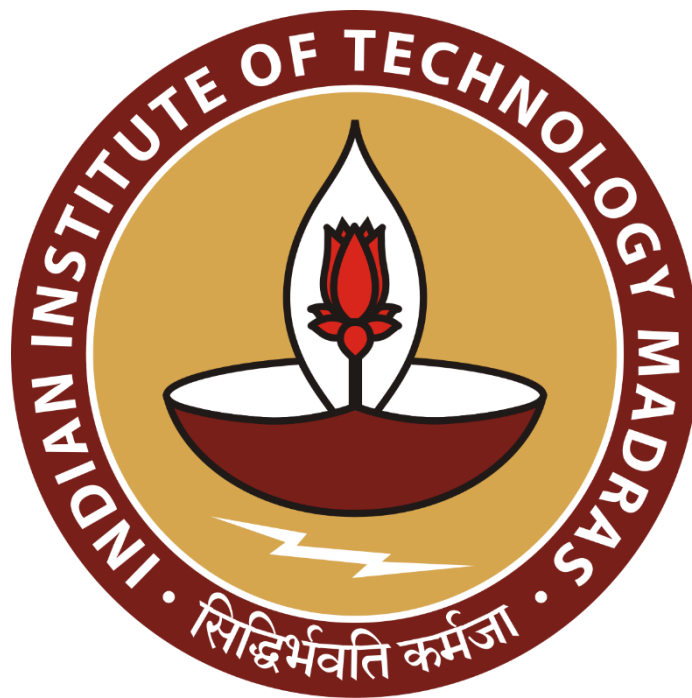# Pioneer Kochi, a case study

Mid-Term report for the BDM capstone Project

BDM CAPSTONE PROJECT MID-TERM SUBMISSION

Pravin Anavaratham M

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IITM Online BS Degree Program,

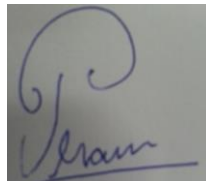Indian Institute of Technology, Madras, Chennai

Tamil Nadu, India, 600036

Contents

1. Declaration Statement

I am working on a Project Title **Pioneer Kochi a Case Study**. I extend my appreciation to Pioneer Kochi, for providing the necessary resources that enabled me to conduct the 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 through 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 information 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 agree that all the recommendations are business-specific and limited to this project exclusively, and cannot be utilized for any other purpose with an IIT Madras tag. I understand that IIT Madras does not endorse this.

Signature of Candidate:

Name: Pravin Anavaratham M

Date: 11/12/2023

2. Executive Summary

"Pioneer Kochi" is a training institute operating in Kochi providing education and coaching to individuals who aspire to get jobs in public sectors and want to pursue engineering degree through lateral programs conducted for diploma students. This is a B2C that deals directly with young people who aspire to get into different streams of entry level jobs in government sectors and students who want to pursue higher degree in the field of Engineering

The major challenge of Pioneer Kochi is the growing challenge in conducting business in the new era of learning post COVID. Business conducted during pre-COVID used an old model where marketing is done through major broadcast channels and reaching out to people directly. This model is not efficient due to change in market dynamics.

The main objective of the research is to identify key issues that led to the revenue loss post pandemic. By utilizing different analytic tools like Excel, Power BI and Python the research wants to find gaps in operational efficiency and helps business make key decisions for the future.

3. Proof of Originality of Data

I have reached out to the board member Justin K J of the institution for the data over the years. I explained him what I was planning to do with the data and he has agreed to share the data with me. Please find the following link to see the video of our interaction. Also find the raw file shared with me.

Video

Sample File1

Sample File 2

Sample File 3

4. Metadata and descriptive statistics

Data collected from the institution is of the excel file. I have received multiple files over the years. The data had to be cleaned and standardized to be able to analyze. Raw files contained lot of information in the initial years and later years showed minimal information.

Data entry to the sheets do not have any valid checks. This has created multiple data errors. One of the issues we found is that data entered to wrong column. For example, place entered in date field or duplicate names entered when name info was missed.

Initial idea is to find standard fields for analysis. I have finalized following key fields for exploratory analysis

Date

Date when a potential student or the user is contacted. We use this column for our calendar data. The field is used to see the trend or pattern across the year or years. The format of the date stored is DD-MM-YYYY.

Name

Name is the name of the user. The data we received contained duplicate entries. The data entered sometimes contained duplicates if the operator got the lead from other sources such as Sulekha where the name is not captured well. In such cases operator inputs a random name which results in duplicates. The type of this field is text.

Contact

I have used this as a primary key to identify a potential user or customer. Number of enquiries were calculated using this field over the calendar date. We consider this field as a text

Qualification

Qualification of the customers is an important information which helps us target users. We have seen customers are graduates who are mostly Engineering graduates opting for the courses offered. There are other graduates and customers from other streams whose qualifications are ITI, high school, poly technic etc. The data tells us that several youths who are about to start their careers are the potential customers of the institution. Type of this field is text.

Courses

The courses offered are basically for people who want to crack exams conducted by Staff selection commission or other government and central agencies. Coaching materials will be shared with the customers and classes are conducted for 2 to 3 months prior offline. Students need to visit the institute to attend class. Mock tests will be conducted to make students prepare for exams. These tests have pre requisites of the qualifications of aspirants and may need advance degree. The center also conducts coaching for lateral entrants aspiring to clear Lateral entry test for entering to Engineering courses in the state. Following are the courses offered high level from the institution. The fees of the individual course range from RS 8000 to RS 18000 per course

1. **Non-Technical courses**
   These are for people who have basic qualification like 10th standard or 12th Standard. Coaching materials are provided.
2. **Combined Graduate Level Courses**
   These are for training students for Combined graduate level exams like Staff Selection Commission.
3. **LET**
   Lateral engineering test is for students who completes diploma and wants to join Engineering streams. This is the core revenue generating coarse for the institution. There are several rank holders who have come out of the institution.

4. **Railway Board exams**
    This is not regular happens once in 2 to 3 years. This also is a revenue generating coarse and see lot of people enrolling and several make it to the selection.
5. **Other Initiatives**
    Lately started BTech tuition, GATE and NET coaching. These were started prior COVID and had to dropped to meet other priorities.

The type of the field is text and helps us track the demand of the courses as a whole.

 Place

The information corresponds to the place from where the customer is. This helps in the geographical mapping of the potential customers. From the analysis of the data, we can see that 80% of the users are from the 10 km radius of the center. Type of the field is text.

Data obtained from institution was cleaned and combined for different years. Excel is used for cleaning and combining data across years. Please find the below file which is used for analytical purpose.

Cleaned Data

This data was further modified using power pivot in Power BI for the ease of reporting.

Following descriptive statistics are used for data analysis over 3 years of analysis

Descriptive statistic measure	Descriptive statistic definition
Sum	The total value.
Mean	The average value.
Minimum	The smallest value.
Maximum	The largest value.

Since number of data available is less analysis performed are over the years 2018, 2022 and 2023

The following stats measures the overall performance of the company over the course of 3 years. The result explains there is a general decline in the enquiries. It is also interesting to note that the conversion rates have remained some what consistent except 2023 for which we don't have entire year data.

Total Leads and admissions over year

Year	Total Enquiry	Admissions	Conversion Rate
2018	1292	265	21%
2022	376	78	21%
2023	443	57	13%

Average Leads and admissions over month

Average enquiries and admissions are analyzed. This will help us to analyze the running cost of the company. Average enquiries have shown a sharp decline over the years and marketing team need to work on reaching out to more potential clients

Year	Average Enquiry per month	Average Admissions per month
2018	108	22
2022	31	7
2023	37	5

Maximum Enquiry month

Further analysis performed to check what months have maximum leads. The data is not very conclusive and we can't determine a trend here.

Year	Maximum Enquiry Month	Enquiries	Conversion
2018	February	261	59
2022	August	41	10
2023	June	65	17

Minimum Enquiry month

The analysis is conducted to check which are the months where there is a potential for very high losses. We could see that October month have lower enquiries over 3 years.

Year	Minimum Enquiry Month	Enquiries	Conversion
2018	October	48	6
2022	October	20	4
2023	October (Data after October is not complete)	20	3

5. Analysis Process

Majority of the data cleaning is performed to correct the entries done manually. Date format had to be corrected. Some of the values were to be corrected. Some of the columns were removed as it was not giving any useful info. They are Att By, type these are category info and I didn't see any major variations which I can make use of.

Data was segregated across multiple tabs. This were combined to single tab for analysis across year. Columns were mis aligned and multiple columns with less information were removed.

Data had to be corrected at date fields where the dates were inputted manually. Dummy names were inputted where the staff was not aware of the name of the potential user. Contact number will be used for any analysis purpose as this will be unique to user.

Records were marked in colors to indicate joined, rejected and did not respond. Green color indicated that the student has actually joined the program, red indicates the student declined to join, other colors indicate that student did not say explicit no or could be considered as a missed opportunity. This is a place where I find we have a scope for improvement

Observed data generated external to the institution like in internet. Facebook, twitter and Instagram page has less user engagement. Those data could not be used as there are less user engagement.

Tools for Data Analysis

Excel file is used as the data source.

Power BI is used for exploratory data analysis

Please find the below .pbix file used for exploratory data analysis

Pbix File

Exploratory Analysis of Data

Total enquiry and joined student's ratio

Following visual explains how the business has performed pre COVID, current and just after COVID. You can clearly see that the total enquiries pre covid was 1292 and out of which 265 got converted to admission. There has been sharp fall in business post COVID. Enquiries have fallen to close half in the current year. The conversion rate also seen a sharp decline. This could be mainly attributed to change in market dynamics explained earlier.

Figure 1: Total enquiry and joined student's ratio
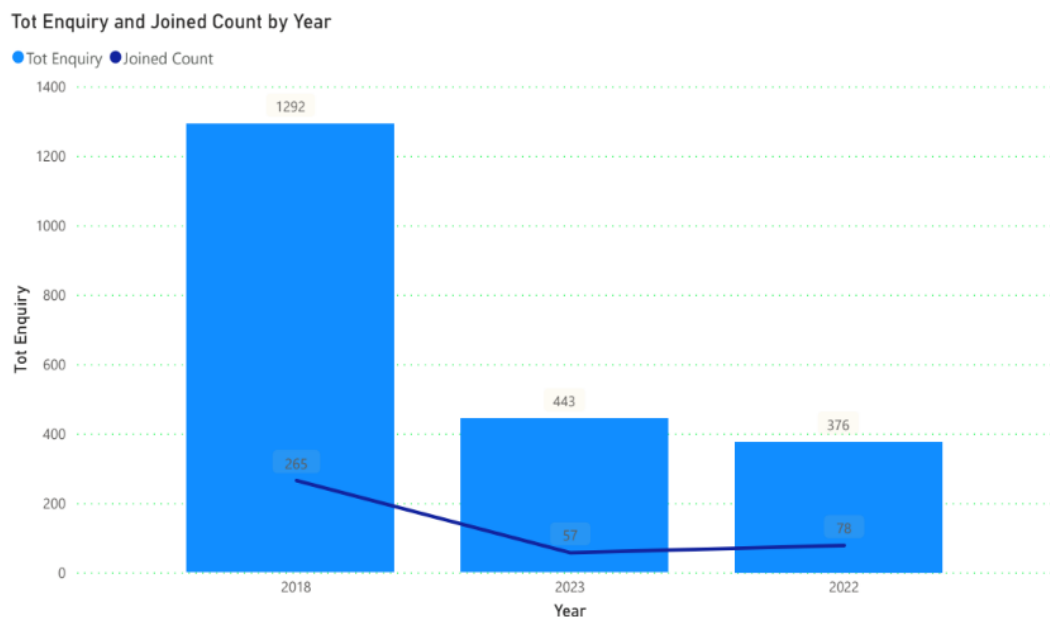
Total enquiry and joined student's ratio by month

I have analyzed the data over the period of 12 months to see any trends available for overall enquiry data. There was no visible spike or down period observed. But we could see that trends see a slight inclination towards initial months against later months.

Fig 2 Total enquiry and joined student's ratio by month over 3 years
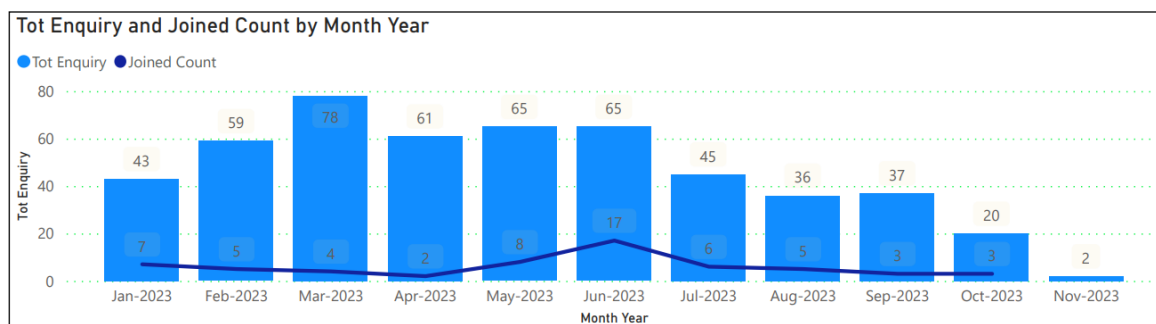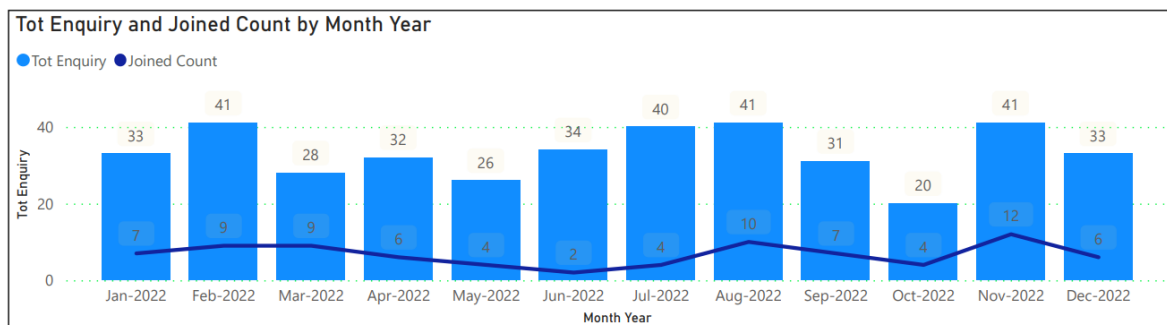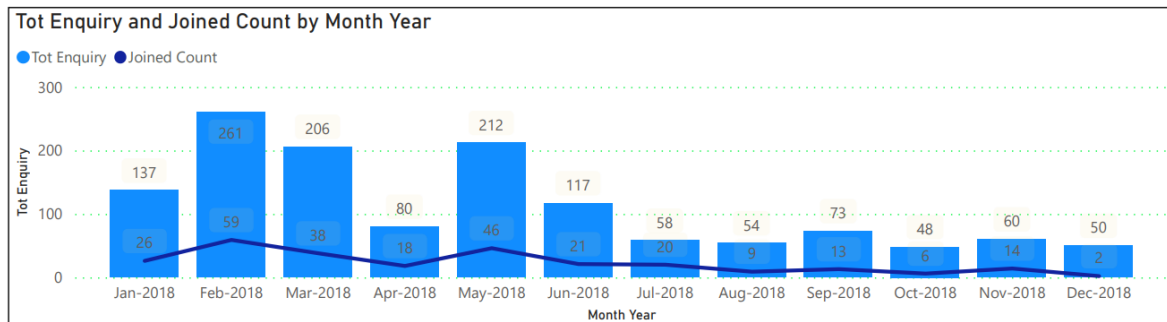
Enquiry by year

Following visual shows how the business shrinks over the years. 2018 to 2022 and 2023 has shown a major change in business. The business prior 2020 had a healthy sale with 1000 + enquiries and relatively good conversion. The corresponding values in the 2022 and 2023 are not that great. When we compared the sales for 3 years, we could see that the combined enquiries of 2022 and 2023 are not even equal to 2018

Figure 3: Total Enquiry by Year

Tot Enquiry by Year

0K (20.99%)

0K (17.81%)

1K (61.2%)

Year
● 2018
● 2022
● 2023
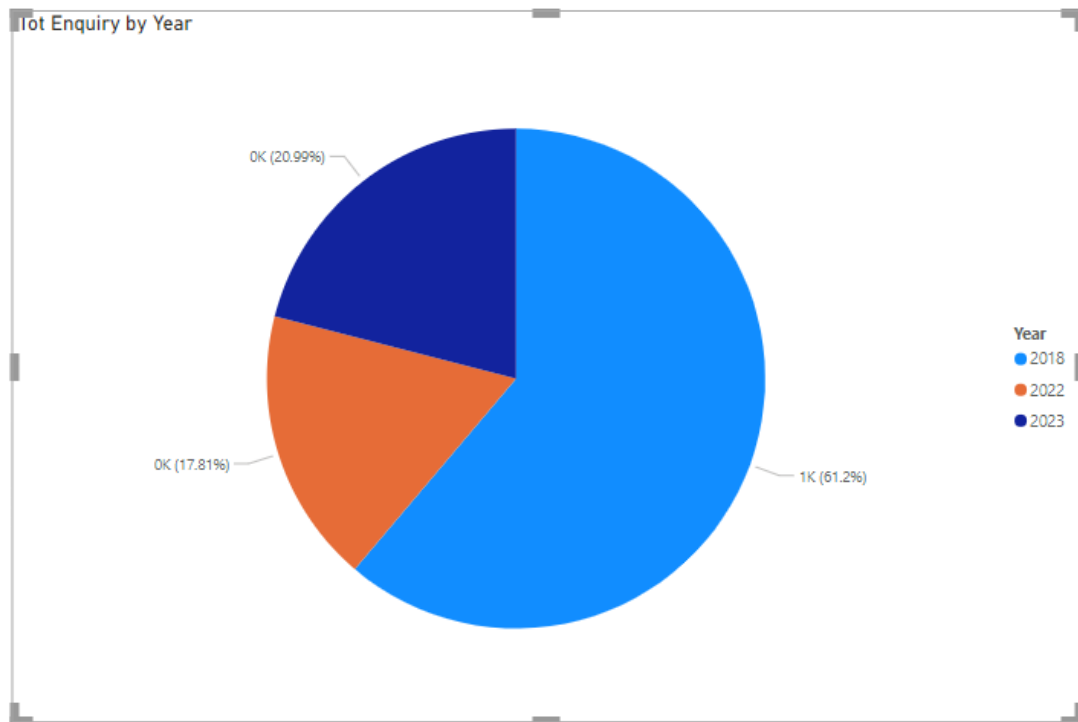
Total Enquiry by Qualification

The purpose of the visual is to see who are the target users by seeing the educational qualifications. We see that majority of the enquiries come from users who are BTech students or BTech graduates. Initial data says the program needs to be structured keeping in mind of graduate level students and their requirements.
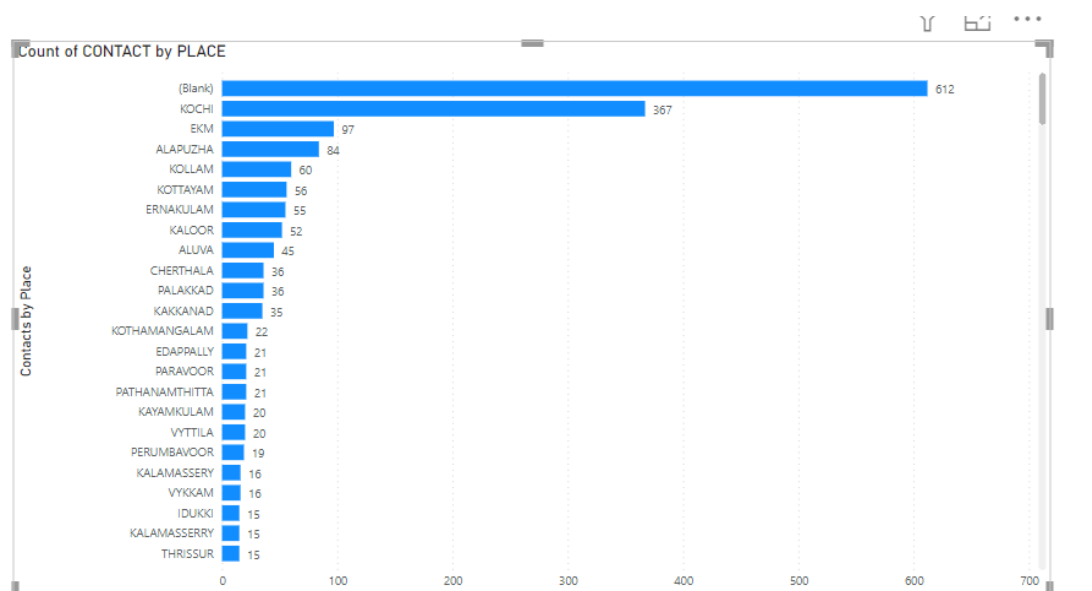
Figure 4: Total Enquiry by Qualification
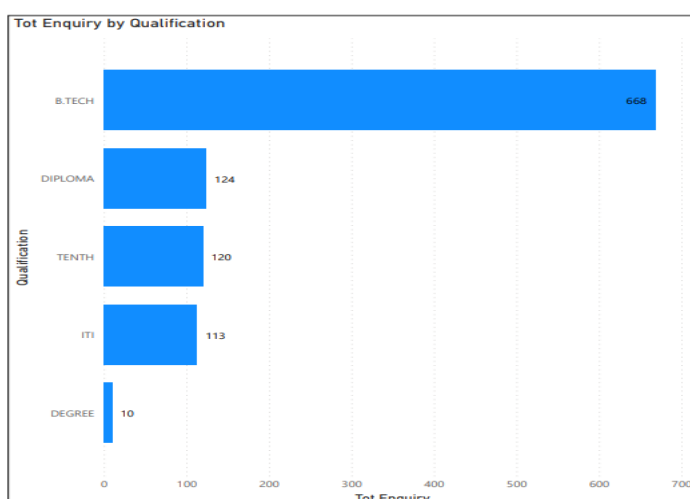
Total Enquiry by Place

The visual says where are the customers from. We can observe that most of the customers are from in and around Kochi. Kochi, EKM and Alappuzha all are in and within 20 kms from the institution. This is a geographical mapping of the users

Fig 6: Total Enquiry by Place

6. Results and Findings

Exploratory analysis clearly shows the change in dynamics from pre Covid to Post Covid. There has been a trend in reduction in enquiries from pre covid to Post Covid. Business shows a slight recovery in the current year. The target users are mainly graduates who are aspiring to enter into career. I also found that the customers are mostly people in and around Kochi. The marketing strategies are not targeted efficiently, and driven mostly by the front-end operator. There are no checks to periodically review the data entered and results in lot of wrong data. I also see that inputs from the users are not collected to periodically plan strategies of growth.