Starbucks Survey Analysis & Performance Dashboard

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Tech Stack: MS Excel, Tableau

Tableau Public link for dashboard: *Click for live version of the dashboard.*

I worked with this dataset which composed of survey questions of over 100 respondents for their buying behavior at Starbucks Malaysian Ringgit (RM). The data was provided as a csv fille.

Screenshot of original data

The first step that I did was to check and clean the data in excel where I:

- Changed the provided long column names to relevant data field

Survey Questions	Data Field
Timestamp	Timestamp
1. Your Gender	Gender
2. Your Age	Age
3. Are you currently....?	Profession
4. What is your annual income?	Annual Income
5. How often do you visit Starbucks?	Visit Starbucks
6. How do you usually enjoy Starbucks?	Service Category
7. How much time do you normally spend during your visit?	Time Spent
8. The nearest Starbucks's outlet to you is...?	Outlet Reach
9. Do you have Starbucks membership card?	Membership
10. What do you most frequently purchase at Starbucks?	Most Frequent Purchase
11. On average, how much would you spend at Starbucks per visit?	Average Spend
12. How would you rate the quality of Starbucks compared to other brands (Coffee Bean, Old Town White Coffee..) to be:	Quality Rating
13. How would you rate the price range at Starbucks?	Pricing Rating
14. How important are sales and promotions in your purchase decision?	Promotion- Impact
15. How would you rate the ambiance at Starbucks? (lighting, music, etc...)	Ambience
16. You rate the WiFi quality at Starbucks as..	Wifi- Quality
17. How would you rate the service at Starbucks? (Promptness, friendliness, etc..)	Overall Service
18. How likely you will choose Starbucks for doing business meetings or hangout with friends?	Likeliness of Businee Meeting
19. How do you come to hear of promotions at Starbucks? Check all that apply.	Promotion channel
20. Will you continue buying at Starbucks?	is_continue

Survey Questions converted to short data field

- Split required columns into multiple columns

- Checked data in each column for null, error or missing values.

- Fixed the errors in columns and cleaned data to make it usable.

Timestamp	Gender	Age	Profession	Annual Income	Visit Starbucks	Service Category	Time Spent	Outlet Reach	Membership	Most Frequent Purchase 1	Pref 2	Pref 3	Pref 4	Pref 5	no of prod	Average Spend	Quality Rating	Pricing Rating	Promotion-Impact	Ambience	Wifi-Quality	Overall Service	Likeliness of Businee Meeting	is_continue
01-10-19	Female	20-29	Student	Below 25K	Rarely	Dine in	30 min-1 hr	Within 1km	Yes	Coffee					1	Below 20	4	3	5	5	4	4	3	Yes
01-10-19	Female	20-29	Student	Below 25K	Rarely	Take away	Upto 30 Min	1km - 3km	Yes	Cold drinks	Pastries				2	Below 20	4	3	4	4	4	5	2	Yes
01-10-19	Male	20-29	Employed	Below 25K	Monthly	Dine in	30 min-1 hr	Above 3km	Yes	Coffee					1	Below 20	4	3	4	4	4	4	3	Yes
01-10-19	Female	20-29	Student	Below 25K	Rarely	Take away	Upto 30 Min	Above 3km	No	Coffee					1	Below 20	2	1	4	3	3	3	3	No
01-10-19	Male	20-29	Student	Below 25K	Monthly	Take away	30 min-1 hr	1km - 3km	No	Coffee	Sandwiches				2	20 - 40	3	3	4	2	2	3	3	Yes
01-10-19	Female	20-29	Student	Below 25K	Rarely	Dine in	30 min-1 hr	Above 3km	No	Cold drinks					1	Below 20	4	3	5	5	4	5	4	Yes
01-10-19	Female	20-29	Student	Below 25K	Rarely	Dine in	Upto 30 Min	Within 1km	Yes	Coffee					1	20 - 40	5	5	5	5	3	5	5	Yes
01-10-19	Male	20-29	Employed	50K -100K	Rarely	Dine in	30 min-1 hr	Above 3km	Yes	Coffee	Cold drinks				2	Below 20	4	2	3	3	3	3	3	Yes
01-10-19	Female	20-29	Student	Below 25K	Rarely	Drive-thru	Upto 30 Min	Above 3km	Yes	Cold drinks					1	Above 40	5	4	4	4	4	4	4	Yes
01-10-19	Male	20-29	Employed	Below 25K	Monthly	Take away	Upto 30 Min	Above 3km	No	Coffee					1	20 - 40	4	3	3	4	3	3	4	Yes
01-10-19	Female	20-29	Student	Below 25K	Rarely	Dine in	Upto 30 Min	Above 3km	No	Cold drinks					1	Below 20	4	1	4	5	3	3	4	Yes
01-10-19	Female	20-29	Student	Below 25K	Rarely	Dine in	30 min-1 hr	Above 3km	No	Coffee					1	Below 20	3	2	4	4	3	4	4	No
01-10-19	Female	20-29	Student	Below 25K	Weekly	Take away	Upto 30 Min	1km - 3km	Yes	Coffee	Sandwiches				2	20 - 40	4	3	2	4	4	3	4	Yes
01-10-19	Female	20-29	Student	Below 25K	Rarely	Take away	Upto 30 Min	1km - 3km	Yes	Coffee					1	Below 20	4	3	4	4	4	4	3	Yes

Screenshot of Cleaned Data

I wanted the dashboard to be able to answer these questions:

1. How customers rate us on various ratings (price, quality, ambience etc).

2. Two most frequent product purchase.

3. Which promotion channel led them to visit Starbucks.

4. Time customers spend during their visit.

5. Average $ spent.

6. How many have membership? And is there a correlation between having membership and average spend.

7. What percentage of customers would continue buying from us?

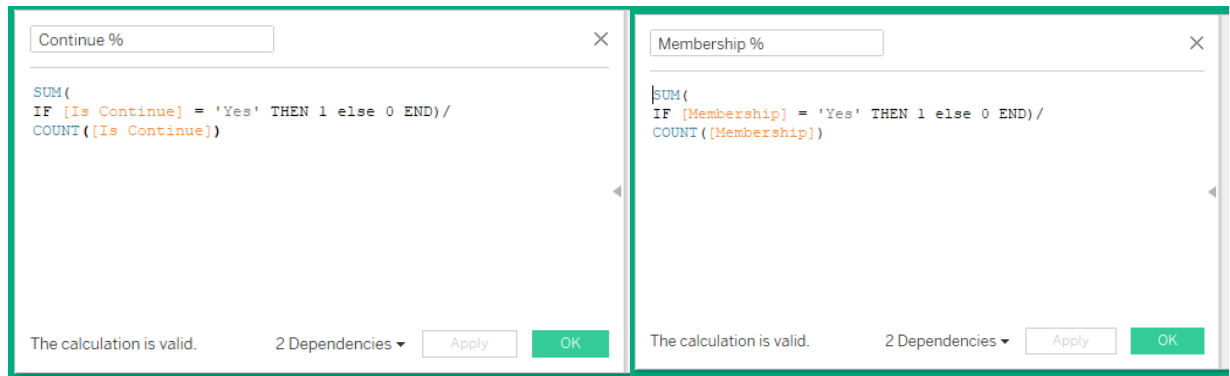All these business questions were to be answered on the basis of:

- Combined Level

- By Gender

- By Age group

- By Profession

- By Income

For the dashboard be able to answer all these questions with filters I made a dashboard design plan:

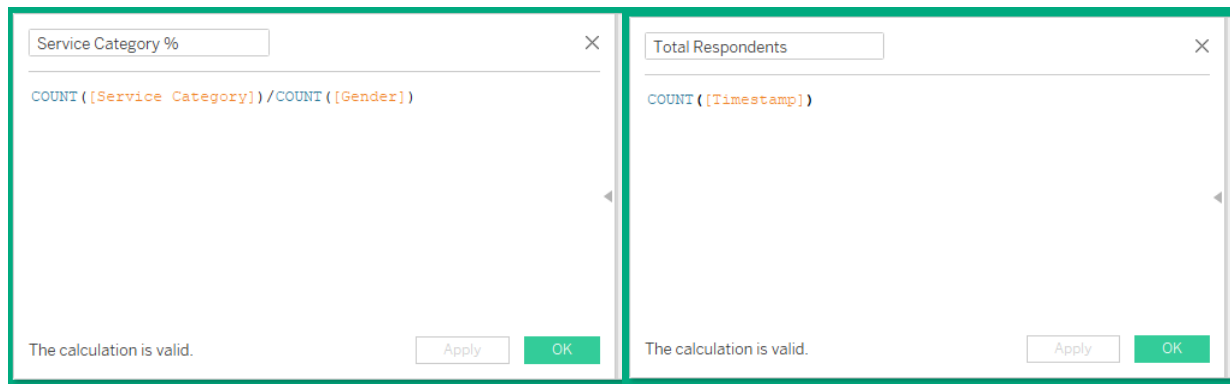| 4	Dashboard Plan			
5				
6				
7	**FILTERS**	**KPIS**	**KPI TYPE**	**CHARTS**
8	AGE	Quality Rating	AVG	Visit Starbucks
9	PROFESSION	Pricing Rating	AVG	Service Category
10	ANNUAL INCOME	Ambience	AVG	Time Spent
11	GENDER	Wifi- Quality	AVG	Outlet Reach
12		Overall Service	AVG	Most Frequent Purchase 1
13		Likeliness of Businee Meeting	AVG	Average Spend
14		is_continue	%	Promotion channel 1
15		Membership	%	
16		Promotion- Impact	AVG	
17		Total Respondants	Count	
18				
19				

Screenshot of Dashboard Design Plan

Next step was to import the dataset into a BI tool for visualizing the data. I chose Tableau as it offers several benefits for analyzing and presenting data. After importing the data in Tableau I created some calculated fields to answer the business questions in simpler way that is easy to understand.

Continue %

```
SUM(
IF [Is Continue] = 'Yes' THEN 1 else 0 END)/
COUNT([Is Continue])
```

The calculation is valid.   2 Dependencies ▾   Apply   OK

Membership %

```
SUM(
IF [Membership] = 'Yes' THEN 1 else 0 END)/
COUNT([Membership])
```

The calculation is valid.   2 Dependencies ▾   Apply   OK

Continue % = % of customers likely to continue buying at Starbucks.

Membership % = % of customers who have membership card.

Service Category %

```
COUNT([Service Category])/COUNT([Gender])
```

The calculation is valid.   Apply   OK

Total Respondents

```
COUNT([Timestamp])
```

The calculation is valid.   Apply   OK

Service Category % = Customer's preferred mode of order.

Total Respondents = Number of customers who filled the survey.

Then I created appropriate visuals answering the business questions Last step was to put together the visuals (Bar chart, bubble chart, Kpi cards, tables, filters etc) into a well designed interactive dashboard that enables the user to easily answer business questions, generate actionable insights from data and monitor progress of implemented strategies.
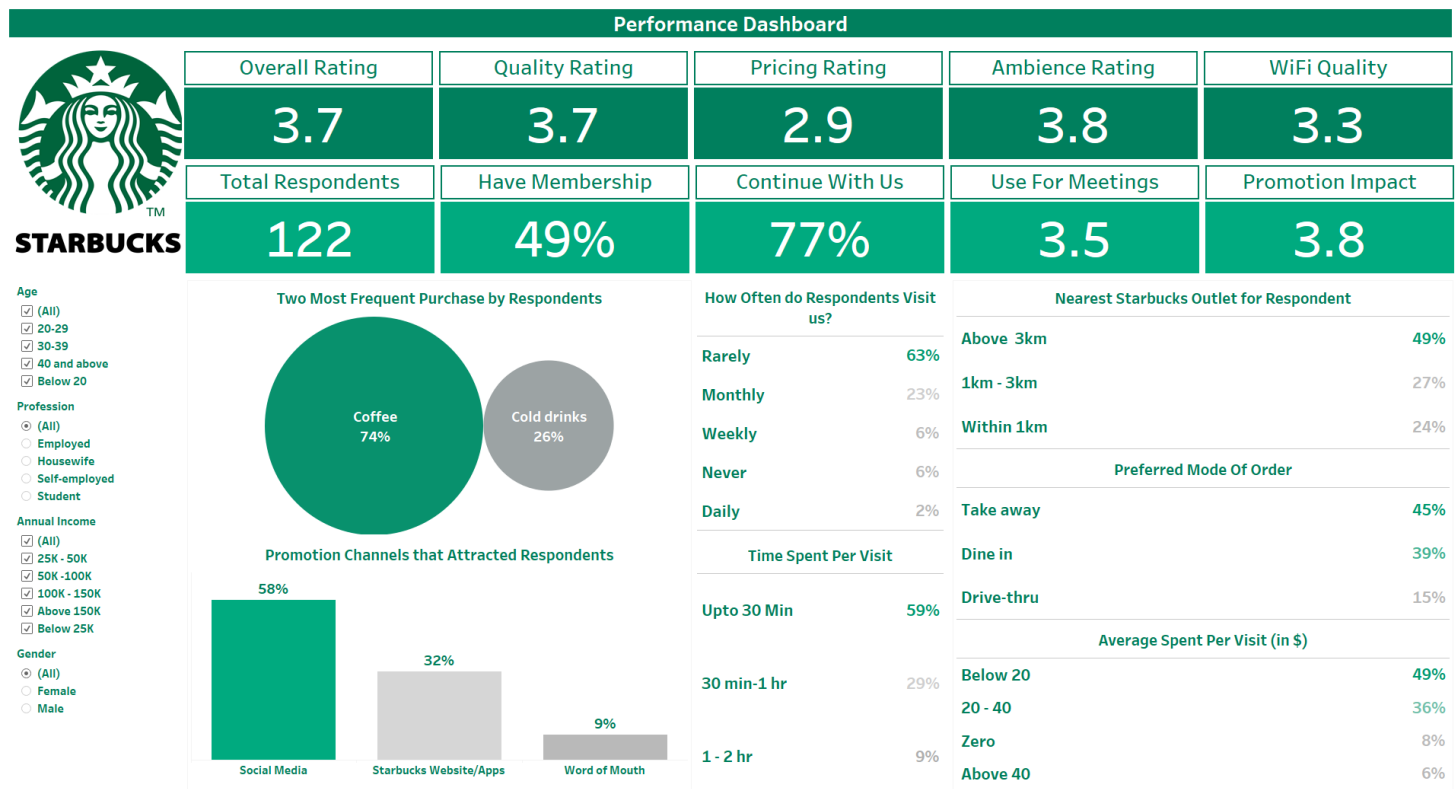
Final Dashboard

[Click for live version of the dashboard.](#)

[Link to original & cleaned dataset.](#)

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