# DATA BOOTCAMP FINAL PROJECT PRESENTATION EXCEL, POWER BI & MYSQL

BY SAMANTHA BROWN

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# OBJECTIVE

Learn how to become a data analyst

Understanding how to use analytical programs

Increase my knowledge

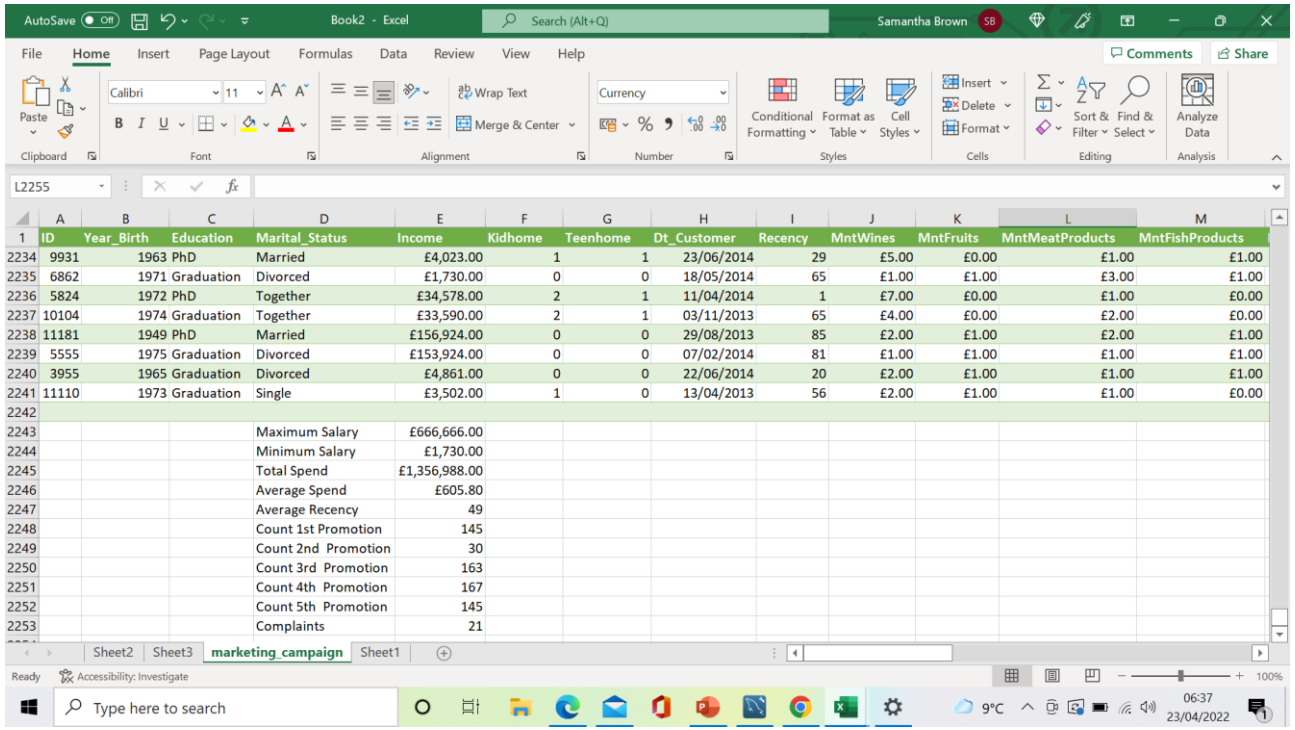
Upskill myself

# FINAL PROJECT-THE DATA

I  chose to work with a customer personality dataset. I believed that this data aligned a lot with my previous experience working in the marketing industry.

I am going to use the data to identify who's the company's target customer and which campaigns were most successful.

# EXCEL




| | ID | Year_Birth | Education | Marital_Status | Income | Kidhome | Teenhome | Dt_Customer | Recency | MntWines | MntFruits | MntMeatProducts | MntFishProducts |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2234 | 9931 | 1963 | PhD | Married | £4,023.00 | 1 | 1 | 23/06/2014 | 29 | £5.00 | £0.00 | £1.00 | £1.00 |
| 2235 | 6862 | 1971 | Graduation | Divorced | £1,730.00 | 0 | 0 | 18/05/2014 | 65 | £1.00 | £1.00 | £3.00 | £1.00 |
| 2236 | 5824 | 1972 | PhD | Together | £34,578.00 | 2 | 1 | 11/04/2014 | 1 | £7.00 | £0.00 | £1.00 | £0.00 |
| 2237 | 10104 | 1974 | Graduation | Together | £33,590.00 | 2 | 1 | 03/11/2013 | 65 | £4.00 | £0.00 | £2.00 | £0.00 |
| 2238 | 11181 | 1949 | PhD | Married | £156,924.00 | 0 | 0 | 29/08/2013 | 85 | £2.00 | £1.00 | £2.00 | £1.00 |
| 2239 | 5555 | 1975 | Graduation | Divorced | £153,924.00 | 0 | 0 | 07/02/2014 | 81 | £1.00 | £1.00 | £1.00 | £1.00 |
| 2240 | 3955 | 1965 | Graduation | Divorced | £4,861.00 | 0 | 0 | 22/06/2014 | 20 | £2.00 | £1.00 | £1.00 | £1.00 |
| 2241 | 11110 | 1973 | Graduation | Single | £3,502.00 | 1 | 0 | 13/04/2013 | 56 | £2.00 | £1.00 | £1.00 | £0.00 |
| 2242 | | | | | | | | | | | | | |
| 2243 | | | | Maximum Salary | £666,666.00 | | | | | | | | |
| 2244 | | | | Minimum Salary | £1,730.00 | | | | | | | | |
| 2245 | | | | Total Spend | £1,356,988.00 | | | | | | | | |
| 2246 | | | | Average Spend | £605.80 | | | | | | | | |
| 2247 | | | | Average Recency | 49 | | | | | | | | |
| 2248 | | | | Count 1st Promotion | 145 | | | | | | | | |
| 2249 | | | | Count 2nd Promotion | 30 | | | | | | | | |
| 2250 | | | | Count 3rd Promotion | 163 | | | | | | | | |
| 2251 | | | | Count 4th Promotion | 167 | | | | | | | | |
| 2252 | | | | Count 5th Promotion | 145 | | | | | | | | |
| 2253 | | | | Complaints | 21 | | | | | | | | |

The Formulas used

=MAX(marketing_campaign[Income])

=MIN(marketing_campaign[Income])

=SUM(P2:P2241)

=AVERAGE(P2:P2241)

=AVERAGE(marketing_campaign[Recency])

=COUNTIF(marketing_campaign[Accepted Cmp1],Y2242) (*Used for all promotion type and complaints*)

# EXCEL- PIVOT TABLES (GROUPING AND SORTING)

| Count of Total Sales | |
|---|---|
| Total Sales | Total |
| <0 or (blank) | |
| 0-499 | 1245 |
| 500-999 | 393 |
| 1000-1499 | 356 |
| 1500-1999 | 196 |
| 2000-2499 | 47 |
| 2500-2999 | 3 |
| **Grand Total** | **2240** |

This has grouped the sales by count, created a range function and then sorted from largest to smallest.

| Count of Total Sales | |
|---|---|
| Income | Total |
| <0 or (blank) | 24 |
| 0-24999 | 242 |
| 25000-49999 | 818 |
| 50000-74999 | 797 |
| 75000-99999 | 346 |
| 100000-124999 | 5 |
| 150000-174999 | 7 |
| 650000-674999 | 1 |
| **Grand Total** | **2240** |

This has been grouped by income, the income range was created to show the count of sales within each salary range.

| Sum of Total Sales | |
|---|---|
| Education | Total |
| Graduation | £698,626.00 |
| PhD | £326,791.00 |
| Master | £226,359.00 |
| 2n Cycle | £100,795.00 |
| Basic | £4,417.00 |
| (blank) | |
| **Grand Total** | **1356988** |

This has been grouped by education, Sum of sales, then sorted from largest to smallest.

# SQL-DATA ANALYTICS

```
 9
10      -- 2.
11      -- Total Average of website visits
12  •   SELECT AVG(NumWebVisitsMonth) AS 'Average web visits' from sql_hr.marketing_campaign;
13
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| Average web visits |
|---|
| 5.3165 |

```
14      -- 3.
15      -- I want to find the marital status of the customer base
16      -- I have identified the marital statuses that are available
17  •   SELECT * FROM sql_hr.marketing_campaign
18      GROUP BY Marital_Status;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| ID | Year_Birth | Education | Marital_Status | Income | Kidhome | Teenhome | Dt_Customer | Recency | MntWines | MntFruits |
|---|---|---|---|---|---|---|---|---|---|---|
| 5524 | 1957 | Graduation | Single | 58138 | 0 | 0 | 04-09-2012 | 58 | 635 | 88 |
| 4141 | 1965 | Graduation | Together | 71613 | 0 | 0 | 21-08-2013 | 26 | 426 | 49 |
| 5324 | 1981 | PhD | Married | 58293 | 1 | 0 | 19-01-2014 | 94 | 173 | 43 |
| 965 | 1971 | Graduation | Divorced | 55635 | 0 | 1 | 13-11-2012 | 34 | 235 | 65 |

# SQL-DATA ANALYTICS

```
21
22    -- Which customers are single
23 •  SELECT * FROM sql_hr.marketing_campaign
24    WHERE Marital_Status LIKE '%Single%';
25
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| ID | Year_Birth | Education | Marital_Status | Income | Kidhome | Teenhome | Dt_Customer | Recency | MntWines | MntFruits | MntMeatProducts | MntFishProducts | MntS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5524 | 1957 | Graduation | Single | 58138 | 0 | 0 | 04-09-2012 | 58 | 635 | 88 | 546 | 172 | 88 |
| 2174 | 1954 | Graduation | Single | 46344 | 1 | 1 | 08-03-2014 | 38 | 11 | 1 | 6 | 2 | 1 |
| 2114 | 1946 | PhD | Single | 82800 | 0 | 0 | 24-11-2012 | 23 | 1006 | 22 | 115 | 59 | 68 |
| 2278 | 1985 | 2n Cycle | Single | 33812 | 1 | 0 | 03-11-2012 | 86 | 4 | 17 | 19 | 30 | 24 |
| 7892 | 1969 | Graduation | Single | 18589 | 0 | 0 | 02-01-2013 | 89 | 6 | 4 | 25 | 15 | 12 |
| 5255 | 1986 | Graduation | Single | 0 | 1 | 0 | 20-02-2013 | 19 | 5 | 1 | 3 | 3 | 263 |
| 10738 | 1951 | Master | Single | 49389 | 1 | 1 | 29-08-2013 | 55 | 40 | 0 | 19 | 2 | 1 |
| 7281 | 1959 | PhD | Single | 0 | 0 | 0 | 05-11-2013 | 80 | 81 | 11 | 50 | 3 | 2 |

```
54    -- Calculating the age of customers and arranging them in descending order
55    -- This would then allow me to identify the lowest aged customer and the highest
56 •  SELECT ID,
57    year (curdate())-Year_Birth
58    from sql_hr.marketing_campaign
59    ORDER BY Year_Birth DESC;
60
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

| ID | year (curdate())-Year_Birth |
|---|---|
| 9909 | 26 |
| 193 | 26 |
| 4427 | 27 |
| 8315 | 27 |
| 5184 | 27 |
| 10548 | 27 |
| 3661 | 27 |

# SQL-DATA ANALYTICS

```sql
-- Calculating the age of customers and arranging them in descending order
-- This would then allow me to identify the lowest aged customer and the highest
SELECT ID,
year (curdate())-Year_Birth
from sql_hr.marketing_campaign
ORDER BY Year_Birth DESC;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

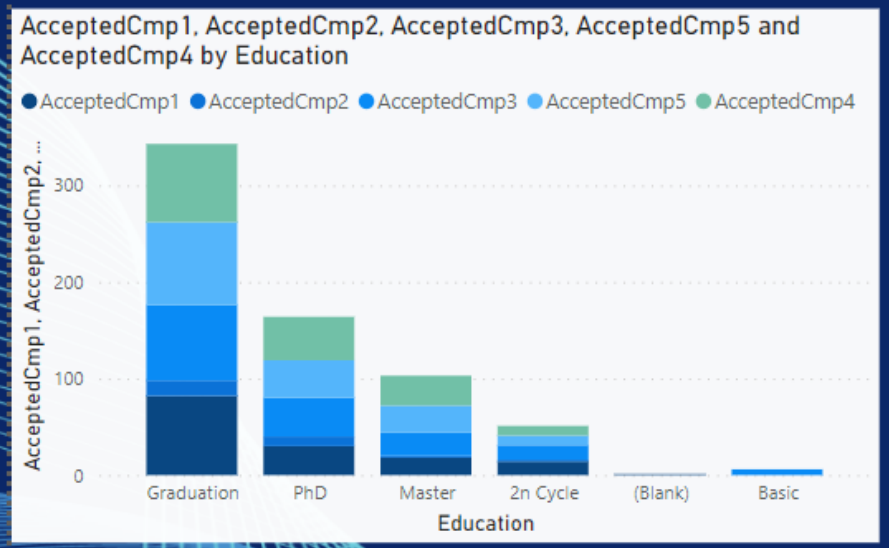
| ID | year (curdate())-Year_Birth |
|---|---|
| 9909 | 26 |
| 193 | 26 |
| 4427 | 27 |
| 8315 | 27 |
| 5184 | 27 |
| 10548 | 27 |
| 3661 | 27 |

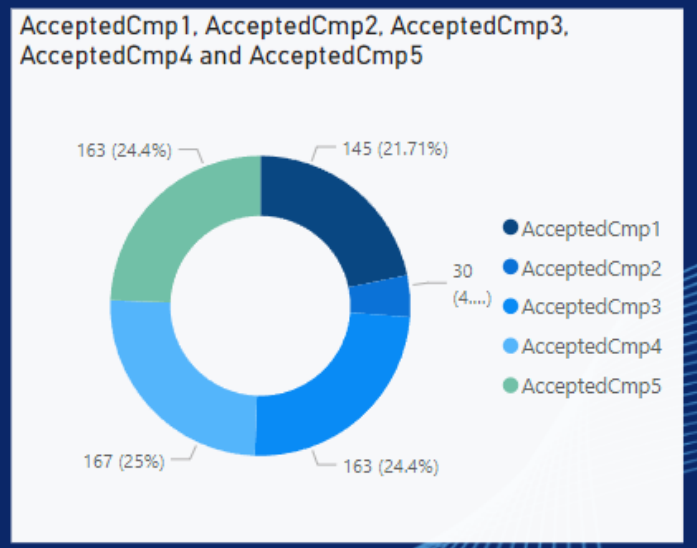
```sql
-- Group by age range using new field created

SELECT  SUM(CASE WHEN year (curdate())-Year_Birth BETWEEN 26 AND 50 THEN 1 ELSE 0 END) AS '26-50',
        SUM(CASE WHEN year (curdate())-Year_Birth BETWEEN 51 AND 75 THEN 1 ELSE 0 END) AS '51-75',
        SUM(CASE WHEN year (curdate())-Year_Birth BETWEEN 76 AND 129 THEN 1 ELSE 0 END) AS '76-12'
FROM sql_hr.marketing_campaign
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

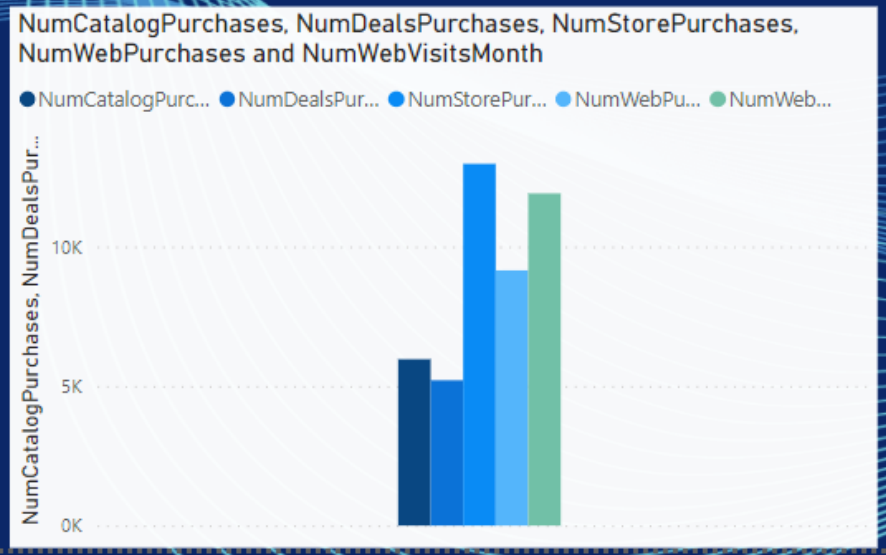
| | 26-50 | 51-75 | 76-12 |
|---|---|---|---|
| ▶ | 1000 | 1197 | 43 |

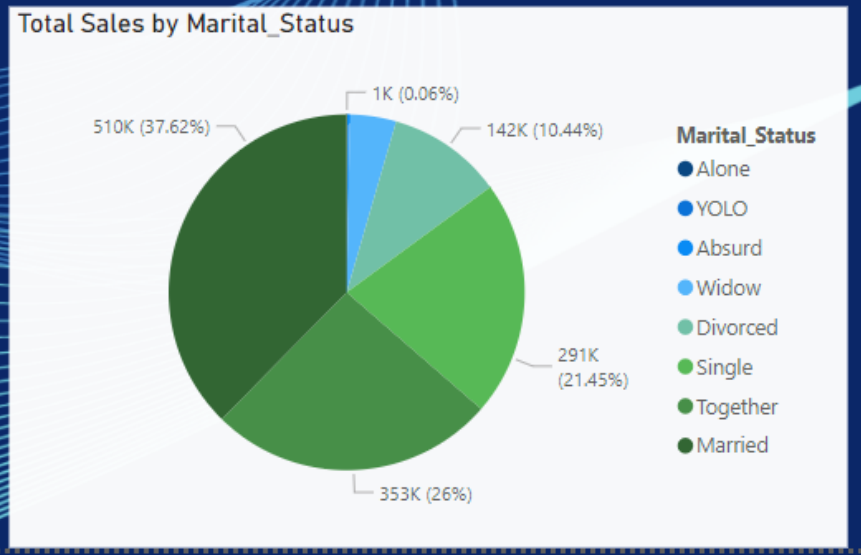
# POWER -BI




| Marital_Status | Kidhome | Teenhome |
|---|---|---|
| Married | 394 | 442 |
| Together | 261 | 307 |
| Single | 223 | 195 |
| Divorced | 96 | 137 |
| Widow | 18 | 49 |
| Alone | 3 | 2 |
| Absurd | 0 | 0 |
| YOLO | 0 | 2 |
| **Total** | **995** | **1134** |



# CONCLUSION

- The largest number of customers are between the ages of 51-57
- The most successful campaign was campaign 4
- The least successful campaign was campaign 2
- The largest proportion of customers were married followed closely by together
- The store purchases were higher than web purchases
- A large number of customers were parents
- Those whose level of education was of a Graduate level provided the largest number of sales
- The largest customer base had an income between £50k-£75k

*The company should run a campaign that is similar to 'Campaign 4' aimed at parents between the ages 51-57, with an income over £50k, educated to degree level.*