

# 2Market Data Analysis Project Report

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## 1. Context and Background Information for Business

From the datasets we observe that millions of consumers are served by the global grocery company 2Market, which operates both physical and online locations. In order to improve marketing tactics and boost sales, 2Market aims to better understand its clientele in light of growing worldwide competition and changing consumer behaviour. Investigating consumer demographics, buying patterns, and the efficacy of different advertising platforms are of special interest to the business. Insights from this analysis will be used by 2Market to enhance campaign targeting, increase product attractiveness across various consumer segments, and boost overall customer engagement. One of the main issues that was investigated was: Who are 2Market's most valuable clients? Which products do they like to purchase? What are the most successful marketing strategies? Which demographic elements affect the effectiveness of a campaign?

## 2. Approach Towards The Analysis

Starting with the metadata documentation, the study looked at the Excel files `marketing_data` and `ad_data`. Prior to doing any visual or statistical analysis, each dataset was thoroughly examined to ensure the dataset is clean and displays uniformity. The datasets were checked for duplication and missing values which could hinder the analysis, and only then taken up for further analysis. The dataset was checked with respect to formatting, for example, currency symbols were removed from 'income' and the values were converted to a numerical format. New columns were generated for the analysis such as 'age', 'total children' and 'total spending' using the 'SUM' function. Demographic spending patterns were analysed using pivot tables and chart patterns which helped in understand trends with respect to expenditure categorised into age group, income level and marital status. PostgreSQL was used to import the two data sets and 'customer ID' as a unique identity key to join the two datasets. Conversion rates of different advertising channels were counted and compared using SQL. It was also used for compiling the results of campaign and overall expenditure based on different demographic groups. A group of customers who displayed high levels of brand loyalty were identified using a query filtered out customers who showed high reciprocity to

multiple campaigns. They also interacted more with social media making this group ideal for the firm to implement their plans to upsell and retain customers, therefore making them the primary target. The following insights were gathered from the analysis:

- Individuals who earn more, spend more on commodities and consumer goods such as alcohol.
- The most active online and instore customers were found to be located in Spain and USA.
- Conversations were better on new age social media apps such as Instagram and Facebook rather than the old school format of engagement.
- Higher number of purchases were made by married and cohabiting customers indicating greater brand loyalty.

The insights as previously stated above were used to create a dashboard which most efficiently communicates actionable and valuable insights to various stakeholders of the firm.

### **3. Tableau Dashboard Analytics and Design**

In order to create a Tableau Dashboard which communicates business insights in the most efficient format to stakeholders, the dashboard is divided into 3 categories, each targeting a different vertical namely Marketing, Operations and Strategy. The dashboard primarily contains 3 tabs namely Customers Demographics, Advertising Channel Effectiveness and Product Spend & Campaign Response. A customer age histogram, pie charts for nation-wise distribution, bar charts for marital status and levels of education, and filters for age group, income band, and country are all included in the Customer Demographics tab. A heatmap of ad interaction versus marital status, conversion rate KPIs for each advertising medium, filters for demographic attributes to allow custom slicing, and stacked bar charts showing conversions from each channel (such as Instagram, Facebook, etc) are all of which included in the Advertising Channel Effectiveness tab. A pie chart showing the campaign response rate, a line chart showing the trends in customer sign-ups over time, a bar chart showing the average spend per product category, and filters for campaign response, country, and product category are all included in the Product Spend & Campaign Response tab. This design is highly effective as it provides evidence based on data allowing stakeholders to do a comparative analysis of region, demography and marketing performance. It also makes

decision-making simple across departments supplying data-driven insights through in an interactive format, also allowing the user to filter data.

#### **4. Trend Analysis**

Married or cohabiting customers with children exhibit higher overall spending and stronger loyalty, and the largest customer segment is between the ages of 35 and 55. Customer activity is strongest in the US and Spain, suggesting that specialized efforts have been effective. Facebook and Instagram have the highest conversion rates when it comes to marketing efficacy, especially among younger audiences (under 40), but mass emails and brochures are ineffective in all market categories. Campaign participants typically buy from a variety of product categories, with commodities and alcoholic drinks accounting for the majority of expenditures, particularly among affluent consumers between the ages of 40 and 60, while chocolates and fish items are more popular with younger consumers. Web purchases are increasing steadily, although walk-in sales still bring in more money than online sales. Redirecting additional funds to digital marketing (Facebook and Instagram), focusing campaign efforts in Spain and the US, and developing tailored offers for high-income clients with poor recent interaction are some suggestions for improving success. In order to minimize wasteful spending, unsuccessful brochure campaigns should be redesigned or stopped, while retention initiatives for repeat responders could optimize lifetime value.