INDIAN INSTITUTE OF TECHNOLOGY (IIT) MADRAS

BACHELOR OF SCIENCE (BSc)

IN

PROGRAMMING & DATA SCIENCE

BUSINESS DATA MANAGEMENT

(BDM) CAPSTONE PROJECT

PROJECT PROPOSAL

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TITLE

Solving Cosmetics Wholesale Business Problems Using Data Analytics

EXECUTIVE SUMMARY

The company that I am about to talk about here is a wholesale cosmetics business. This type of business faces many challenges, including losses due to expired products in stock; finding retailers to work with; earning the trust of these traders, etc. These problems make it difficult for a new business to position itself in the market and grow. New businesses are stuck between what to do and what not to do.

Data analytics is currently the best way to guide these businesses and help them grow. The data generated can help businesses meet their customers' changing needs and interests. It will also help to learn about changes in market trends and business trends.

The solution generated after analysing the data can provide complete guidelines on what to buy and what not to buy, with their amount. It can also make detailed suggestions on what to stop doing, what to start doing, and what to continue doing.

BUSINESS BACKGROUND

The company discussed here is a cosmetic wholesale business called "Blush Rush" in my hometown, Varanasi, Uttar Pradesh. Its owner, Ram Kumar (name changed), started this business six months ago. It deals with all kinds of cosmetics like lipsticks, nail polish, powders, kajal, perfumes, shampoos, cleansers, facial sets, eye primers, and more. It imports products from different brands, including Blue Heaven, Coloressence, Lakme, Maybelline, etc., and distributes them to various local retailers. Slowly, he is making connections with more and more brands.

The business consists of the owner (Ram Kumar) and two other employees (Mohan and Vikash). Owners keep track of records, and employees manage deliveries and orders in the warehouse. The main goal of the company is to provide quality cosmetic products to customers in order to retain them. He also plans to sell directly to customers due to the high demand for the products in the nearby area.

PROBLEM STATEMENT

In a meeting with the owner, he talks about how his business is run and the major problems he is facing in the course of this business. These are:

- ❖ How to get rid of the loss caused by expired products in stock?
- ❖ Since my capital is fixed, what steps should I take to increase my profits and grow my business?

BACKGROUND OF THE PROBLEMS

Problem – 1: How to get rid of the loss caused by expired products in stock?

Initially, product 1 was in high demand among customers, so the owner stocked a large inventory of the product. After a while, customer demand changed from product 1 to product 2. Therefore, the owner has to put product 2 into stock. Currently, no one is asking about product 1. But after a while, customer demand changed again. This time it was changed from product 2 to product 3. This will cause products 1 and 2 to expire in stock and lead to a huge loss.

Problem – 2: Since my capital is fixed, what steps should I take to increase my profits and grow my business?

- ➢ The business was just established six months ago, so the company has not yet made much profit to raise capital. Therefore, it is difficult to establish links with other brands and grow the business.

- ➢ The fact that the owner has to bear the loss of the expired stock also makes it difficult for the business to grow.

- ➢ The business is new and it is necessary to establish a good relationship with retailers, so the owner had to sell the product at half price, and the second half is paid after the product is sold out.

PROBLEM SOLVING APPROACH

❖ Methods Used

➢ <u>Creating Ledger of Stock:</u> To solve the above problems, we first create an inventory ledger. The stock ledger is a tabular collection of the daily opening and closing amounts of each product. This helps identify fast-moving and slow-moving products, and then planning which products to buy and how much.

➢ <u>Making Pivot Tables:</u> A pivot table is a table of values grouped to group the individual elements of a larger table into one or more discrete categories. It helps us to focus on a small portion of the data and analyse what things are lagging behind.

➢ <u>Plotting Graphs:</u> Graphs and charts are used to visually depict data and make it easy for us to find trends and trend breaks in data points. It clearly shows what factors are causing these problems.

❖ Intended Data Collection

➢ To solve the above problems, we need to have complete data on the purchase and sale of all products. The data must contain the following details:

- Date   -   Date of Sale or Purchase
- Name   -   Name of Buyer or Seller
- Products   -   Name of Products Sold or Purchased
- Quantity   -   Quantity of Products Sold or Purchased
- Rate   -   Price per Unit Quantity of Product
- Discount   -   Discount on that Product
- Tax   -   Various Taxes on that Product
- Total   -   Final Amount

I was thinking of collecting sales and purchase invoices to get all these details easily and in one place. Invoices contain all these little details.

❖ Analysis Tool

➢ <u>Microsoft Excel:</u> Microsoft Excel is a spreadsheet developed by Microsoft for Windows, macOS, Android, and iOS. It features calculation or computation capabilities, graphing tools, pivot tables, and a macro programming language called Visual Basic for Applications. Excel forms part of the Microsoft Office suite of software.

➢ <u>Python:</u> Python is a high-level, interpreted, general-purpose programming language. Python's built-in analytics tools make it a perfect tool for processing complex data. Python's built-in analytics tools can also easily penetrate patterns, correlate information

in extensive sets, and provide better insights, in addition to other critical matrices in evaluating performance.

EXPECTED TIMELINE

- June 25th - I got an idea to analyse the cosmetics whole sale business.
- July 1st - I contacted the owner of this business & described the project.
- July 6th - Again, I met with the owner and convinced him to provide data.
- July 8th - I asked the owner about problems in their business.
- July 10th - Project Proposal Submitted.
- July 11th - Collected sales and purchase invoices from the previous month.
- July 20th - Analyze and prepare for the mid-term report submission.
- August 15th - Completion of analysis & preparation of the final submission.

Note – The Dates mentioned here after July 10th are just expected dates.

EXPECTED OUTCOME

- ❖ As a solution for Problem – 1
  There should be detailed instructions, suggesting which products to buy and which not, with their quantities.

- ❖ As a solution for Problem – 2
  There should be detailed instructions, suggesting what to stop doing, what to start doing, and what to continue doing.

THANK YOU