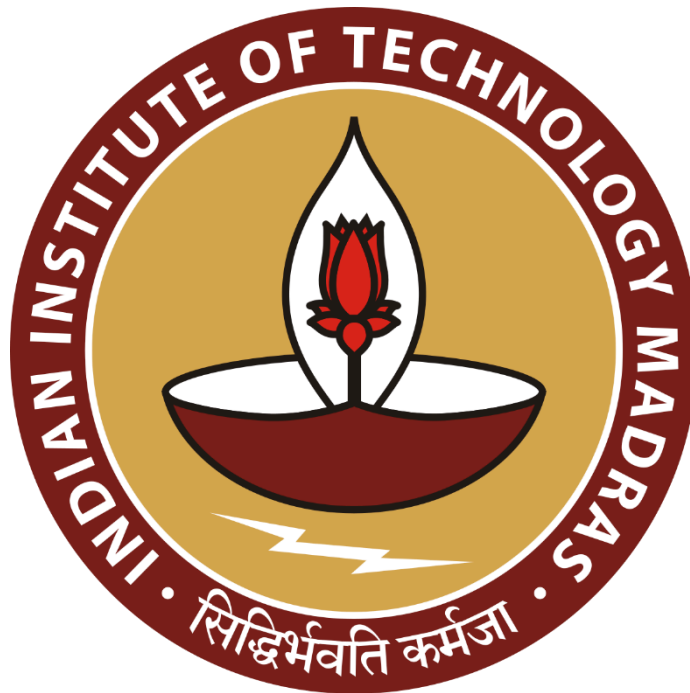# Expanding Market Reach and Profit : A Data-Powered Approach

A Proposal report for the BDM capstone Project

Submitted by

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Declaration Statement

I am working on a Project titled "Expanding Market Reach : A Data-Powered Approach.". I extend my appreciation to **Mugdha Crafts**, for providing the necessary resources that enabled me to conduct my project.

I hereby assert that the data presented and assessed in this project report is genuine and precise to the utmost extent of my knowledge and capabilities. The data has been gathered from primary sources and carefully analyzed to assure its reliability.

Additionally, I affirm that all procedures employed for the purpose of data collection and analysis have been duly explained in this report. The outcomes and inferences derived from the data are an accurate depiction of the findings acquired through thorough analytical procedures.

I am dedicated to adhering to the principles of academic honesty and integrity, and I am receptive to any additional examination or validation of the data contained in this project report.

I understand that the execution of this project is intended for individual completion and is not to be undertaken collectively. I thus affirm that I am not engaged in any form of collaboration with other individuals, and that all the work undertaken has been solely conducted by me. In the event that plagiarism is detected in the report at any stage of the project's completion, I am fully aware and prepared to accept disciplinary measures imposed by the relevant authority.

I understand that all recommendations made in this project report are within the context of the academic project taken up towards course fulfillment in the BS Degree Program offered by IIT Madras. The institution does not endorse any of the claims or comments.

Signature of Candidate: (**Swetha**)

Name: Swetha Suravajjula

Date: 24-09-2023

1 Executive Summary and Title

Mugdha Crafts is an artistic gifts shop which is an Online Gifting Website based out of Hyderabad. It is known for Personalized Gifts Online and Send Customized Photo Gifts to loved ones. The unique nature of this company is making the gift articles in a very artistic and innovative way which requires creative skills to make products.

The issue she is facing is how to maximize customer engagement.Despite showcasing her talent in various exhibitions, in social media, there is very little progress towards the customer engagement. Mugdha crafts wants to expand and scale up the business to improve client base and enhance revenues of the company.

The objective of this project is to help Mugdha Crafts get insights on how to maximize customer engagement.Here is the breakdown to achieve this goal.Firstly, customer data is to be collected which includes name of the customer, age of the customer, source referral, shipping address, date of order, delivery data, category ordered, occasion , quantity ordered, price, profit,profit margin.Then, analysis has to be done on which age-group has more customer engagement, through which source referral there is a maximum reach of the product, which of the following category is the customer's most liked product etc.

2 Organization Background

Mugdha Crafts is an artistic Online Gifting Website based out of Hyderabad.Mugdha Crafts was founded and built by Nagavani Mopidevi in 2020 when she started pursuing her Masters in Microbiology. When the company started, she used to work part-time and used to take limited orders.Now, after she completed her Masters, she became a full-time self-employed woman and has been actively taking orders from October 2022. She recently set a record in INDIA BOOK OF RECORDS for making 1000 handmade flowers.She has also been awarded as BEST YOUNGEST WOMAN ENTREPRENEUR.The uniqueness of this company is that it creates customized orders for anniversaries, birthdays,festivals etc.She uses techniques like mixed media,Decoupage,Image Transfer etc to build her products.The unique nature of this company is making the gift articles in a very artistic and innovative way which requires creative skills to make the gifts to meet the growing demand of the customer behavior to present gifts to near and dear on important occasions. She is currently receiving significant orders from Telangana and Andhra Pradesh but now wants to maximize her product reach to the entire nation remotely.

3 Problem Statement

3.1 Problem Statement 1:The challenge is expanding beyond specific regions like Hyderabad,Telangana and East Godavari district in Andhra Pradesh and requires leveraging data-driven insights for market penetration in more untapped areas in Telangana and AP through initiatives like meetups and exhibitions.

3.2 Problem Statement -2:The challenge is scaling up the MC's business by acquiring highly skilled employees capable of replicating her signature style products, requiring investments in training, apprenticeships.

3.3 Problem Statement 3: The challenge is the company's struggle to attain satisfactory profits due to high production costs, necessitating a pricing strategy review.

4 Background of the Problem

Mugdha Crafts (MC), established in 2020, has encountered significant obstacles impeding its growth and sustainability. The company is experiencing a gap in understanding its inability to expand the customer base to diverse regions, thereby limiting revenue streams crucial for its survival. This constraint has emerged as a critical concern, demanding immediate attention.

Internally, MC operates within a niche market, specializing in the creative and artistic manufacturing of gifts. This intricate process necessitates highly skilled employees who infuse passion into their work. However, attracting and retaining such talent poses a substantial challenge, considering the specialized nature of the business.

Externally,MC faces the issue of low-profit margins. The company is experiencing high production costs, and all the profits generated are solely dedicated to offsetting these production expenses.Despite the company's dedication to hard work and creativity, the financial returns do not adequately compensate for the effort invested. This disparity between effort and reward not only affects employee morale but also threatens the long-term viability of the business.

The combination of these challenges paints a stark reality for MC. It is imperative to address these issues comprehensively, devising strategic solutions that facilitate customer base expansion, enhance employee satisfaction, and optimize profit margins. Only through these efforts can MC ensure its growth, sustainability, and rightful recognition in the competitive market.

5 Problem Solving Approach

Data collection and preprocessing:

- Collect one year worth of data having columns

- Ensure data integrity by cleaning, validating, and preprocessing the data to eliminate errors and inconsistencies.

- Organize the data in a structured format suitable for analysis.

Next, a set of analysis would be done to resolve the problem statements mentioned in section 3.

Approaches for Market Expansion

Geospatial Analysis

- Use 'shipping address' to analyze delivery patterns.

- Identify untapped areas with high demand.

- Plan meetups and exhibitions strategically.

Customer Segmentation

- Utilize 'source referral' and 'category ordered' for customer segmentation.

- Tailor marketing campaigns and offers for distinct customer groups.

- Focus on attracting customers in untapped regions.

Time Series Analysis

- Analyze 'date of order' to recognize seasonal trends.

- Target marketing efforts during peak seasons in specific areas.

Approaches for Employee Acquisition

Skillset Analysis

- Analyze 'category ordered' and 'quantity ordered' to identify required skills.

- Develop training programs and apprenticeships based on popular product categories.

- Train employees to replicate signature products.

Approaches for Profit Improvement

Profit Margin Analysis

- Utilize 'profit' and 'profit margin' data to identify low-margin products.

- Consider discontinuing or optimizing these products to increase profitability.

Pricing Strategy Review

- Evaluate the current pricing strategy based on 'price' and competitor data.

- Implement dynamic pricing strategies and pricing experiments.

- Optimize prices for different product categories.

Customer Retention

- Analyze 'occasion' data to understand customer behavior.

- Implement customer retention strategies like loyalty programs and personalized offers.

- Encourage repeat business and increase profitability.

6 Expected Timeline

6.1   Work Breakdown Structure:

1. Collecting data: 1 day

2. Data cleaning: 2 days

3. Finding insights: 2 days

4. Preparing midterm submission : 3 days

5. Finding more insights while waiting for approval: 8 days

6. Mid term approval: 1 day

7. Finding problem's solution: 6 days

8. Preparing final submission: 3 days

9. Preparing slides while waiting for final approval: 5 days

10. Final approval: 1 day
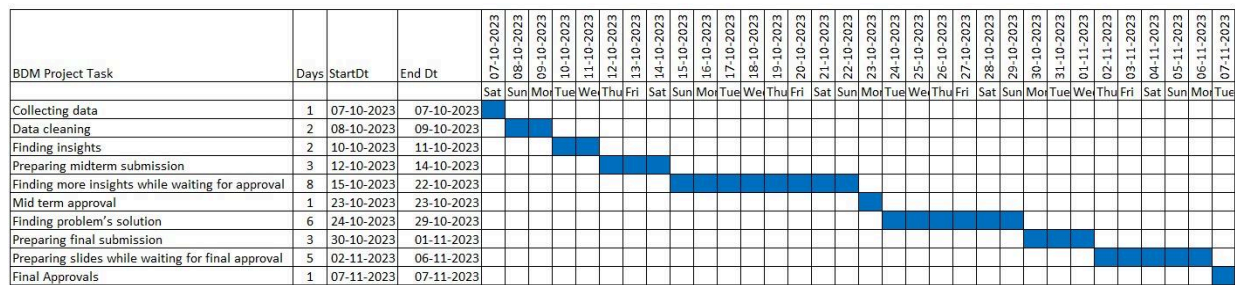
6.2   Gantt chart

BDM Project Task	Days	StartDt	End Dt
Collecting data	1	07-10-2023	07-10-2023
Data cleaning	2	08-10-2023	09-10-2023
Finding insights	2	10-10-2023	11-10-2023
Preparing midterm submission	3	12-10-2023	14-10-2023
Finding more insights while waiting for approval	8	15-10-2023	22-10-2023
Mid term approval	1	23-10-2023	23-10-2023
Finding problem's solution	6	24-10-2023	29-10-2023
Preparing final submission	3	30-10-2023	01-11-2023
Preparing slides while waiting for final approval	5	02-11-2023	06-11-2023
Final Approvals	1	07-11-2023	07-11-2023

Figure 1 Expected timeline for completion of project.

7   Expected Outcome

7.1. **Enhanced Customer Engagement:** By collecting and analyzing customer data, including name, age, and source referral, the company can gain valuable insights into customer preferences and behaviors. This information can be used to personalize marketing efforts, recommend relevant products, and improve the overall customer experience. It enables the company to engage customers effectively, leading to increased loyalty and satisfaction.

7.2.**Optimized Pricing Strategies:** Data on prices, quantity ordered, and profit margins is instrumental in formulating effective pricing strategies. By tracking and comparing pricing data against competitors and industry averages, the company can identify opportunities to adjust prices strategically. This data-driven approach ensures that pricing not only covers production costs but also meets or exceeds industry profit margins, enhancing overall profitability.

7.3. **Efficient Manpower Management**: Data on orders, delivery dates, and categories ordered assists in workforce optimization. By analyzing historical order patterns, the company can forecast demand, allocate resources more efficiently, and streamline production schedules. Additionally, tracking profit and profit margins helps in assessing the cost-effectiveness of training initiatives and technology adoption, ensuring a well-balanced workforce that contributes to profitability.