18	490124.00	3059	956
3	Friday	Afternoon	17	487996.00	3005	934
4	Friday	Evening	21	475669.00	2902	923
5	Friday	Afternoon	14	473419.00	2974	951
6	Thursday	Morning	12	472422.00	2826	922
7	Wednesday	Afternoon	16	470873.00	2804	879
8	Tuesday	Afternoon	13	469561.00	2768	907
9	Sunday	Evening	19	467994.00	2883	919
10	Friday	Morning	10	467780.00	3021	936
11	Wednesday	Morning	10	467687.00	2707	884

Query executed successfully. DESKTOP-NC1V

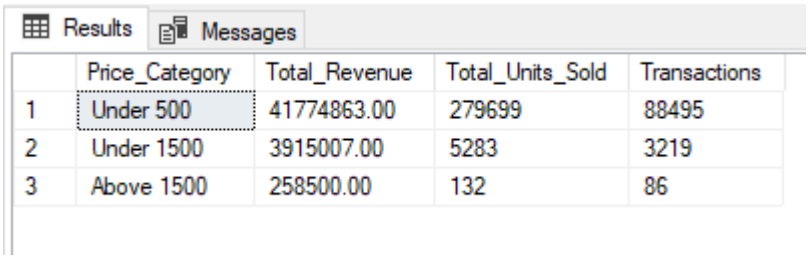
Pricing Strategy

--Sales by Price Category

```
SELECT
    Price_Category,
    SUM(Revenue) AS Total_Revenue,
    SUM(Quantity) AS Total_Units_Sold,
    COUNT(*) AS Transactions
FROM summer_data
GROUP BY Price_Category
ORDER BY Total_Revenue DESC;
```

Identifies high-revenue price categories, guiding pricing strategies, inventory allocation, and promotional efforts. Enables businesses to focus on profitable price segments and optimize product offerings to enhance sales and customer targeting.

OUTPUT



Results | Messages

	Price_Category	Total_Revenue	Total_Units_Sold	Transactions
1	Under 500	41774863.00	279699	88495
2	Under 1500	3915007.00	5283	3219
3	Above 1500	258500.00	132	86

--Top Products by Price Category

```
SELECT
    Price_Category,
    Product_Name,
    SUM(Revenue) AS Total_Revenue,
    SUM(Quantity) AS Total_Units_Sold
FROM summer_data
GROUP BY Price_Category, Product_Name
ORDER BY Price_Category, Total_Revenue DESC;
```

Highlights top-revenue products within each price category, guiding targeted marketing, inventory prioritization, and pricing strategies. Enables businesses to optimize product offerings and promotions by price segment, enhancing profitability and customer appeal.

OUTPUT

Results | Messages

	Price_Category	Product_Name	Total_Revenue	Total_Units_Sold
1	Above 1500	Organic Whole Cashews 500 g	93500.00	55
2	Above 1500	Mixed Nuts 500 g	92400.00	44
3	Above 1500	Nutraj Pistachios, 1kg	72600.00	33
4	Under 1500	Frozen Apple Mix (300 g)	410150.00	631
5	Under 1500	Raw Walnuts 500 g	78000.00	52
6	Under 1500	Eau de Parfum, 50 ml	64800.00	54
7	Under 1500	Dried Cherries, 750g	64400.00	46
8	Under 1500	Almond Butter 250 g	60000.00	50
9	Under 1500	Perfume Set, 3 x 10 ml	60000.00	50
10	Under 1500	Long Grain Rice 10 kg	57500.00	46
11	Under 1500	Salted Hazelnuts 100 g	56050.00	59

Query executed successfully. DESKTOP-NC

--Quantity Distribution

```
SELECT Quantity, COUNT(*) AS Transaction_Count, SUM(Revenue) AS Total_Revenue
FROM summer_data
GROUP BY Quantity
ORDER BY Quantity;
```

Reveals purchasing patterns by quantity, enabling businesses to optimize inventory, pricing, and promotional strategies for common transaction sizes. Supports demand forecasting and enhances profitability by targeting high-revenue quantity segments.

OUTPUT

Results | Messages

	Quantity	Transaction_Count	Total_Revenue
1	1	21198	4654230.00
2	2	21524	9577592.00
3	3	12384	5359332.00
4	4	12103	6938920.00
5	5	12242	8772880.00
6	6	12349	10645416.00

Conclusion

- The Summer Sales Analysis project provides valuable insights into retail performance, highlighting top products, categories, and brands, as well as time-based and pricing trends. Key findings include:
- Identification of high-revenue products and categories for inventory optimization.
- Peak sales periods (e.g., specific hours, shifts, or weekends) for staffing and promotion planning.
- Pricing strategies that maximize revenue and transaction volume.
- These insights enable data-driven decisions to enhance sales performance and operational efficiency.

Recommendations

- Based on the analysis, the following actions are recommended:
- Focus inventory on top-performing products and categories.
- Schedule additional staff during peak sales hours and weekends.
- Adjust pricing strategies to emphasize high-revenue price categories.
- Conduct further analysis on underperforming products to identify improvement opportunities.