

IIT Madras

B.S. (Programming and Data Science)

BDM capstone project proposal

on topic:

DRIVING SALES GROWTH AND MAXIMIZING PROFITS FOR



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EXECUTIVE SUMMARY

This is the proposal for the BDM capstone project and it aims towards defining a business problem and how I intend to solve it using data.

[REDACTED] is a specialty food store, selling pickles, murabbas (preserved fruits) and select packaged food items like baked multigrain chips, biscuits etc.

The owner describes the major problem faced by the business as “Personal (household) expenses are more than the earnings from the shop.”

The problem is that the owner wants to increase the sales/profit and expand the business but even the current profit/sales are not enough to sustain the business for a long period of time.

The traditional data collection, cleaning and analysis method will be used. Charts, tables, trendlines etc. will be used to get a visual representation of the data.

ORGANIZATION BACKGROUND

[REDACTED] is a specialty food store selling pickles, murabbas (preserved fruits), regional specialties (Gujrati snacks, Marathi snacks etc.) and select packaged food items like baked/roasted multigrain chips, biscuits etc.

It is a B2C business having one main branch (for over 20 years) in [REDACTED] and another quite recently opened branch in [REDACTED] also has a warehouse in [REDACTED]

Since the business has only small retail storefronts, no digital records for bills or stocks are maintained.

The business employs 4 people including the owner. Sometimes, the family members of the owner also help as and when required (mostly because of heavy footfall during festivals).



Figure 1: [redacted] storefront

PROBLEM STATEMENT

The owner describes the major problem faced by the business as “Personal (household) expenses are more than the earnings from the shop.”

The problem is that the owner wants to increase the sales/profit and expand the business but even the current profit/sales are not enough to sustain the business for a long period of time.

PROBLEM OBJECTIVES

1. Determine the reasons for the decreasing footfall and less sales as compared to the competition.
2. Improve the sales/profit and minimize expenses.
3. Determine strategies for successful expansion (product range, product categories, branding, popularity etc.).

4. Find a way to minimize debts, dead stocks and out of demand products (inventory management).

PROBLEM BACKGROUND

This problem faced by the business is majorly due to customer preferences. When the business was established, pickles and murabbas were in high demand. Now, the business is partially into the general/convenience store category, with select range of products, it is being outdated. There has also been a decline in footfall on regular days and it has been observed that pickles, one of the main products of the business, does not contribute much towards the total sales i.e., the ratio of revenue generated by pickles is lesser than the ratio of other items sold. This means that the business needs to expand the product range/ categories as well as promote its already existing authentic product range through branding.

As for the expenses reduction and inventory management part, most of the products of the business are perishable and some are seasonal. Since there is no track of stock-in or stock-out because of no customer bills/ digital inventory records, some products perish while others just lose to customer demands/preferences.

PROBLEM SOLVING APPROACH

METHODS USED

- Some measures to keep track of the stock/inventory would be required for getting the necessary data.
- Customer surveys would also be used for collecting the required data.
- The traditional data collection, cleaning and analysis method will be used. Charts, tables, trendlines etc. will be used to get a visual representation of the data.
- The outcomes/solutions of the analysis will be recommended to the business and the performance of the outcomes/solutions provided will also be measured after their implementation.

INTENDED DATA COLLECTION

- Sales data from the business will be required to perform required analysis and changes in the inventory. I intend to collect this data from the business for inventory analysis.
- The owner has rough data about the goods ordered/ purchased from the wholesalers/ distributors. I intend to collect this data for inventory analysis.
- Customer preference data would be required for determining the right products to add to the range. I intend to collect this data through customer surveys.
- The data regarding the sales of the competitive brands/ shops will also be required to analyse the competitive brand/shop's performance. I intend to collect this data through the customer survey itself i.e., asking the customers why they would prefer the competitive brand. This would not be the correct way to get competitive brands' data but it would surely give an insight on how can the business learn from the competition.

ANALYSIS TOOLS

- Microsoft Excel/ Google Sheets: traditional spreadsheets will be used for data analysis using charts, graphs, tables, trendlines etc.
- Pivot tables: pivot tables will help me in compactly managing the data and getting insights from it.
- Trendlines/ graphs: these will help me get a visual insight on sales/ inventory data.
- Various other online graphs/ visualising tools will be used.

Apart from the analysing tools, another tool used to collect data will be google forms which I will use for customer surveys.

EXPECTED TIMELINE

WBS:

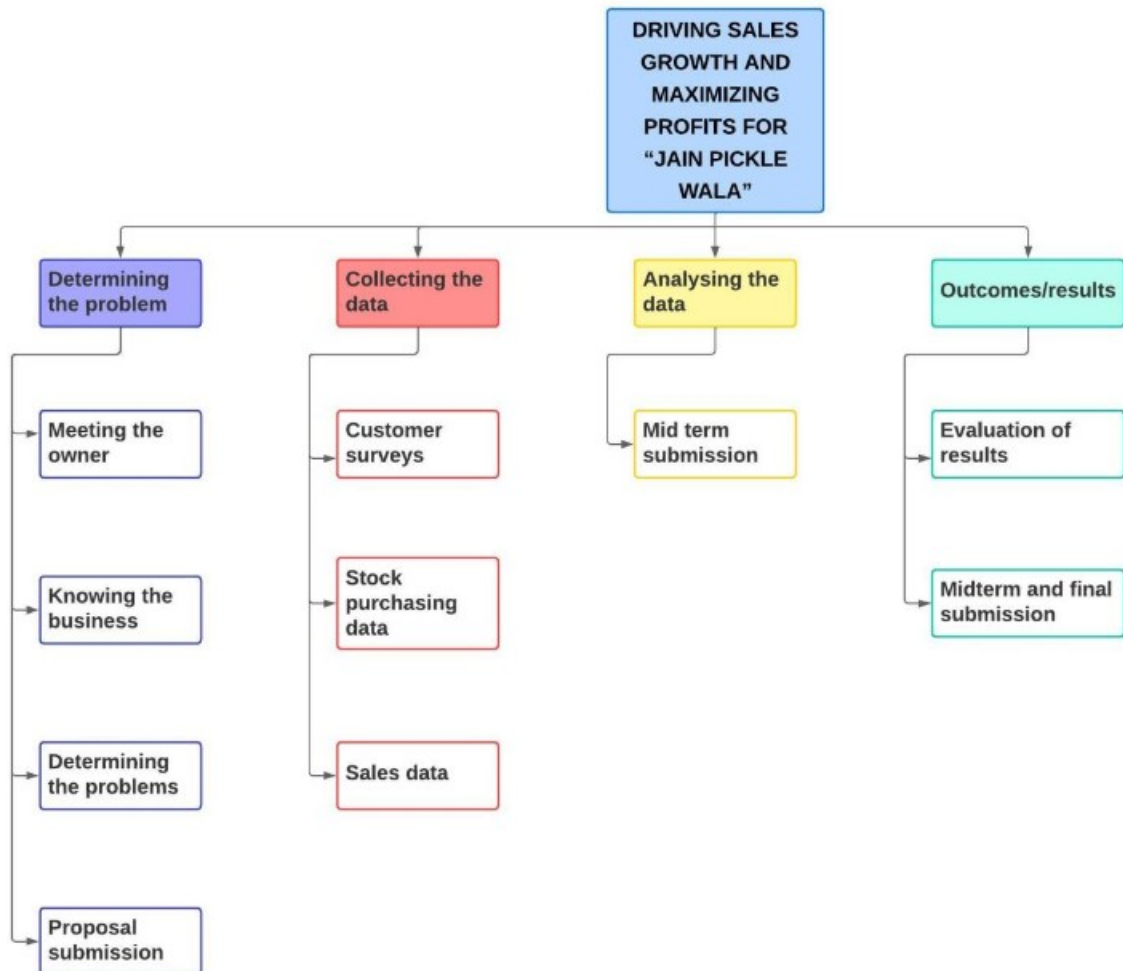


Figure 2: WBS

Gantt chart:

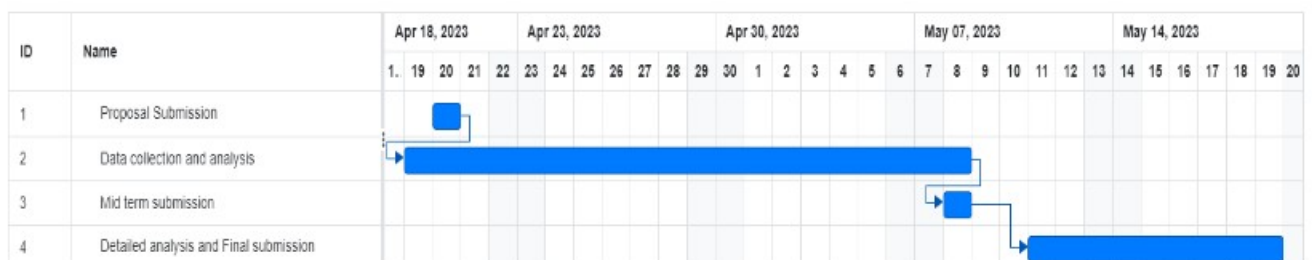


Figure 3: Gantt chart

EXPECTED OUTCOME

Suitable measures for inventory management and profit maximization would be determined. Also, suitable updates to the product range would be determined.

I am expecting to help the business drive its sales growth and maximize the profits. Also, the analysis would likely help the business develop a brand name and increase its popularity.

The objectives of the problem would have suitable and well performing solutions by the end of this project.