DASHBOARD DOCUMENTATION

Coffee Shop Sales Dashboard

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Power BI Desktop · DAX · Kruskal-Wallis test

$699K	149K	3	118.6%
sales, January to June	transactions	store locations	June sales above February

> A practice dashboard built on a training dataset. It is not client data. Figures are quoted as they appear on the report.

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01 THE STORY BEHIND THE REPORT

> *Imagine you manage three coffee shops. You know the mornings are busy, but you do not know how busy, which drinks pay the bills, or whether one shop is really doing better than another.*
>
> *This dashboard turns six months of till records into answers.*

A coffee chain wants to know when customers come, what they buy and which stores perform best, so that it can staff the rush, push the right products and compare its shops fairly.

02 WORDS USED IN THIS DOCUMENT

Word	What it means
KPI	Key performance indicator: one number that says how the business is doing, such as total sales or churn rate.
Measure	A calculation that is worked out on the fly, so the same card shows a different answer for each filter chosen.
Transaction	One customer purchase at the till.
Product category	A group of products, such as Coffee, Tea or Bakery.
Heat map	A table where darker colours mean larger numbers, used here to show the busiest hours of each weekday.
Kruskal-Wallis test	A test that asks whether three or more groups differ, without assuming the numbers follow a bell curve.

03 WHAT THIS REPORT IS

Item	Detail
Author	Temidayo Sunday Alade
Tool	Power BI Desktop
Period	January to June
Stores	Hell's Kitchen, Astoria and Lower Manhattan
Pages	The dashboard, a page of insights and a page of recommendations

04 THE QUESTIONS THE REPORT ANSWERS

Question	Where it is answered
How are sales moving month by month?	Total sales by month
What sells most?	Total sales by product category; top and bottom five by quantity
Which days and hours are busy?	Transactions by weekday and the hour-by-day heat map
Which store sells most?	Total sales by store location
Do stores really differ?	Insight 5, with a Kruskal-Wallis test

05 HOW IT WAS BUILT



1. Load the till records, each with a date, a time, a store, a product category, a quantity and a price.
2. Derive the hour of day, the weekday name and the month, so that the heat map and trend charts can be built.
3. Write measures for total sales (quantity times price), number of transactions and total quantity.
4. Build the main dashboard: sales by month, category, store and weekday, the top and bottom categories, and the hour-by-weekday heat map.
5. Test whether total sales differ across store locations, then write the insight and recommendation pages.

06 HOW THE NUMBERS ARE WORKED OUT

CALCULATIONS ON THE DASHBOARD

```
sales              =  quantity × price, summed
average sale       =  total sales ÷ transactions
June vs February   =  (June − February) ÷ February
```

Check	Working	Result
Months add to the total	82 + 76 + 99 + 119 + 157 + 166 ($K)	$699K
Stores add to the total	237 + 232 + 230 ($K)	$699K
Average sale	$699K ÷ 149K transactions	about $4.69
June against February	(166,486 − 76,145) ÷ 76,145	+118.6%

> **An everyday example.** June sales were $166,486 and February sales were $76,145. The gap is $90,341, and $90,341 ÷ $76,145 is 1.186, so June is 118.6 per cent higher. Put another way, June is a little more than double February.

07 WHAT IT FOUND

Sales more than doubled across six months, from $76K in February to $166K in June, and every month from February onwards was higher than the one before.

The day has a clear rush. The busiest hours on every weekday are 8, 9 and 10 in the morning, with about 2,300 to 2,850 transactions per weekday-hour, falling to roughly 1,300 to 1,500 at 11. Transactions are spread almost evenly across the days, with Friday, Thursday and Monday at about 22K and the other days at 21K.

Coffee is the anchor. It earns $270K of the $699K in sales, followed by Tea at $196K, and together the two earn two-thirds of all sales. Coffee also makes up 42.47 per cent of all units sold.

The three stores are close. Hell's Kitchen leads with $237K, Astoria has $232K and Lower Manhattan $230K. A Kruskal-Wallis test found the differences between stores statistically significant.

08 WHAT I RECOMMENDED

- Run a morning special between 7 and 10 am, for example a coffee and pastry bundle.
- Aim campaigns and loyalty offers at Mondays, Thursdays and Fridays.
- Promote coffee with new blends, limited flavours and merchandise.
- Shorten queues at the rush with mobile ordering, a faster checkout or extra staff.
- Cross-sell and upsell: suggest a pastry with a coffee, and add-ons such as syrups or extra shots.

09 NOTES ON THE FIGURES AND LIMITATIONS

Every figure in this document is taken from the report page it describes. These notes say how to read the figures that need care, and what the data cannot show.

- **Significant is not large.** The three stores differ by only about three per cent ($237K against $230K). With this many transactions even a small gap is statistically significant, so the result should not be read as a sign that one store is much better.
- **Two shares.** Coffee is 42.47 per cent of units sold and about 39 per cent of sales ($270K of $699K). Both are true; they measure different things.
- **Rush window.** The heat map shows the highest counts at 8, 9 and 10 am, with 7 am clearly lower, so the rush runs from about 8 to 11.
- **Six months.** The data covers January to June only, so the rise to June may be a seasonal pattern or a growing business. A full year would tell them apart.

10 OUTPUTS

A 3-page Power BI report (PDF export): dashboard, insights and recommendations.

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