

Coffee Shop Data Analysis Project using Excel 2024

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Introduction

Imagine running a coffee shop that welcomes hundreds of customers every day, where the aroma of freshly brewed coffee blends with the sound of friendly conversations. Behind this lively scene flows a massive amount of data—ranging from sales figures and customer preferences to branch performance and customer satisfaction levels.

In a competitive world like this, success lies in transforming data into clear stories that guide better decision-making. By leveraging **advanced analytics**, **exploratory data analysis (EDA)**, and **statistical modeling**, along with tools such as **Power BI** and **Tableau**, we turn raw numbers into actionable insights that speak for themselves.

Through this analysis, we dive deep into hidden patterns within daily operations, uncovering what makes certain products successful and identifying areas for improvement. Imagine having a dashboard that instantly shows which branches are the most profitable and how customer preferences shift throughout the week.

Our goal is not just to enhance performance but also to deliver an exceptional customer experience and strengthen relationships with suppliers. This analysis transforms challenges into growth opportunities, ensuring that our coffee shop doesn't just keep up with the market—but thrives at its core.

Report Objective

Imagine you are running a bustling café in the heart of Saudi Arabia, where the rich aroma of fresh coffee fills the air, and customers flock at various times, eagerly awaiting their favorite drinks. Behind these delightful moments lies a story told through numbers and data, waiting to be analyzed to uncover what truly happens behind the scenes. This report takes you on a deep dive into the world of data, exploring when customer traffic peaks, which branches excel, and what products captivate customers' tastes. Our goal is to transform these numbers into smart decisions that propel the business toward success and enhance its competitiveness in the market.

Importance of Analysis

Every time a cup of coffee is sold or a new order is placed, an opportunity arises to gain deeper insights into market behaviors. The significance of this analysis lies in its ability to provide a comprehensive view that helps answer critical questions: When are the branches most active? Who are the standout employees? What products ensure repeat visits and boost revenue?

- **Performance Improvement:** The analysis sheds light on hidden successes and missed opportunities, enhancing performance across every branch.
- **Strategic Planning:** Planning for the future becomes easier when we understand past patterns and how market behaviors evolve.
- **Intelligent Resource Management:** When resources are optimally managed—from identifying peak hours to distributing staff—it becomes possible to achieve a better return on investment.
- **Effective Risk Management:** By anticipating potential challenges, proactive strategies can be implemented, making the business agile in the face of unforeseen disruptions.

Analysis Tools

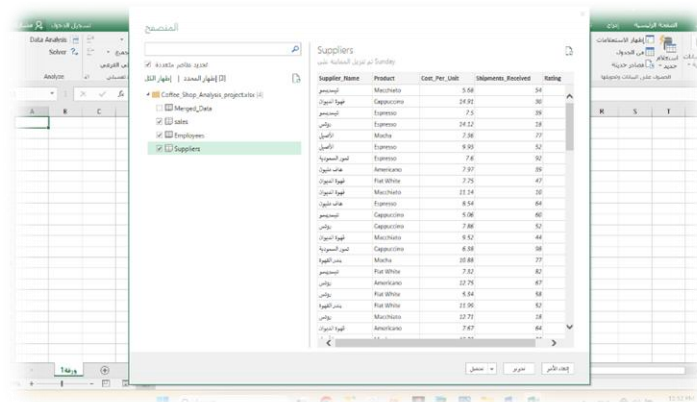
Behind every insightful vision is a tool that transforms numbers into comprehensible stories. To achieve this, we utilize a range of tools that make data analysis an engaging journey:

- **Power Query:** The magic key that cleans and organizes the data, ready to embark on the analytical adventure.
- **Power Pivot:** A powerful tool that enhances data analysis capabilities, allowing users to efficiently manage and analyze large and complex data models.
- **Pivot Tables:** These tables act as a magnifying glass, helping us quickly classify vast amounts of data to understand trends and finer details.
- **Power BI:** This tool transforms data into interactive visual dashboards, making pattern recognition easy and enjoyable.

Phase 1: Data Preparation

- **Data Cleaning**

We will use the **Power Query** tool in this phase to effectively clean and organize the data.



Supplier Name	Product	Cost_Per_Unit	Shipments_Received	Rating
البحر	Machete	9.58	54	
قوة الجوز	Capuccino	24.92	36	
البحر	Espresso	7.5	39	
البحر	Espresso	24.12	18	
البحر	Mocha	2.86	27	
البحر	Espresso	9.99	52	
قوة الجوز	Espresso	7.6	30	
قوة الجوز	Americano	7.97	39	
قوة الجوز	Flat White	7.75	47	
قوة الجوز	Machete	22.14	16	
قوة الجوز	Espresso	6.54	64	
البحر	Capuccino	9.96	60	
البحر	Capuccino	7.88	52	
قوة الجوز	Machete	6.52	44	
قوة الجوز	Capuccino	6.88	58	
قوة الجوز	Mocha	18.88	27	
البحر	Flat White	7.52	42	
البحر	Americano	22.75	47	
البحر	Flat White	6.54	64	
قوة الجوز	Flat White	22.96	62	
البحر	Machete	22.71	18	
قوة الجوز	Americano	7.67	64	
قوة الجوز	Flat White	22.14	16	

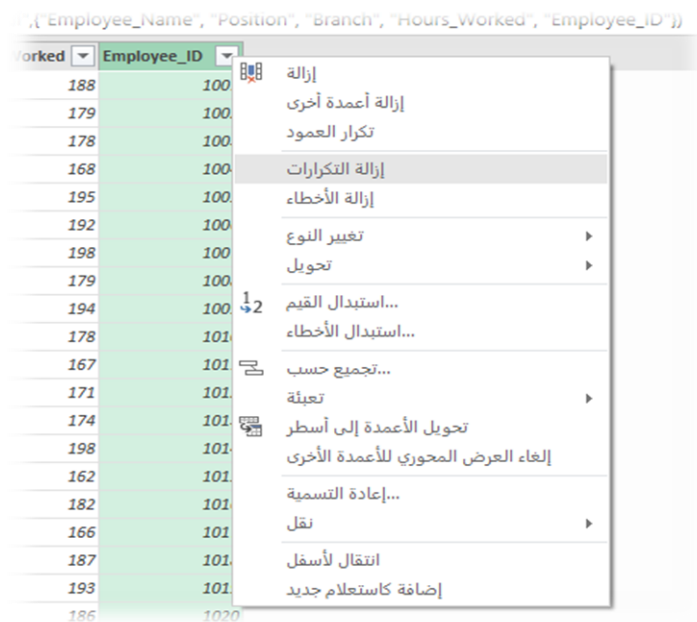
- ✓ **Missing Values**

The dataset contains no missing or incomplete values, indicating that it is well-organized and will support logical analysis. Clean and complete data ensures smooth processing, reduces the need for

assumptions or imputation, enhances the accuracy and reliability of results, and enables more effective decision-making.

✓ Duplicates

I removed duplicates from the **employee ID** column to prevent errors such as incorrect reports or data conflicts. This step ensures data consistency, enhances its reliability, and contributes to improving the accuracy of the final analysis.



The screenshot shows a data table with columns: Employee_Name, Position, Branch, Hours_Worked, and Employee_ID. The Employee_ID column is highlighted, and a context menu is open over it. The menu options are in Arabic and include: إزالة (Remove), إزالة أعمدة أخرى (Remove other columns), تكرار العمود (Duplicate column), إزالة التكرارات (Remove duplicates), إزالة الأخطاء (Remove errors), تغيير النوع (Change type), تحويل (Convert), استبدال القيم... (Replace values...), استبدال الأخطاء... (Replace errors...), تجميع حسب... (Group by...), تعبئة (Fill), تحويل الأعمدة إلى أسطر (Convert columns to rows), إلغاء العرض المحوري للأعمدة الأخرى (Cancel other columns' pivot), إعادة التسمية... (Rename...), نقل (Move), انتقال لأسفل (Move down), and إضافة كاستعلام جديد (Add as new query). The table data shows various Employee_ID values, with some duplicates (e.g., 100, 101) highlighted in green.

Employee_Name	Position	Branch	Hours_Worked	Employee_ID
188				100
179				100
178				100
168				100
195				100
192				100
198				100
179				100
194				100
178				101
167				101
171				101
174				101
198				101
162				101
182				101
166				101
187				101
193				101
186				1020

✓ Formatting

Changing letter case to uppercase during the data cleaning phase contributes to standardizing the format, reducing errors, and increasing analysis accuracy. This practice facilitates searching and comparing values, improves the accuracy of grouping and classification, and enhances the professionalism of visual presentations. Consequently, using a unified letter case ensures data quality and ease of handling in subsequent stages of analysis.

الرئيسية | تحويل | إضافة عمود | عرض

إضافة عمود الفهرس | تكرار العمود

عام

تحويل إلى أحرف صغيرة
تحويل إلى أحرف كبيرة
تحويل أول حرف بكل كلمة إلى حرف كبير
اقتطاع
تنظيف

دمج الأعمدة
الطول
تحليل

قياسي الإحصائيات

حساب مثلثات
تقريب
معلومات

من التاريخ والوقت

من الرتبة

الأعمدة المعاد ترتيبها: ("Uppercase", "product")

			Cost_Per_Unit	Shipments_Received
1	قهوة الدب	CAPPUCCINO	Cappuccino	5.68
2	قهوة الدب	CAPPUCCINO	Cappuccino	14.91
3	ثيسريسو	ESPRESSO	Espresso	7.5
4	روتس	ESPRESSO	Espresso	14.12
5	الأصيل	MOCHA	Mocha	7.36
6	الأصيل	ESPRESSO	Espresso	9.93
7	تمور السعودية	ESPRESSO	Espresso	7.6
8	هاف مليون	AMERICANO	Americano	7.97
9	قهوة الدب	FLAT WHITE	Flat White	7.75
10	قهوة الدب	MACCHIATO	Macchiato	11.14
11	هاف مليون	ESPRESSO	Espresso	8.54
12	ثيسريسو	CAPPUCCINO	Cappuccino	5.06
13	روتس	CAPPUCCINO	Cappuccino	7.86
14	قهوة الدب	MACCHIATO	Macchiato	9.52
15	تمور السعودية	CAPPUCCINO	Cappuccino	6.38
16	بندر القهوة	MOCHA	Mocha	10.88
17	ثيسريسو	FLAT WHITE	Flat White	7.32
18	روتس	AMERICANO	Americano	12.75
19	روتس	FLAT WHITE	Flat White	5.34
20	بندر القهوة	FLAT WHITE	Flat White	11.09

✓ Transform Data Types

I converted each column to its appropriate data type, which enhances analysis efficiency and ensures the accuracy of calculations and queries. This conversion reduces potential errors during processing and facilitates logical understanding and analysis of the data.

الاسم: Employees

كل الخصائص

الخطوات المطبقة

المصدر

تنقل

الرؤوس التي تمت ترفيقها

النوع المتغير

التكرارات التي تمت إزالتها

الأخطاء التي تمت إزالتها

النوع المتغير 1

الأعمدة المعاد ترتيبها

إزالة

إزالة أعمدة أخرى

تكرار العمود

إزالة التكرارات

إزالة الأخطاء

تغيير النوع

تحويل

استبدال القيم...

استبدال الأخطاء...

تجميع حسب...

تعبئة

تحويل الأعمدة إلى أسطر

إلغاء العرض المحوري للأعمدة الأخرى

إعادة التسمية

نقل

انتقال لأسفل

إضافة كاستعلام جديد

رقم عشري

العملة

عدد صحيح

التاريخ/الوقت

التاريخ

الوقت

التاريخ/الوقت/منطقة التوقيت

المدة

نص

صواب/خطأ

ثنائي

استخدام الإعدادات المحلية

✓ Grouping Data

Aggregating Revenue and Profit by Branch

- **Objective:** Understand the financial performance of each branch.
- **Process:**
 - **Group By:** Branch.
 - **Calculations:**
 - Sum of Revenue.
 - Sum of Profit.
- **Analysis:** This helps identify the most profitable branches

تجميع حسب

حدد الأعمدة المطلوب التجميع بها.

تجميع حسب

Branch_x

العمود

Sum of Revenue

المجموع

Revenue

موافق إلغاء الأمر

Branch_x	Product	Quantity	Unit_Price	Employee	Cost_Per_Unit	Revenue	Profit	Position	Branch_y
FLAT WHITE	FLAT WHITE	50	14.07	بندر المعزي	7.75	703.5	316	كاشير	الخبر
FLAT WHITE	FLAT WHITE	50	14.07	بندر المعزي	5.73	703.5	417	مشرف فرع	مكة
FLAT WHITE	FLAT WHITE	50	14.07	بندر المعزي	14.27	703.5	-10	كاشير	الخبر

تحويل الأعمدة إلى أسطر		
استبدال الأخطاء		
عد الصفوف		
أي عمود		
Branch_x	Sum of Reven...	
1	الخبر	437367.09
2	جدة	601646.79
3	مكة	740734.17
4	الرياض	603142.73
5	الدمام	652326.71

FLAT WHITE	50	بندر العتيبي 14.07	7.75	703.5	316 كاشير
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تجميع حسب

حدد الأعمدة المطلوب التجميع بها.

تجميع حسب +

Branch_x -

اسم عمود جديد العملية عمود +

Sum of Profit المجموع Profit -

موافق إلغاء الأمر

FLAT WHITE	50	بندر العتيبي 14.07	5.73	703.5	417 مشرف فرع
FLAT WHITE	50	بندر العتيبي 14.07	14.27	703.5	-10 كاشير

	Branch_x	Sum of Profit
1	الخبر	222153.68
2	جدة	299434.29
3	مكة	371593.12
4	الرياض	294608.25
5	الدمام	342945.25

Aggregating Products by Type and Analyzing Performance

- **Objective:** Identify the best-selling and most profitable products.
- **Group By:** Product.
- **Calculations:**
 - Sum of Quantity.
 - Sum of Revenue.
 - Average Profit.
- **Analysis:** Identify products that need more promotion or those generating the highest returns.

تجميع حسب

حدد الأعمدة المطلوب التجميع بها.

تجميع حسب +

Product -

اسم عمود جديد العملية عمود +

Sum of Quantity المجموع Quantity -

Sum of Revenue المجموع Revenue -

Average Profit المتوسط Profit -

موافق إلغاء الأمر

	Product	Sum of Quantity	Sum of Revenue	Average Profit
1	FLAT WHITE	24030	485127.45	312.7450645
2	CAPPUCCINO	21697	453815.96	320.848435
3	MACCHIATO	16120	304320.8	191.5706061
4	MOCHA	16668	343881.84	261.5444737
5	LATTE	20062	374962.98	219.4334821
6	AMERICANO	26095	529504.78	273.178813
7	ESPRESSO	28158	543603.68	210.9529231

✓ Add Custom Columns

Aggregating Suppliers by Costs

- **Objective:** Identify the suppliers with the highest costs to the company.
- **Group By:** Supplier (from the *Suppliers* sheet).
- **Calculations:**
 - Total Cost per Supplier (**Sum of Cost_Per_Unit * Quantity**).
- **Analysis:** Helps enhance negotiation with suppliers.

Total Cost per Supplier
387.5
387.5
366
366
267
267
599.5
599.5
346.5
346.5
288
288
283.5
283.5
441
441
286.5
286.5
713.5
713.5
308.5

إضافة عمود مخصص

اسم عمود جديد
Total Cost per Supplier

صيغة العمود المخصص
=[Cost_Per_Unit]*[Quantity]

الأعمدة المتوفرة:
Date
Branch_x
Product
Quantity
Unit_Price
Employee
Cost_Per_Unit

>> إدراج

Power Query التعرف على صيغ

لم يتم اكتشاف أي أخطاء في بناء الجمل ✓

موافق إلغاء الأمر

FLAT WHITE	50	بنتر المعتي 14.07	14.27	703.5	ملف فرع 10-
FLAT WHITE	50	بنتر المعتي 14.07	14.27	703.5	ملف فرع 10-

Profit Margin

- **Formula:** (Profit / Revenue) * 100
- **Objective:** Determine the profit percentage for each sale.

إضافة عمود مخصص

اسم عمود جديد
Profit Margin

صيغة العمود المخصص
=[Profit]/[Revenue]*100

الأعمدة المتوفرة:
Employee
Cost_Per_Unit
Revenue
Profit
Position
Branch_y
Total Cost per Supplier

>> إدراج

Power Query التعرف على صيغ

لم يتم اكتشاف أي أخطاء في بناء الجمل ✓

موافق إلغاء الأمر

Profit Margin
44.91826581
44.91826581
47.97441365
47.97441365
62.04690832
62.04690832
14.78322672
14.78322672
50.74626866
50.74626866
59.06183369
59.06183369
59.70149254
59.70149254
37.31343284
37.31343284

✓ Advanced Analysis with Filters

1. Branch Filtering:

- **Objective:** Analyze the performance of each branch individually, such as branches in the Central Region or Riyadh, to determine which generate the highest revenue and profit.

فرز تصاعدي
فرز تنازلي
مسح الفرز
مسح عامل التصفية
عوامل تصفية النصوص

يبحث

☒ (تحديد الكل)
☐ الخير
☐ الدمام
☒ الرياض
☐ المنطقة الجنوبية
☐ جدة
☐ مكة

موافق إلغاء الأمر

5.73	703.5	417	مشرف فرع	مكة
------	-------	-----	----------	-----

Branch_y	Total Cost
الرياض	
الرياض	
الرياض	
الرياض	
الرياض	
الرياض	
الرياض	
الرياض	
الرياض	
الرياض	
الرياض	
الرياض	
الرياض	
الرياض	
الرياض	
الرياض	
الرياض	
الرياض	

2. Date Filtering:

- **Objective:** Use time-based filters, such as:
 - Monthly analysis (January, February)
 - Quarterly analysis (Q1, Q2)
 - Annual analysis to identify seasonal trends.

فرز تصاعدي	فهد الفحطاني	7.36	39.12	24.4
فرز تنازلي	فهد الفحطاني	10.88	39.12	17.36
مسح الفرز	فهد الفحطاني	12.83	39.12	13.46
مسح عامل التصفية	فهد الفحطاني	6.4	39.12	26.32
عوامل تصفية التاريخ	فهد الفحطاني	6.38	39.12	26.36
يحت	يساوي...	11.26	39.12	16.6
(تحديد الكل)	قبل...	13.52	39.12	12.08
1/14/2024	بعد...	5.54	39.12	28.04
1/26/2024	بين...	8.79	39.12	21.54
2/4/2024	خلال التالي...	10.88	39.12	17.36
2/5/2024	خلال السابق...	11.54	39.12	16.04
2/9/2024	اليوم	13.4	39.12	12.32
2/17/2024	أسبوع	7.75	508.76	152.26
2/18/2024	الشهر	7.32	508.76	172.04
2/20/2024	ربع سنة	5.34	508.76	263.12
2/23/2024	سنة	11.99	508.76	-42.78
2/27/2024	عامل تصفية مخصص			
3/1/2024	فصل المطري	11.06		
3/22/2024				
3/23/2024				

3. Product Filtering:

- **Objective:** Identify the best-selling or underperforming products to improve purchasing decisions.

من النص	من الرقم
فرز تصاعدي	Quantity
فرز تنازلي	Unit_Price
مسح الفرز	2
مسح عامل التصفية	2
عوامل تصفية النصوص	2
يحت	2
(تحديد الكل)	يساوي...
AMERICANO	لا يساوي...
CAPPUCCINO	يبدأ بـ...
ESPRESSO	لا يبدأ بـ...
FLAT WHITE	ينتهي بـ...
LATTE	لا ينتهي بـ...
MACCHIATO	يحتوي على...
MOCHA	لا يحتوي على...
موافق	46
إلغاء الأمر	46

4.Profit Margin Filtering:

- **Objective:** Extract products with a profit margin higher than a specific threshold (e.g., 20%).

56	فهد القحطاني	7.36	39.12	24.4	مسؤول توريد	الرياض	14.72
56	فهد القحطاني	10.88	39.12	17.36	مسؤول توريد	الرياض	21.76
56	فهد القحطاني	12.83	39.12	13.46	مسؤول توريد	الرياض	25.66
56	طائي						
56	طائي						
56	طائي						
56	طائي						
56	طائي						
56	طائي						
56	طائي						
56	طائي						
06	بري						
06	بري						
06	بري						
06	فيصل المطيري	11.99	508.76	-42.78	باريسا	الرياض	551.54

تصفية الصفوف

إظهار الصفوف حيث: Profit Margin

يساوي 20

☐ أو ☒

أصغر من 20

موافق إلغاء الأمر

● Data Merging

Excel File with Three Tables:

- **Table 1:** Sales Data - Contains information about sales transactions, including date, amount, and product details.
- **Table 2:** Employee Data - Includes details about employees, such as names, roles, and efficiency metrics.
- **Table 3:** Supplier Data - Provides information on suppliers, including names, contact details, and contributions to products.

The data used in this report originates from a Saudi coffee shop listed on the **Saudi Open Data Portal**. This dataset provides valuable insights into the shop's performance, enabling a comprehensive analysis of sales, employee efficiency, supplier contributions, and product profitability.

Phase 2: Data Modeling

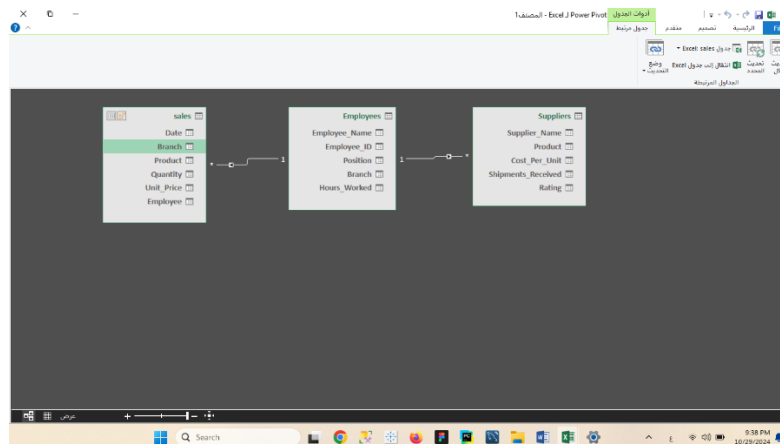
Power Pivot: We will use this tool to analyze large datasets and create complex data models, enhancing performance and supporting DAX, which facilitates integration with Excel.

✓ Modeling and Relationships

We placed the tables in the model and linked them through unique values to ensure consistent analysis.

The screenshot shows the Excel Power Pivot ribbon with various tools for data analysis. Below the ribbon is a table with 17 rows of data. The table has columns for Date, Branch, Product, Quantity, Unit Price, and Employee. The data is as follows:

Date	Branch	Product	Quantity	Unit Price	Employee
1/1/20...	الخبر	Flat White	50	14.07	بندر العنزي
1/2/20...	الخبر	Cappuccino	1	28.59	محمد العنزي
1/3/20...	جدة	Macchiato	19	18.01	سعود الشهري
1/4/20...	مكة	Macchiato	11	23.43	ناصر القحطاني
1/5/20...	جدة	Flat White	18	27.83	ناصر الغامدي
1/6/20...	مكة	Cappuccino	18	28.64	محمد الزهراني
1/7/20...	جدة	Mocha	11	20.66	ماجد العنزي
1/8/20...	مكة	Macchiato	13	14.82	ماجد البامي
1/9/20...	الخبر	Latte	19	12.08	ماجد البامي
1/10/2...	الرياض	Mocha	24	22.49	عبدالله المطوري
1/11/2...	جدة	Flat White	22	18.53	سعود الغامدي
1/12/2...	الرياض	Latte	34	14.39	فهد الغامدي
1/13/2...	مكة	Latte	28	17.4	بندر الحري
1/14/2...	الرياض	Mocha	2	19.56	فهد القحطاني
1/15/2...	الرياض	Americano	48	20.41	أحمد العنزي
1/16/2...	مكة	Flat White	27	29.56	أحمد القحطاني
1/17/2...	الرياض	Macchiato	38	21.4	ناصر الشهري



✓ Calculations

Average Unit Price for Each Product

- **Formula:**
Average Unit Price = $\frac{\text{Revenue}}{\text{Quantity Sold}}$
Average Unit Price = Quantity Sold / Revenue
- **Objective:**
To analyze prices and ensure consistency in product pricing.

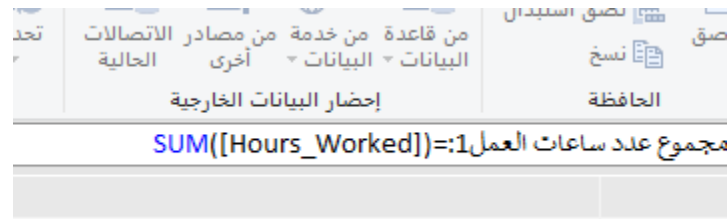
عرض	العمليات الحسابية	بحث	فرز وتصفية	التنسيق
fx = [Quantity]/[Unit_Price]				
Pro...	Quantity	Unit_Price	Employee	Average Unit Price
الخبر Flat White	50	14.07	بندر العنزي	3.55366027007818
الخبر Cappuccino	1	28.59	محمد العنزي	0.0349772647778944
جدة Macchiato	19	18.01	سعود الشهري	1.05496946141033
مكة Macchiato	11	23.43	ناصر الفحطاني	0.469483568075117
جدة Flat White	18	27.83	ناصر الغامدي	0.646784045993532
مكة Cappuccino	18	28.64	محمد الزهراني	0.628491620111732
جدة Mocha	11	20.66	ماجد العنزي	0.5324298160697
مكة Macchiato	13	14.82	ماجد الباي	0.87719298245614
الخبر Latte	19	12.08	ماجد الباي	1.57284768211921
الرياض Mocha	24	22.49	عبدالله المطيري	1.06714095153402
جدة Flat White	22	18.53	سعود الغامدي	1.18726389638424
الرياض Latte	34	14.39	فهد الغامدي	2.36275191104934
مكة Latte	28	17.4	بندر الحربي	1.60919540229885
الرياض Mocha	2	19.56	فهد الفحطاني	0.102249488752556
الرياض Americano	48	20.41	أحمد العنزي	2.35178833904949

We used the **RELATED** function to retrieve related data from another table, ensuring accurate pricing analysis by linking product details with sales data.

✓ fx	=RELATED(
	RELATED(ColumnName)			
	Pro...	Unit_Price	Employee	
	الخبر Flat White			
	الخبر Cappuccino			
	جدة Macchiato			
	مكة Macchiato			
	جدة Flat White			
	مكة Cappuccino	18	28.64	
	Mocha	11	20.66	

✓ Measurements

We used the **SUM** function to calculate the total working hours for employees throughout the year.



اسم الموظف	الرقم	القسم
فaisal الزهراني	1017	بارستا
مجموع عدد ساعات العمل	17969	

Phase 3: Data Distributions

In this phase, we will use the **Pivot Table** tool to easily analyze and aggregate data, providing accurate insights and saving time in report creation.

How to Start Analytical Questions

To analyze data using a **Pivot Table**, it must be classified into:

1. **Quantitative Data**: Numeric data like revenue or working hours, used in **values** to calculate sums or averages.
2. **Qualitative Data**: Categorical data like department names or order statuses, used in **rows or columns** to group data.

Q1: Who are the top 5 employees based on sales volume?

Q1: Who are the top 5 employees based on sales volume?				
تسميات الصفوف	مجموع (Ctrl)			
أحمد الشهري	191			
أحمد العنزي	222			
بندر الشهري	243			
علي الزهراني	185			
فيصل المطيري	193			
الإجمالي الكلي	1034			

Q2: Who are the highest-rated suppliers?

Q2: Who are the highest-rated suppliers?	
تسميات الصفوف	Rating مجموع
الأصيل	64.8
بندر القهوة	76.5
تمور السعودية	42.6
روتس	46.6
قهوة الديوان	56.6
نيسبرسو	61.5
هاف مليون	52.2
الإجمالي الكلي	400.8

Q3: What is the total revenue generated by each employee for every 100 hours worked?

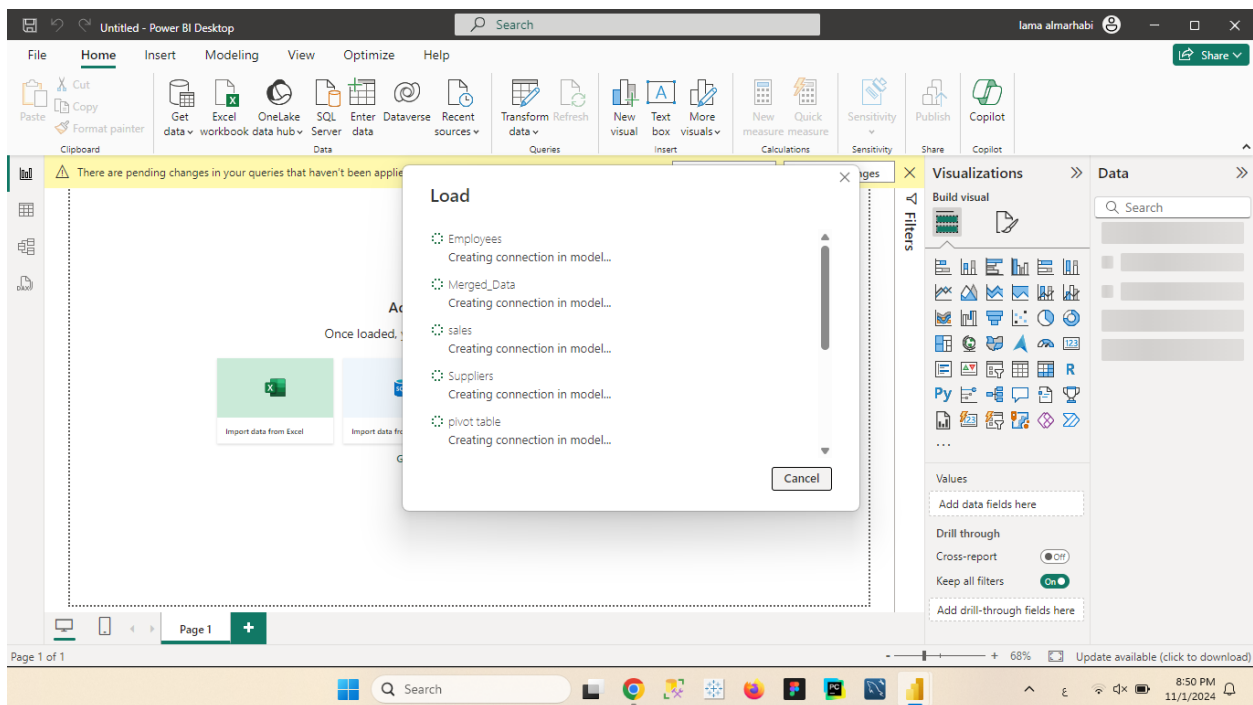
What is the total revenue generated by each employee for every 100 hours worked?		
تسميات الصفوف	Revenue مجموع	Hours_Worked عدد
أحمد الحربي	30919.84	100
أحمد الزهراني	15858.9	100
أحمد الشهري	10988.13	100
أحمد الشهري	29598	100
أحمد العنزي	21875.68	100
أحمد القحطاني	11971.8	100
بندر الحربي	19060.8	100
بندر الزهراني	10486.8	100
بندر الشهري	512.72	100
بندر الشهري	75156.98	100
بندر العنزي	30450.6	100
بندر المالكي	11700	100
بندر المطيري	44467.04	100
سعود الحربي	1083.6	100
سعود الزهراني	5769.8	100
سعود الشهري	8884.65	100
سعود الشهري	18706.45	100

[illegible]

Phase 4: Data Visualization

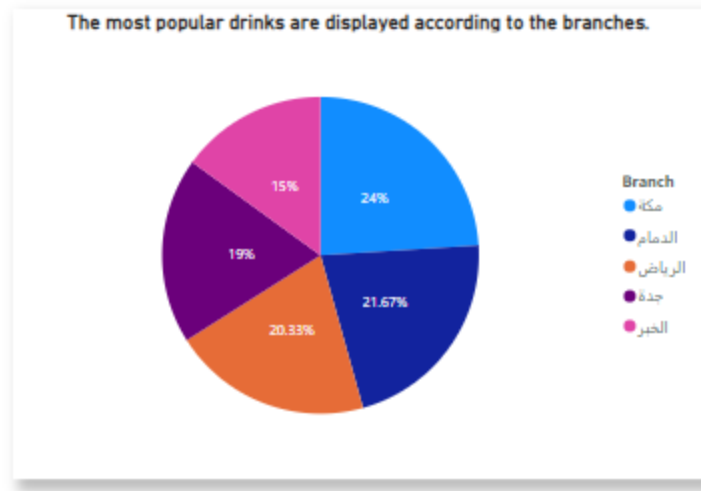
In this phase, we will use **Power BI** for creating interactive and visually appealing data visualizations, enabling deeper insights and facilitating informed decision-making.

- ✓ We have completed the first step by importing the data and tables into **Power BI**, aiming to build a dashboard that will support informed decision-making.

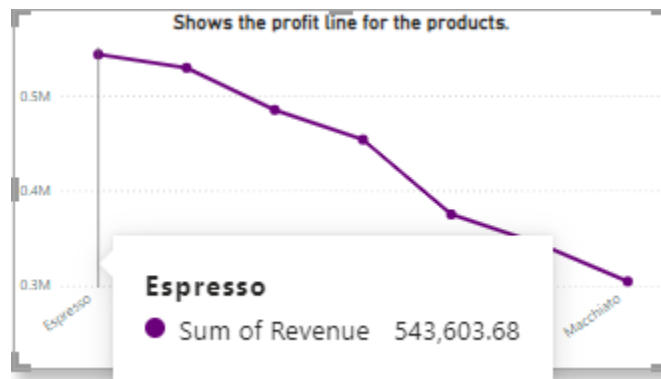


○ Customer Behavior Analysis Dashboard"

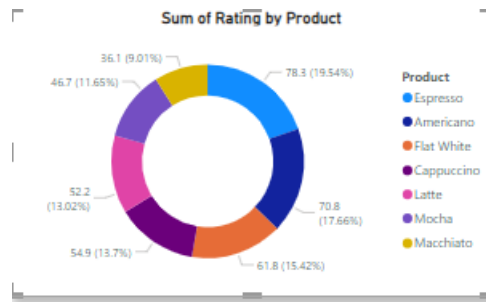
- ✓ The most popular drinks are displayed according to the branches



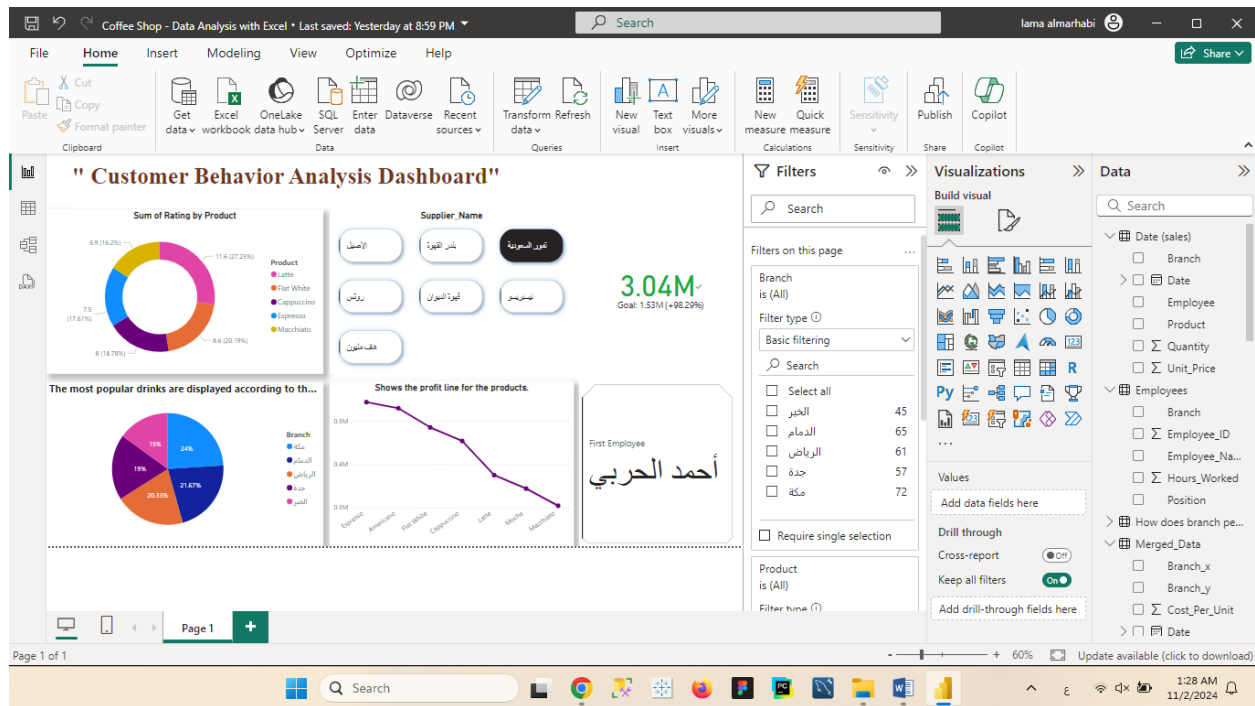
- ✓ Shows the profit line for the products.



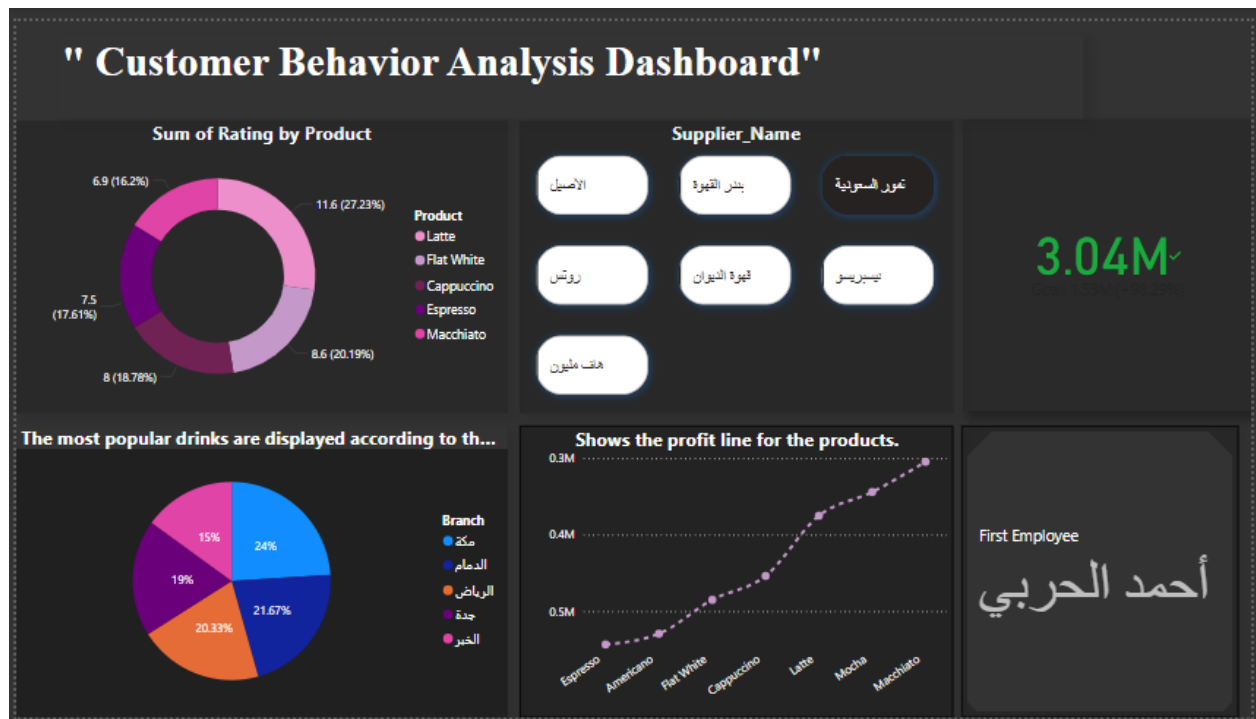
- ✓ Product Evaluation



- ✓ We have completed the first dashboard, and I hope it has achieved strong analytical goals and contributed to making the right decisions regarding sales, employee performance analysis, and suppliers.



This is the initial draft of the dashboard, presented without formatting or colors. The purpose of this step is to provide a clear overview of the general concept and to navigate through different elements of the dashboard. This allows for reviewing the initial idea and ensuring it aligns with requirements. Following this stage, final formatting and colors will be applied to enhance the dashboard's appearance and make the data clearer and more visually appealing.



Imagine a dashboard that tells a complete story of customer behavior, opening a window into their preferences, experiences, and the products they favor at each branch. The story begins with the "Sum of Rating by Product" chart, which reveals satisfaction levels for each drink, helping us understand which items leave the best impression on customers.

Next, we move to the "Most Popular Drinks by Branch" chart, allowing us to see how customer preferences vary across branches in Mecca, Riyadh, Jeddah, and Al-Khobar. This insight enables us to tailor offers and guide marketing strategies more accurately for each region.

As we dive deeper, we find the supplier section neatly organized, making it easy to monitor supply chains and perform comparisons, supporting us in making informed decisions about strengthening partnerships with key suppliers.

Finally, the product profitability chart appears, showing the journey of each product's profits, allowing us to identify which items contribute the most to revenue growth.

This cohesive dashboard tells a data story through a visually connected structure, enhancing our ability to understand the market and make well-informed, strategic decisions.

Conclusion

After weeks of intensive work on data cleaning and conducting complex analyses, a comprehensive report was prepared, providing a clear picture of the coffee shop's journey toward success.

The report began by analyzing monthly revenues, identifying intriguing seasonal patterns. As winter approached, a noticeable increase in sales of hot beverages was observed, while ice cream sales declined.

The analysis then shifted to employee performance, revealing a distinguished group of baristas who contributed to the highest sales figures. At the same time, the report highlighted some employees who needed additional training to enhance their service levels.

A thorough analysis of supplier performance was also conducted, demonstrating the importance of continuing partnerships with key suppliers due to their product quality and competitive purchasing costs. The recommendations included advice on negotiating better prices with some suppliers.

In the end, the findings and recommendations offered a pathway to enhance the project's profitability and increase customer loyalty in the coming years, opening new horizons for performance improvement and sustainable growth.

