Cozy Cup: A Comprehensive Analysis on the Sales of Coffee.

COZY CUP SALES DASHBOARD REPORT FOR YEAR 2018

$112.2K — Total Revenue
3574K — Total Quantity Sold
3548K — Total Transactions
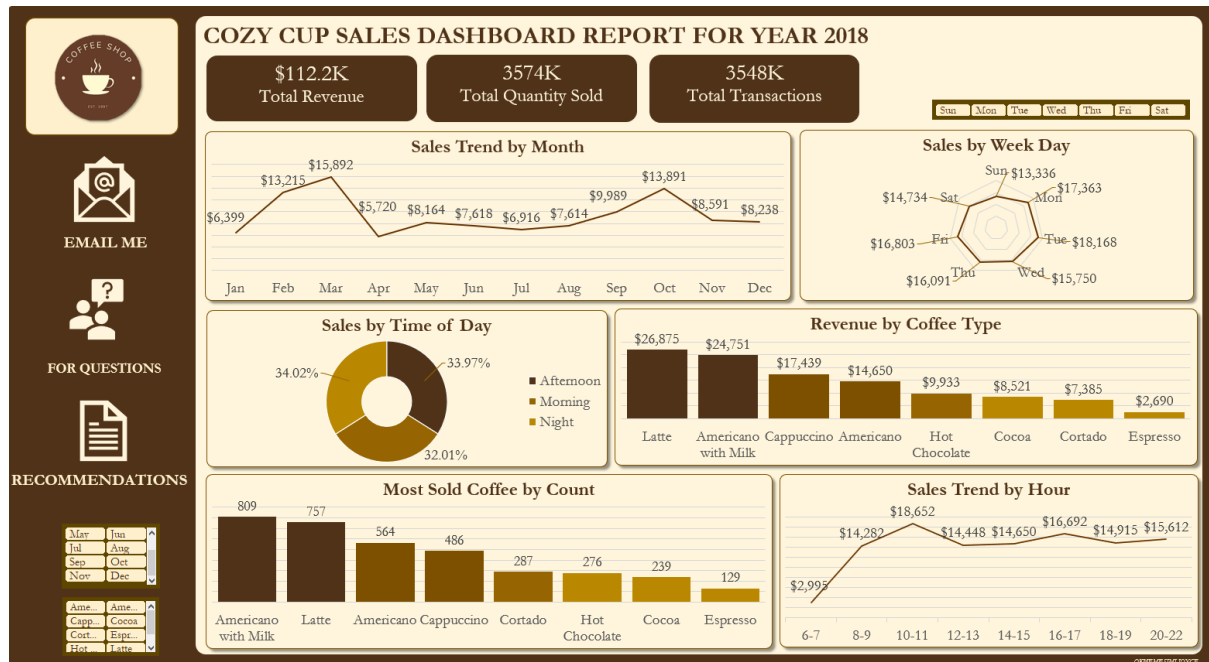
Cozy Cup Sales Report, 2018.
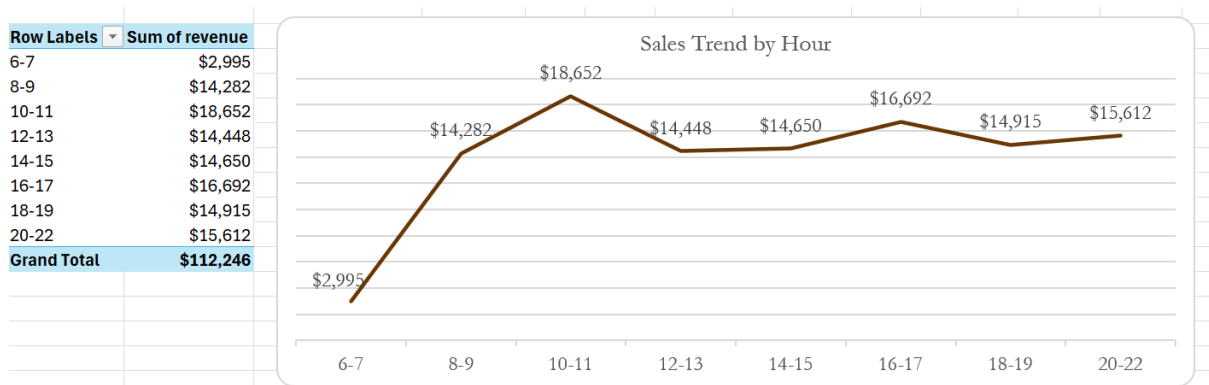
Introduction:

The coffee industry is a bustling and competitive market, with a global demand for premium coffee driving sales growth. In order to succeed, businesses need to understand what customers want and stay ahead of trends.

Objectives:
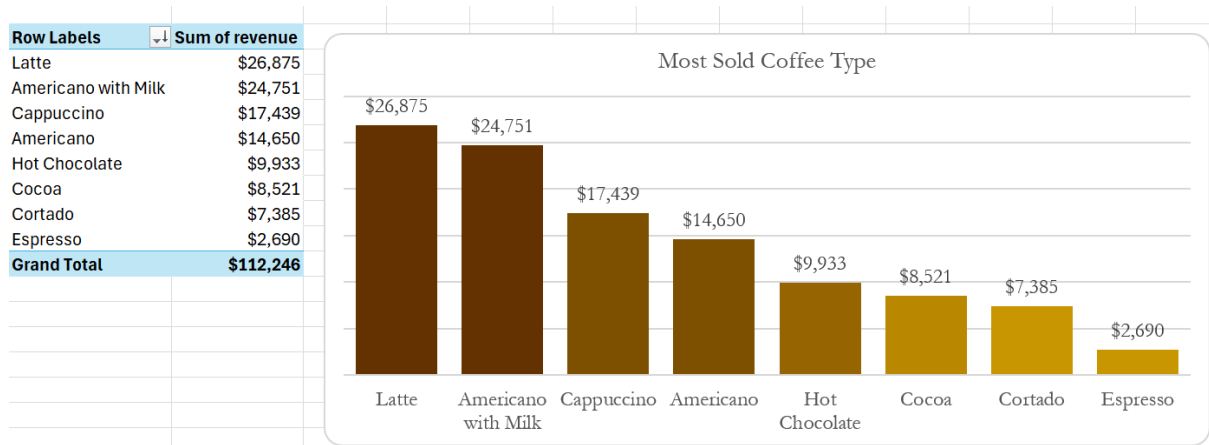
1) To determine which Month generated the most revenue.
2) To find out the most sold coffee type.
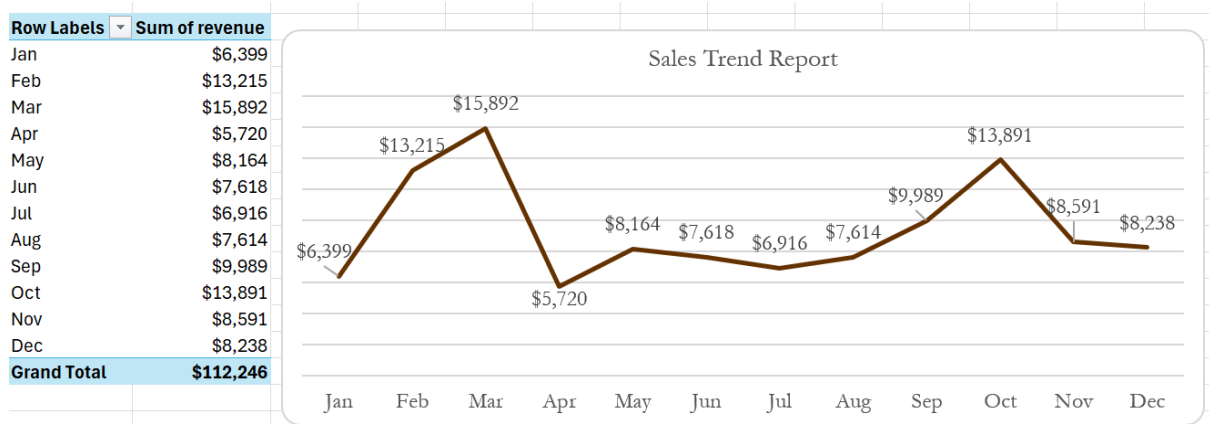3) To develop strategies that will help promote sales.

Methodology:

The next step taken for this analysis was to input the data in a pivot table to find the relationship between variables.

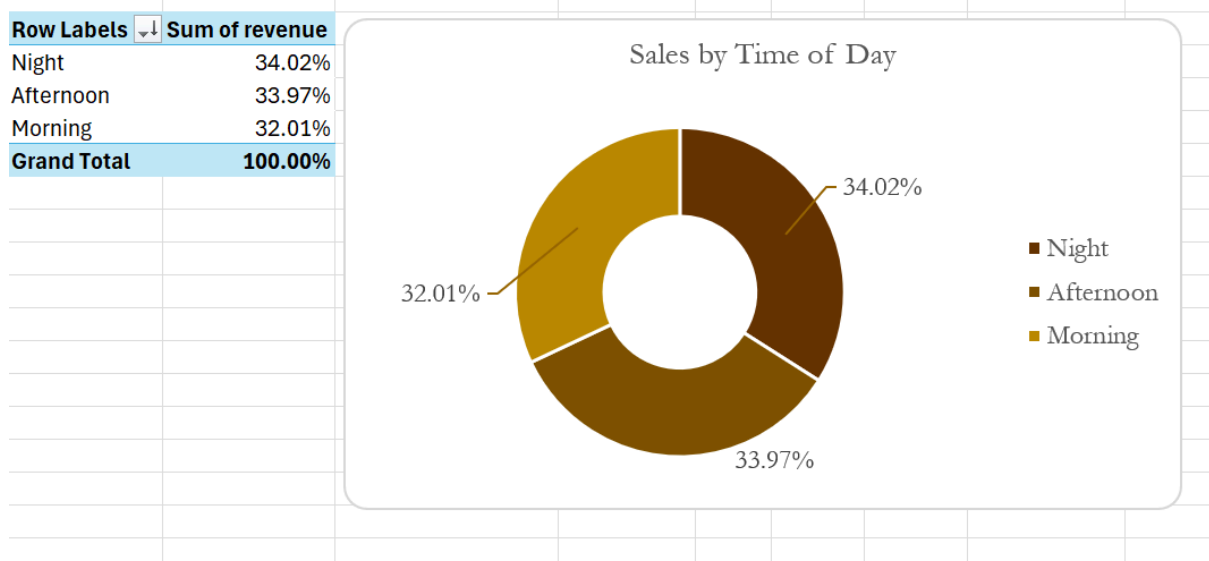| Row Labels	Sum of revenue
6-7	$2,995
8-9	$14,282
10-11	$18,652
12-13	$14,448
14-15	$14,650
16-17	$16,692
18-19	$14,915
20-22	$15,612
Grand Total	$112,246

Sales Trend by Hour

Sales trend by hour is shown in a Line chart. By hour, peak sales were generated in the 10th-11th as shown in the chart.

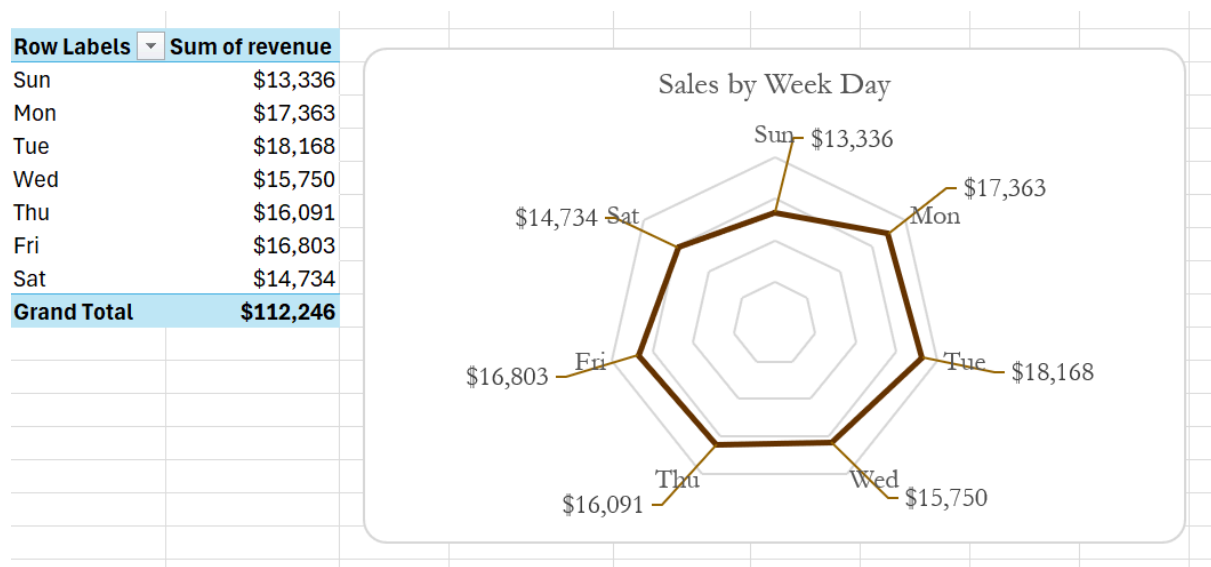| Row Labels	Sum of revenue
Latte	$26,875
Americano with Milk	$24,751
Cappuccino	$17,439
Americano	$14,650
Hot Chocolate	$9,933
Cocoa	$8,521
Cortado	$7,385
Espresso	$2,690
Grand Total	**$112,246**

Most Sold Coffee Type

The chart above is a Column chart that shows the revenue generated by each coffee type. By revenue, the most sold coffee is Latte. $26,875 of this type of coffee was sold.

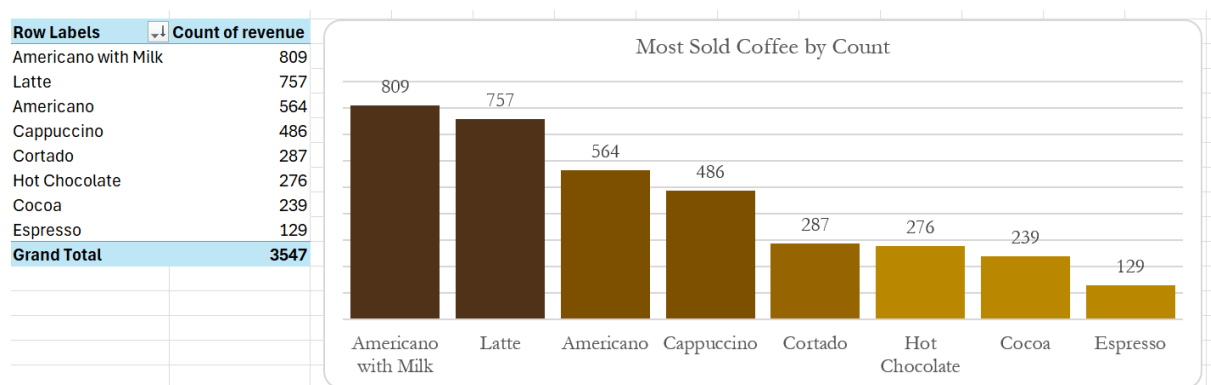| Row Labels	Sum of revenue
Jan	$6,399
Feb	$13,215
Mar	$15,892
Apr	$5,720
May	$8,164
Jun	$7,618
Jul	$6,916
Aug	$7,614
Sep	$9,989
Oct	$13,891
Nov	$8,591
Dec	$8,238
Grand Total	**$112,246**

Sales Trend Report

The Line chart above shows the Sales trend report. Coffee was mostly sold in the month of March. It is the month with the highest sales where it recorded $15,892 coffee sold.

Row Labels	Sum of revenue
Night	34.02%
Afternoon	33.97%
Morning	32.01%
Grand Total	**100.00%**

Sales by Time of Day

The Pie chart above shows the sales of coffee by Day time (Morning, Afternoon and Night). From the chart, coffee was mostly sold at night.

Row Labels	Sum of revenue
Sun	$13,336
Mon	$17,363
Tue	$18,168
Wed	$15,750
Thu	$16,091
Fri	$16,803
Sat	$14,734
Grand Total	$112,246

The Radar chart here shows us the sales of coffee by week day. From the chart, coffee was mostly sold on Mondays being the first day of the week.

Row Labels	Count of revenue
Americano with Milk	809
Latte	757
Americano	564
Cappuccino	486
Cortado	287
Hot Chocolate	276
Cocoa	239
Espresso	129
Grand Total	3547

The Column chart above shows us the Most sold coffee by count. By count, Americano with Milk was sold the most (809).

Story of Data:

This project is a project linked to the Food and beverage Industry that shows sales of different kinds of coffee with the dataset obtained from kaggle.com. It consists of 3,547 rows and 11columns.

The key variables of this data are - Coffee Name, Time of Day, Week sort, Month Sort, Date, Hour of Day and Revenue. These variables will help to understand customer behaviour, preferences and purchasing patterns which will help businesses make informed decisions.

Data Splitting and Preprocessing:
- Data Cleaning

The dataset was downloaded from kaggle.com and loaded into an Excel Workbook. Checks were performed for blanks and duplicates while a currency sign was added to the price column.

 In order to preserve the original dataset, the raw data was duplicated and retained for reference.

- Data Splitting
Independent
  - Coffee Name
  - Time of Day
  - Week of Day
  - Month Name
  - Week day sort
  - Month sort
  - Date
  - Time
  - Cash type
  - Hour of day
Dependent
  - Revenue

Industry context and Stakeholders
This project is part of the Food and Beverage Industry and Its stakeholders are the Coffee shop owner, Manager and Baritas.

Potential-Analysis Questions:
  - Which is the most sold coffee type?
  - What is the sales trend by hour, week day and month?

Relationship between Variables
  - Revenue generated by coffee type
  - Revenue generated by hour of day
  - Revenue generated by time of day
  - Revenue generated by months
  - Revenue generated by weekdays

Pre-Analysis Insights:
  - To discover the best performing coffee type and discover ways to maintain its performance.
  - To recognize the hour of day coffee is most sold and ensure workers are available to meet demands of customers.
  - To pin-point the time of day coffee is most sold so as to ensure all coffee types are available for customers.
  - To identify the best sales months so as to increase inventory of all coffee types in such months to retain customers.
  - To find out the week day with the most sales and ensure coffee house employees are fully available to meet the needs of customers.

Data Visualizations:
- Sales Trend by Month: A Line-chart was used
- Sales by Weekday: A Radar was used.
- Sales by Time of Day: A Pie-chart was used.
- Revenue by Coffee Type: A Column-chart was used.
- Most sold Coffee by Count: A Column- chart was used.
- Sales Trend by Hour: A Line Chart was used.

In-Analysis Observations and Recommendations:
Analysis- *Sales trend by Hour of Day*
Observations
- By hour, there was a peak sale between 10am-11am with a revenue of $18,652.
- 6am-7am had the least sales, generating a revenue of $2,999 only.
- The 16th-17th hour which is 4pm is next to 10am with a revenue of $16,692.
- There was a huge decline in sales between the 12th-13th hour, while a sharp increase occurred between 8am-9am.
Recommendations
- Coffee and pastry bundles should be offered during peak hours to increase sales.
- There should be limited time discounts during slow hours.
- Coffee can be marketed to nearby offices so as to bring in more customers and boost revenue.
- Online ordering should be efficient during slow hours (6am-8am).
- The reason for the sharp decrease in sales in the 12th hour should be looked into.

Analysis- *Revenue by Coffee Type*
Observations
- Amongst the 8 coffee type, Latte is the most sold, generating a revenue of $26,875, Americano with milk ranked 2nd with a revenue of $24,751, Cappuccino ranked 3rd with a revenue of $17,439 while Americano ranked 4th with a revenue of $14,650.
- The last 4 coffee types by rank are Hot chocolate, which ranked 5th with a revenue of $9,933, Cocoa which ranked 6th, with a revenue of $8,521, Cortado which ranked 7th, with a revenue of $7,385 and Espresso which ranked the least, generating a revenue of $2,690.
- There was a huge margin in revenue generated between Americano with milk and Cappuccino, and also Americano and Hot Chocolate.
Recommendations
- Find out what made Latte coffee successful and apply similar strategies to other coffee types so as to boost revenue.
- Loyalty programs should be applied to reward loyal customers.
- Unique or signature blends and brewing methods should be developed for different coffee types.
- Coffee tastings and workshops should be hosted to get feedback from customers on their taste and preferences.
- Staff should be trained on the origin of coffees, brewing methods and flavour profiles.

Analysis- *Sales Trend Report*
Observations
 - There was a peak sale in March which generated the highest revenue ($15,892).
 - October ($13,891) and February ($13,215) had a slight margin in revenue generated with October ranking 2nd.
 - There was a huge increase in sales in the Month of February after a low revenue in January.
 - There was a very sharp decline in the Month of April with a huge difference in revenue generated in the Month of March.
 - There was a huge increase in sales in October and a sharp decline in November.
Recommendations
 - Inquiries should be made to understand what led to the sharp decrease in sales in April and November.
 - Study the factors that contributed to February, March and October's strong performance to replicate successful tactics and optimize planning for future peak seasons.
 - Customer purchasing patterns should be analyzed during the best 3 Months so as to generate more revenue.
 - Marketing insights during months with lower sales should increase so as to boost revenue.
 - There should be limited-time discounts in months that generate the least revenue to increase sales.

Analysis- *Sales by Time of Day*
Observations
 - By time of Day, coffee was most sold at Night with a revenue of $38,186.
 - Afternoon ranked 2nd, generating a revenue of $38,130 while Morning ranked least with a revenue of $35,929.
 - There was a slight margin in revenue generated between Afternoon and Night.
Recommendations
 - To boost coffee sales in the morning, coffee should be paired with breakfast items like pancakes and there should be discounts for early morning customers so as to increase sales.
 - There should also be discounts on coffee mixed with baked items.
 - To boost revenue generated during noon, there should be limited time mid-day discount for coffee paired with snacks that will attract customers.
 - Online ordering and delivery should be made available for remote workers or other customers who cannot seem to show up physically at the store.
 - At night, socializers or night walkers should be targeted with evening promotions.

Analysis- *Sales by Weekday*
Observations
- In the Weekdays,Tuesday had the highest sales, with a revenue of $18,168, followed by Monday which ranked 2nd with a revenue of $17,363. Friday ranked 3rd with a revenue of $16,803 while Thursday ranked 4th with a revenue of $16,091.
- The last 3 by revenue generated are Wednesday which ranked 5th with a revenue of $15,750, Saturday which ranked 6th with a revenue of $14,734 and Sunday which ranked the least, generating a revenue of $13,336.
- There was a slight margin in revenue generated on Friday and Thursday

Recommendations
- For Sunday which ranked the least, coffee pairings with some brunch items should be offered to attract customers.
- In order to kickstart the week and attract customers on Mondays, there should be limited time discounts and coffee should be paired with pastries.
- Each day of the week should have a specific Funday theme that will attract customers so they can look forward to each day e.g Friday Happy-hour.

Post-Analysis Observations and Recommendations:
Observations- Sales by Hour
- By hour of day, coffee was mostly sold between 10am-11am, with a revenue of $18,652. Next is 16th-17th hour with a revenue of $16,692.
- The hour with the least purchase is 6am-7am with $2,995 which has a very huge difference between other revenue generated in other hours.

Recommendations
- Coffee and pastry bundles should be offered during peak hours to increase sales.
- There should be limited time discounts during slow hours.
- Coffee can be marketed to nearby offices so as to bring in more customers and boost revenue.
- Online ordering should be efficient during slow hours (6am-8am).
- The reason for the sharp decrease in sales in the 12th hour should be looked into.

Observations- Most Sold Coffee Type
- Americano ranked 4th amongst the 8 coffee types, with a revenue of $14,650. Its total quantity that was purchased is 564 and it was mostly sold at noon. By weekday, it was mostly sold on a Friday, generating a revenue of $2,737. Americano had a sharp increase in sales in the Month of February, it went from $649 in January to $3,037 in February. Meanwhile it also experienced a huge decline in sales in the Month of April which it never recovered from. It went from $3,573 in March to $942 in April, with its peak sales in March ($3,573).
- Americano with milk ranked 2nd amongst the 8 Coffee types, generating a revenue of $24,751 with 809 quantities sold. It was mostly sold in the Mornings between 10am-11am and by weekday, it was mostly sold on Tuesdays with a revenue of $4,334. It had its peak sales in the Month of September, generating a revenue of $2,930 and a little decline in sales in the Months of April, May, July and November.
- Cappuccino ranked 3rd amongst the 8 coffee types with a revenue of $17,434 and 486 total quantity sold. It was mostly sold in the night between the 18th and 19th hour, and by weekday, its peak sales was Thursday with $2,749. In the Month of March, it had its peak sales with a revenue of $2,118. It had a little increase in sales in the Month of February, a little decrease in the Months of April, July and November.
- Cocoa ranked 6th amongst the 8 coffee types, with a revenue of $8,521. Its total quantity that was purchased is 239 and it was mostly sold at night between 20-22nd hour . By weekday, it was mostly sold on a Tuesday, generating a revenue of $2,035. Cocoa had a sharp decline in sales between the Months of April to September. Meanwhile it also experienced a huge increase in sales in the Month of February, it went from $501 in January to $2,003 in February, with its peak sales in February ($2,003).

- Cortado ranked 7th amongst the 8 Coffee types, generating a revenue of $7,385 with 287 quantities sold. It was mostly sold in the Mornings between 8am-9am and by weekday, it was mostly sold on Saturdays with a revenue of $1,418. It had its peak sales in the Month of September, generating a revenue of $961 and a sharp decline in sales in the Months of February, July and November.

- Espresso ranked the least amongst the 8 coffee types with a revenue of $2,690 and 129 total quantities sold. It was mostly sold in the morning between 10am-11am, and by weekday, its peak sales was Thursday with $564. In the Month of March, it had its peak sales with a revenue of $427. It had a little increase in sales in the Month of February, a huge decline in the Month of November. It went from $253 in October to $63 in November, thereby reducing revenue generated.

- Hot Chocolate ranked 5th with a revenue of $9,933 and 276 quantities sold. By time of day, it was mostly sold at Night between 20-22nd hour with a revenue of $2,311 and by weekday, it was mostly sold on Tuesday ($1,766). It had its peak sale in the month of October ($2,074). There was a step-up in revenue between September and October, $367 was generated in September while $2,074 in October. There was a huge decline in the month of April where the revenue saw a setback from $1,596 in March to $386 in April.

- Latte topped the chart amongst the 8 coffee types, generating a revenue of $26,875. It was mostly sold in the evening between the 16th and 17th hour with a revenue of $4,353. By weekday, it was mostly sold on Mondays ($4,888). Its peak sales month is October, with a revenue of $4,291. It had less sales between April to September, as against March, September and October.

- Most of the coffee types had a huge decline in the Month of November.

Recommendations

- Coffee tasting events should be hosted so as to introduce customers to new flavours.
- Less popular coffee types can be strategically placed on menus so as to increase their sales.
- Staff/baristas should be trained on the health benefits of each coffee type. For example, espresso can be promoted as an energy booster.

Observations- Sales Trend by Report

- March is the month with the peak sales, generating a revenue of $15,892.
- There was a strong decline in the Month of April, revenue went from $15,892 to $5,720 in April which is about a 64% decrease. It then had a slight increase in the month of May where it went from $5,720 in April to $8,164 in May. It never fully recovered from the sharp decline in April until the Month of October where it rose to $13,891 which is the month with the 2nd highest revenue. It experienced another decline in the Month of November with about 38.2% decrease where it went from $13,891 in October to $8,591 in November. There was also a slight decrease in December and January before February experienced a surge.
- Revenue generated between April to September were quite low as regards what was generated in March alone.
- In the Month of March, coffee was mostly sold between 10am-11am, 4pm-5pm. The top 3 coffee sold in this Month are Americano, Latte and Americano with Milk.

Recommendations

- Being that April experienced a huge decline in sales, it may likely occur again in the future. Therefore, special promotions should be made in the Month of April and also new

flavours of coffee should be introduced so as to retain March customers and also attract new customers in order to increase revenue generated.

- Inquiries should be made to understand what led to the sharp decline in sales in April and other months.
- For the low sales experienced between April-September, Marketing should be targeted towards offices, universities or local events so as to attract new customers and generate more revenue.
- The strategies applied in the Months of March, October and February should be applied again so as to maintain its position.
- Festive drink discounts should be offered in the Months of November, December and January.
- Customer feedback should be collected and analyzed so as to identify areas of improvement.
- Sales trends should be monitored and strategies adjusted accordingly.

Observations- Sales by Time of Day
- By time of Day, Coffee was mostly purchased at Night ($38,130.04), next is Afternoon ($38,186) and then Mornings($35,929.2).
- There was a very slight difference in revenue for coffee purchased at Night and Afternoon time of day.
- Late night coffee boom could be due to Late night study sessions by students or people working shifts.

Recommendations
- For mornings, discounts or special deals for early risers should be offered so as to increase patronage and coffee should be paired with breakfast items like pancakes.
- Online ordering and delivery should be made available for early risers who may not make it to the store.

Observations- Sales by Weekday
- Coffee was mostly sold on Tuesday during the week, with a revenue of $18,168. By coffee type, Americano with milk was the most sold on Tuesdays, followed by Latte. During this day of the week, customers mostly purchased coffee at night.
- Total revenue generated on Mondays for the year is $17,363. Coffee that was mostly sold during this day of the week is Latte, followed by Americano with milk. On Mondays, customers mostly purchased coffee in the Mornings between 10am-11am.
- On Wednesday, total revenue generated within this day of the week is $15,750. Coffee that was mostly sold during this day of the week is Latte, with $3,815 revenue. Customers purchased coffee in the mornings during this day of the week.
- Total revenue generated on Thursdays for the year is $16,091. Coffee that was mostly sold during this day of the week is Latte. On Mondays, customers mostly purchase coffee at Night time between 20-22nd hour.
- Total revenue generated on Friday is $16,803. By coffee type, Latte was the most sold on Tuesdays, followed by Americano with milk. During this day of the week, customers mostly purchased in the Mornings between 8am-9am.
- On Saturday, total revenue generated within this day of the week is $14,734. Coffee that was mostly sold during this day of the week is Americano with Milk, followed by Latte with $3,720 revenue. Customers purchased coffee in the Mornings during this day of the week.

- On Sundays, the total revenue generated is $13,336 and the coffee mostly sold is Americano with Milk. By hour, it was mostly sold between 10am-11am but had more purchases at noon time between 12pm-4pm.

Recommendations

- For weekdays with peak sales, there should be an increase in staff and inventory so as to meet the demands of customers.
- Special deals or promotions should be offered to boost sales and increase revenue generated.
- The reasons for low sales during weekends should be analyzed/looked into and worked upon.
- Marketing strategies should be developed, monitored and adjusted accordingly.
- In order to kickstart the week and attract customers on Mondays, there should be limited time discounts and coffee should be paired with pastries.
- Each day of the week should have a specific Funday theme that will attract customers so they can look forward to each day e.g Friday Happy-hour.

Conclusion:

By understanding sales trends and consumer needs, businesses can become successful and stay ahead in the competitive market. Businesses can thrive and satisfy the growing demand for their products with the right strategies.

Reference: kaggle.com