Biotech Start-up Market Segmentation

ML Batch 12

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Problem Statement

You are a team working under a Bio-Tech Startup going to launch its Home Checkup Service with Online Booking offering the following initial services.

1. Full Body Checkup with a Bio-Tech Device based on Blood Samples

2. Online Health Techs offering

i. Diabetes checkup device, ii. Blood Pressure checkup device, iii. Vitamins deficiency checkup device

 You have to analyse Medical Market in India with respect to the given problem statement using Segmentation analysis and come up with a feasible strategy to enter the market, targeting the segments most likely to use their product in terms of Geographic, Demographic, Psychographic, Behavioural.

Introduction

With respect to the Innovation Adoption Life Cycle, it is our view that Bangalore, the tech capital of India would be best suited to quickly adapt to this technology compared to other locations in the country. Having mentioned this, we will dive into our analysis based on known Market Segmentation strategies.

Step 1: Deciding whether to Segment or not

Since our objective is to analyse the market and perform segmentation, there is no debate regarding this step.

Step 2: Specifying the Ideal Target Segment

The various knock-out parameters considered to not be a barrier, the most attractive customer segment for the business would consist primarily of aged people starting from the age of 50 and above. Men and women above this age group often require frequent full body check-ups to detect diseases at an early stage. People above this age are also more likely to suffer from diabetes, high blood pressure or vitamin deficiency. Since Bangalore is a tech savvy location, there is less chance of resistance against automated check-ups among the elderly based on unfounded suspicions.

Step 3: Collecting Data

Data was curated and collected from the National Family Health Survey (NFHS) as per the problem under study and the constraints that were considered. Most of data in the website were divided by certain factors and the final dataset was a cumulative result generated from them.

Step 4: Exploring Data

Following are the steps followed for exploratory data analysis (code in GitHub link):

1. Data was read in a DataFrame object and checked for null values. All null value containing rows were dropped.
2. Boxplot, dist plot, pair plots, histograms and correlation based heatmaps were constructed to understand the distribution of data.
3. The column 'Sex' and 'Patient Number' was dropped as it was found not to have any dependence on the 'Blood Pressure Abnormality'

Step 5: Extracting Segments

The optimal clusters were found using the following methods:

- K-means clustering
- Agglomerative clustering
- Elbow method
- Silhouette method

The code for the above methods has been presented in the GitHub link

Step 6: Profiling Segments

The goal of profiling is to identify individual clusters with each cluster having its own individual unique characteristics.

The *marketing mix* refers to the set of actions, or tactics, that a company uses to promote its brand or product in the market. The 4Ps make up a typical marketing mix - Price, Product, Promotion and Place.

Price*:* refers to the value that is put for a product. It depends on costs of production, segment targeted, ability of the market to pay, supply - demand and a host of other direct and indirect factors. There can be several types of pricing strategies, each tied in with an overall business plan

Product*:* refers to the item being sold. The product must deliver a minimum level of performance; otherwise even the best work on the other elements of the marketing mix won't do any good.

Place*:* refers to the point of sale. In every industry, catching the eye of the consumer and making it easy for them to buy

Promotion*:* this refers to all the activities undertaken to make the product or service known to the user and trade. This can include advertising, word of mouth, press reports, incentives, commissions, and awards to the trade. It can also include consumer schemes, direct marketing, contests, and prizes.

Step 7: Selecting the Target Segments

The most ideal segment for our target involves aged (40+) people who are rated high on the chronic stress levels (3 and above). Members of this target segment were found to have high BMI (above 35) and low physical activity (less than 10000 seconds per week). This segment was selected because it was shown to have the highest likelihood of having blood pressure abnormality and diabetes.

Step 8: Customising the Marketing Mix

Product: With respect to the product, we will first launch with the full body check up since our target segment has multiple disorders and diseases plaguing their health. We will slowly start providing diabetes checkup and vitamin deficiency checkup. Since the target segment is mostly elderly and diseased, they will avail our products very soon.

Price: Since the population is elderly, they may or may not have enough funds to pay for expensive treatments. The best way is to test the demand of our products at a certain price range and see how well the check-ups sell. We can then set the final price of our products based on value-based pricing.

Promotion: The product can be promoted easily through word of mouth since most of the elderly community suffering from common diseases are tightly knit. Digital promotions can also be an effective way of marketing although it will involve substantial costs. Another cheap method of promotion is to distribute flyers in the target locality to make people aware of the services at offer.

Note: The entire code is provided in this GitHub link for further reference: https://github.com/Rajdeep206/Feynn-Labs-Internship