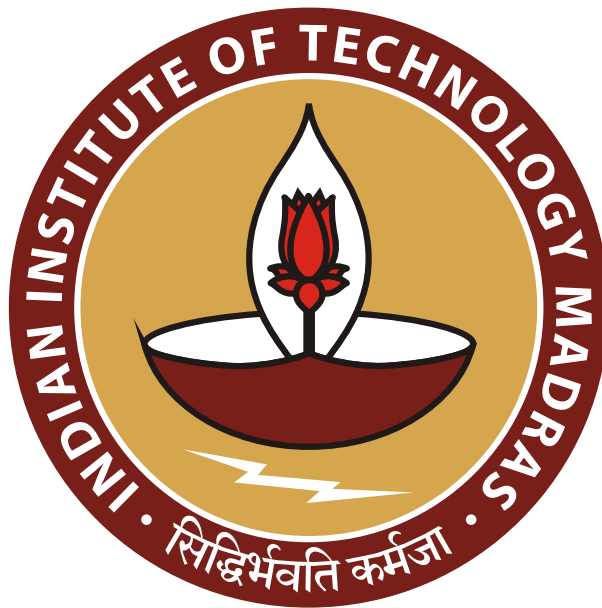# Business Data Management

Capstone Project

(Proposal)

Title - *Revitalizing Sales Strategy and Improving Inventory Management: A Business Data Management Project for Quadri Mobile Communication*

Name - *Azhar Quadri*

Roll No. - *21f2000479*

E-mail - *21f2000479@student.onlinedegree.iitm.ac.in*

Executive Summary

This business data management project aims to identify the problems faced by a mobile phone shop in the small town of Dildarnagar and to analyze the collected data to provide insights that can help the Owner improve their revenue. The data has been collected through interviews, old bill books and a purchase record diary maintained by the Owner himself roughly.

The Owner revealed that the mobile phone shop is facing several challenges, including intense competition from other mobile phone shops in the area and an inadequate product range. Additionally, the Shop's pricing strategy and inventory management practices could be optimized to improve revenue.

Based on the insights from the exploratory data analysis, recommendations can be made to the Owner to improve revenue. These include expanding their product range to include popular models and optimizing their pricing strategy to remain competitive while maximizing profits. Furthermore, the Owner should adopt a more effective inventory management system to reduce costs and avoid stock-outs.

In conclusion, this project can provide valuable insights to the Owner to improve their business operations and increase revenue. By implementing the recommendations provided, the Owner can improve his competitive position and better serve his customers.

Organization Background

Quadri Mobile Communication is a local mobile shop in the town of Dildarnagar, established in 2015 by Mr. Azad Khan. The Shop is named after Mr. Azad's spiritual master and is located in a prominent location in the town. The business is primarily run by Mr. Azad himself, along with a staff member Mr. Faisal, who is his relative.

Mr. Azad has completed his education till intermediate and has good experience in sales, which has helped him understand the basics of the business. With his experience and knowledge, he has successfully managed the business and generated ample revenue. He

mentioned that the revenue generated from the Shop is sufficient to support his family's livelihood.

Quadri Mobile Communication is at a rented place and serves its customer by providing a variety of mobile phones at a reasonable price. The Shop is known for its customer satisfaction, which has helped it establish a loyal customer base in the town.

1. A file photo of me interviewing the Owner in the Shop

Problem Statement

1. **Inadequate Product Range**: If Shop only offers a limited range of models, it may struggle to attract and retain customers looking for a more comprehensive selection of products. This can lead to lost business and reduced revenue.

2. **Pricing Strategy**: If the pricing strategy of the Shop is not optimized, it may lead to lost business due to customers finding lower prices elsewhere. Additionally, the Shop may not maximize its profits if its prices are too low.

3. **Inventory Management**: Poor inventory management can lead to stock-outs, negatively impacting customer satisfaction and revenue. On the other hand, carrying too much inventory can result in unnecessary costs and lower profits.

Background of the Problem

Quadri Mobile Communication has been serving its customers for several years. One of the primary challenges that Shop has been facing is the limited product range. In today's fast-paced world, mobile technology is rapidly evolving, and customers may look for the latest mobile models and accessories. If the Shop cannot offer these, it may lead to lost business and reduced revenue. To address this problem, Shop may need to expand its product range to include the latest models and accessories that customers demand.

Another significant challenge that Shop has been facing is pricing strategy. If the Shop's pricing strategy is not optimized, it may lead to lost business due to customers finding lower prices elsewhere. Additionally, if the Shop's prices are too low, it may not be maximizing its profits. To address this problem, Owner may need to develop a pricing strategy that balances competitive and profitable. This can be achieved by continually monitoring competitor's prices and adjusting them as necessary to remain competitive and profitable.

The final challenge that Owner has been facing is inventory management. Poor inventory management can lead to stock-outs, negatively impacting customer satisfaction and revenue. On the other hand, carrying too much inventory can result in unnecessary costs and lower profits. The Shop needs to balance and establish an effective inventory management system. To address this problem, the Owner has to invest in an inventory management system that

helps track inventory levels, sales data, and reorder points. By doing so, the Shop can make informed decisions about when to reorder stock and how much to order.

Problem-Solving Approach

- **Details about the methods used with Justification**

  Data was collected from the Owner through various methods to analyze trends and identify solutions to improve the revenue of Quadri Mobile Communication. Initially, the Owner provided bills and lists of mobile phones noted for their ordering purposes. During the interview, the Owner shared the problems he is currently facing in the business. He also provided verbal estimates, recorded in a table sheet for further data analysis.

  To supplement the data collection process, the mobile shop staff assisted by writing down all possible items and their respective prices. Throughout the four meetings with the Owner, he shared all relevant details about the business background, which helped better understand the business operations and the challenges faced.

- **Details about the intended data collection with Justification**

  To better understand the challenges faced by Quadri Mobile Communication and identify potential solutions to improve its revenue, it is important to collect relevant data from the Owner and the business operations. The following variables will be collected during the data collection process:

1. Sales data: Sales data is crucial to understanding the business's revenue, identifying trends, and determining the best-selling products. Sales data can provide insights into the peak sales periods and popular products.
2. Inventory data: Inventory data is essential to understand the stock levels and to identify the products that need restocking. The inventory data will include product names, quantities, and prices.

3. Expenses data: The expense data will help in identifying the business's fixed and variable costs, including rent, utilities, employee salaries, and other expenses. The expense data can help determine the business's profitability and identify areas where cost-cutting measures can be implemented.

4. Competition data: Collecting competition data can help in formulating pricing strategies.

To analyze the sales of different brands and models of mobile phones, the following data points should be collected in sales data:

a) Brand and model: The name and model will provide insights into which brands and models are the most popular.

b) Quantity sold: This data will help identify which phones are selling the most and also estimate the market demand.

c) Price: The price will help determine the price point for each phone and provide insights into the profitability of each sale.

d) RAM and ROM size: The RAM and ROM size data can provide insights into the most popular RAM and ROM sizes and can help shop ensure that they have enough stock of the most in-demand sizes.

e) Color: By collecting data on which colors of a particular model are selling the most, Shop can optimize its inventory to ensure they have the right mix of colors in stock.

- **Details about the analysis tools with Justification**

1. Excel: Excel can be used to store and manage large data sets, perform data cleaning, and create tables, charts, and graphs. It can help identify patterns, trends, and relationships in the data and be used for statistical analysis.

2. Tableau: Tableau can be used to create interactive dashboards, charts, and graphs. Tableau can be used to analyze sales trends, stock levels, and other key performance indicators.

3. Python/R: Python or R can be used for data analysis, data cleaning, exploration, visualization, and statistical analysis.

4. In addition, SQL can be used to create views that can be used to simplify complex queries. Views can be used to analyze data in a more organized and efficient manner.

Expected Timeline

Event	Start date	End date	Status
PROJECT	15 Sep 2022	19 Mar 2023	Open
First Meeting	18 Sep 2022	18 Sep 2022	Done
Second Meeting(Phone Call)	25 Sep 2022	25 Sep 2022	Done
Data Collection	1 Oct 2022	31 Jan 2023	Done
Third Meeting(Interview)	8 Jan 2023	8 Jan 2023	Done
Data Preprocessing	12 Jan 2023	30 Jan 2023	Done
Data Cleaning	20 Jan 2023	28 Feb 2023	In process
Fourth Meeting	12 Feb 2023	12 Feb 2023	Done
Data Processing	15 Feb 2023	5 Mar 2023	In process
Final Output	19 Mar 2023	19 Mar 2023	In process

Expected Outcome

Once the necessary data has been collected and analyzed, the results can be presented in the form of charts, graphs, and other visual aids to understand the data better. By examining the processed data output, the business can gain insights into the problems in its inventory management system.

The charts and graphs generated from the data can provide valuable information to help optimize the inventory of Shop. For example, the charts may show which items are selling the most and which are not selling as much, allowing the business to adjust its inventory to meet customer demand better. Similarly, the charts and graphs may indicate which brands and models of mobile phones are most popular, allowing the business to stock up on those models and avoid stock-outs.

Additionally, the processed data output can help the business to identify items that are not selling well and should be destocked. This will prevent the accumulation of excess or obsolete inventory that can tie up capital.

Overall, the report generated in the form of charts and various information is a powerful tool for inventory optimization at Quadri Mobile Communication. The insights gained from this data can help the business improve its inventory management system, reduce stock-outs, minimize excess inventory, and ultimately increase profitability.