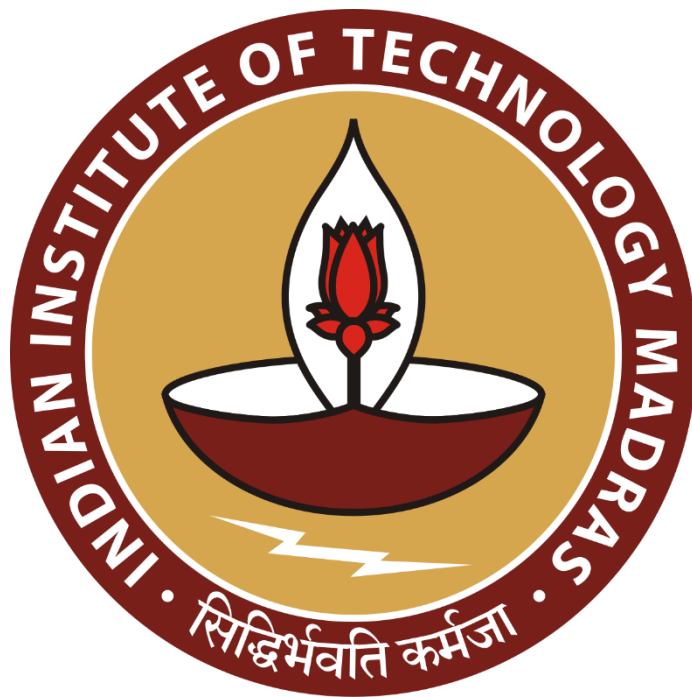# Improving Admissions Count and Student Performance through Data Analysis

A Proposal Report for the BDM Capstone Project

Submitted by

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Declaration Statement

I am working on a Project titled **"Improving Admissions Count and Student Performance through Data Analysis"**. I extend my appreciation to **R G Institute of IT & Engg.**, for providing the necessary resources that enabled me to conduct my project.
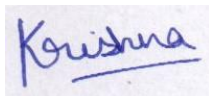
I hereby assert that the data presented and assessed in this project report is genuine and precise to the utmost extent of my knowledge and capabilities. The data has been gathered from primary sources and carefully analyzed to assure its reliability.

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: (**Digital Signature**)

Name: Krishna Varshney

Date: 08/02/2024

1 Executive Summary and Title

R G Institute of IT & Engg. is one of the leading educational institution in Jhansi, providing high-quality IT training to students from different backgrounds. The institute comprises of modern study facilities and a great reputation for academic excellence.

Although having a good reputation, the institute has faced some challenges in the enrollments of students and their academic performance in the last year, which impacted the overall effectiveness and competition with the other institutions of same kind.

Therefore, this project will provide a strategy involving data analysis, recommendations, and planning for these challenges. By gathering relevant data and performing analysis, trying to identify the factors affecting the enrollment process and performance. After that, possible solutions will be found, focusing on increasing admission count, improving student engagement, and implementing measures to enhance academic performance. The outcome of this project includes a significant increase in enrollments, gaining a reputation in the education sector, enhanced performance, and increased student satisfaction and confidence in their academic career.

2 Organization Background

R G Institute of IT & Engg. is an educational institution, running under Shri Shyam Sunder Gupta Memorial Sewa Sansthan (SSSGM Society). The institute was established in 2010 and is located in Shivaji Nagar, Jhansi with a specific aim to conduct state-of-the-art IT Training primarily for poor & unemployed boys and girls in rural & urban areas.

The environment at R.G. Institute of IT & Engg. ensures that the students get the best of modern aids like fully equipped labs, modern teaching aids, well-qualified staff, and considerate management. The infrastructure consists of the latest PCs, video projection systems, printing facility, and internet-ready, and fully powered backup facility. In the year 2013 Institute got Accreditation with DOEACC/NIELIT Society (Under AICTE, Ministry of IT, Govt. of India) for CCC & O Level. Other than that, the institute provides other short-term training and runs various government projects in the field of IT. The institute has achieved a remarkable success in the field of education and has excelled in maintaining that reputation all over Jhansi.

Figure 1: Institute's Main Building

Figure 2: Smart Class Facility in Institute

3 Problem Statement

Upon discussion with the director and other officials, two major key challenges were identified that are being faced by the institute in current time, i.e. with the quantity and quality of enrollments. Therefore, the problem statement comprises of:

3.1 Increasing the number of admissions in various courses.

3.2 Improving the quality of grades of the students enrolled in various courses and developing methods to enhance the engagement of students in the study programs.

4 Background of the Problem

R G Institute of IT & Engg. has a quite effective curriculum for its students with all the necessary resources and facilities. The institute has managed to continuously be among the top institutes of Jhansi by providing high-quality education and extraordinary results. Over time, it has achieved a remarkable reputation gaining the attention of students not only within the city but also from other cities as well. However, the institute has faced some challenges in admissions and academic performance in the past year.

Even after having the utmost quality of education, the institute has struggled to get sufficient enrollments across its courses. It has encountered many difficulties in promoting its courses properly and attracting students. Moreover, it faces competition from other educational institutions offering similar programs. Also, the institution has observed a need for improvement in student academic performance. This has led to a decrease in the institute's overall effectiveness.

Therefore, addressing these challenges is important for the institute to overcome. By implementing effective strategies to enhance both admissions numbers and student performance, the institute can ensure overall growth and success.

5   Problem Solving Approach

Details about the methods used with justification:

The project demands working for both quantity and quality of enrollments in institute. So, I will be using the following approach:

a. Visiting the institute and understanding the business process (marketing strategies, education facilities, course curriculum, students' engagement, etc.) in more detail.

b. Meeting with the director to identify the factors that might be hindering their business. Also, meeting the students to understand their expectations from the course and faculty and getting to know the hardships being faced by them.

c. Gathering the relevant data, and doing appropriate operations (data cleaning, preprocessing, integration, etc.) on it.

d. Performing analysis on data including performance analysis, time series analysis, correlation analysis, comparative analysis, etc., and gaining valuable trends and insights from it.

e. Using these, come up with possible solutions that are effective for both the institute and the students and can be implemented easily.

Details about the intended data collection with justification:

For the mentioned objective, I intend to collect the following data for the last one year:

➢ **Courses Data:** The data about the various courses that the institute provides will be very beneficial in understanding the duration of courses, fee structures, etc.

➢ **Students Enrollment Data:** This data will contain students' details like roll no., name, date of birth, city, etc. along with the course they registered for and when. This would help understand the variety of students getting enrolled in the institute.

➢ **Students Result Data:** As our objective is also to improve the performance of students, we would require the data of past performance of students to understand the factors affecting it.

Details about the analysis tools used with justification:

I have chosen to utilize Excel for my project due to its versatile nature, wide range of functionalities, and user-friendly interface. Tools that are being used by me for the project are:

• Pivot tables to analyze student enrollment data and identify trends and patterns.

• Graphs like bar graphs, pie charts, scatter plots, histograms, etc. for data visualizations.

• Excel functions and formulas for calculation and analysis, such as averages or rates.

6   Expected Timeline

6.1   Work Breakdown Structure:

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                          │  Main Project   │
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        ┌─────────────────────────┼─────────────────────────┐
┌─────────────────┐      ┌─────────────────┐      ┌─────────────────┐
│ Phase 1: Problem│      │  Phase 2: Data  │      │ Phase 3: Results│
└─────────────────┘      └─────────────────┘      └─────────────────┘
        │                        │                        │
┌─────────────────────┐  ┌─────────────────────┐  ┌─────────────────────┐
│Problem Understanding│  │   Data Collection   │  │  Gaining Insights   │
└─────────────────────┘  └─────────────────────┘  └─────────────────────┘
        │                        │                        │
┌─────────────────────┐  ┌─────────────────────┐  ┌─────────────────────┐
│ Finding Root Cause  │  │Cleaning & Integration│  │ Providing Solutions │
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│  Possible Solutions │  │ Performing Analysis │  │Results & Conclusion │
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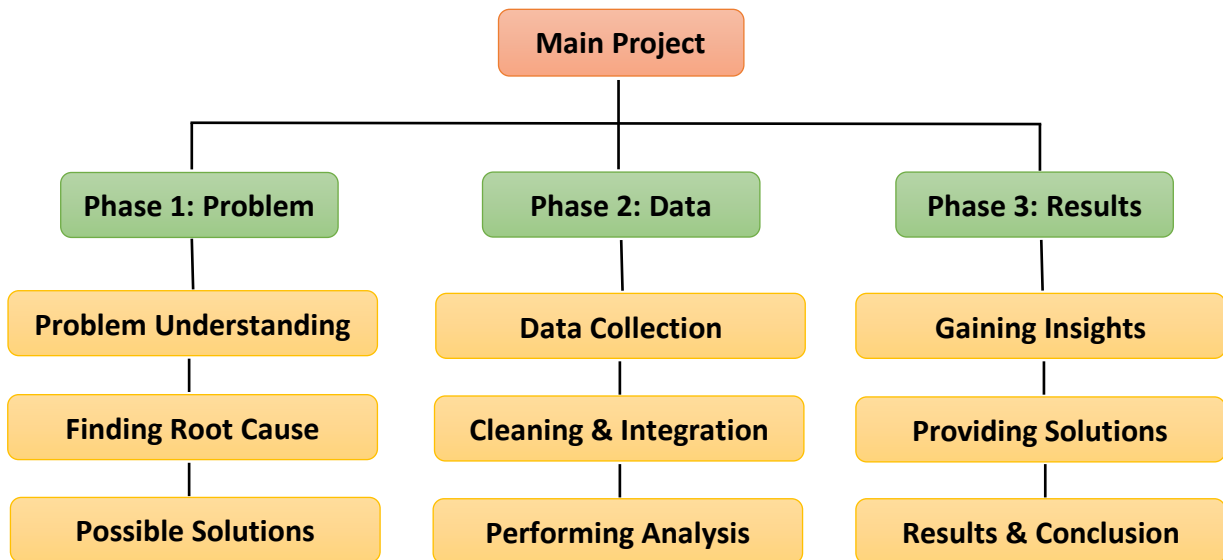
6.2   Gantt chart

The project will be completed in one month starting from 05/02/2024 to 02/03/2024 which I have divided into a timeline of 4 weeks as follows:
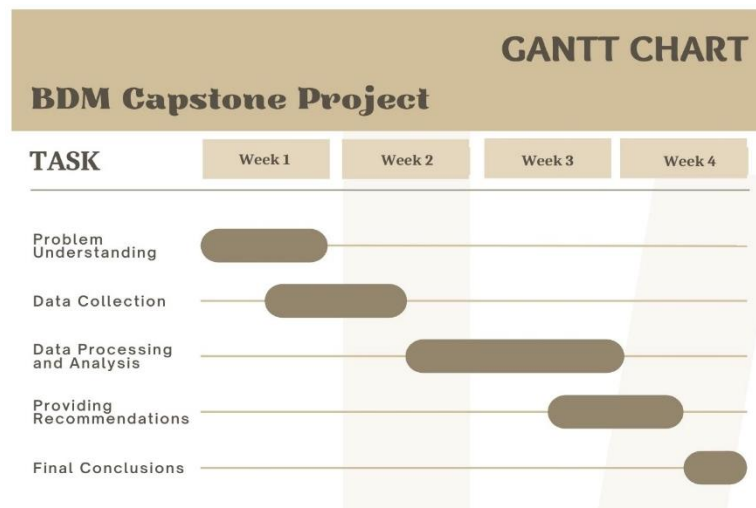

Figure 3: Expected Timeline of the Project

7   Expected Outcome

7.1   Experience a significant rise in the number of students enrolling.

7.2   Gaining institute's reputation and competitive position in the education sector, attracting more students across various cities.

7.3   Enhance academic performance and higher grades among students.

7.4   Increased student satisfaction and confidence in their academic career.