BDM PROJECT PROPOSAL - BSMS2001

A Proposal Report for the BDM Capstone Project - Industrial Growth in Telangana Backward Districts.

Submitted by

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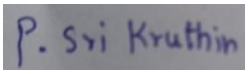
Declaration Statement

I am working on a Project titled "**Industrial Growth in Telangana backward districts**". I extend my appreciation to the **Industries & Commerce Department for the state of Telangana**, 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 through primary sources and carefully analyzed to ensure its reliability. Additionally, I affirm that all procedures employed for 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. If 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: (Digital Signature)

Name: **Palatla Sri Kruthin**

Date: **May 12th 2025**

1. Executive Summary

Industrial development is uneven across the districts of Telangana. Certain districts like JAYASHANKAR, JOGULAMBA, and KOMARAM BHEEM have industrial units of less than 60. Districts like KHAMMAM, BHADRADRI, and RAJANNA have a decent number of industries (ranging from 1300 to 2100), while these districts are located in the interior parts of Telangana. The districts near the state capital, like HYDERABAD, MEDCHAL, and RANGAREDDY have industries ranging from 4000 to 5400. I have collected the details of industry MSME, industry incentives, industry raw materials, List of Factories in the state. During this analysis, I will also correlate the Employees and Investment in various industries and districts. To see the trend for the last 6 months. Identify the opportunities for growth in backward districts for industrial development.

The data for this study will be collected from reliable online resources. Primarily, information will be sourced from the Telangana Government's Open Data Portal available at https://data.telangana.gov.in/search/?page=2&theme=Industries and the official website of the Department of Industries & Commerce at https://industries.telangana.gov.in/organisation.aspx.

Data Collection Methods: The specific data points that will be collected include the list of factories operating in Telangana, details regarding industries and the investments made, comprehensive information on MSMEs in the state, and TS-iPASS (Telangana State Industrial Project Approval and Self-Certification System) related data. Additionally, information on various industry incentives provided by the state government will be gathered, along with data about the availability of industrial raw materials by district and village. TGSPDCL industrial power consumption data will also be collected for further analysis. The Government of Telangana offers a range of industry incentives to support industrial development and attract investments. These include an advance subsidy offered to SC/ST enterprises before the Detailed Project Report (DCP) stage, and capital subsidies to assist with initial investment costs. The Industrial Infrastructure Development Fund (IIDF) is also in place to support infrastructure requirements for industries. Investment subsidies are provided to encourage business establishments across various sectors.

Problem: Districts of KHAMMAM, and BHADRADRI KOTHAGUDEM have less export revenue despite having more industrial units.
Possible Solutions: Improving the infrastructure for export and Improving market access and investment in export promotion. Improving Global market access by overcoming Geographical location challenges. Improving awareness of export opportunities. Investing in industrial scaling/expansion. Investment in innovation and creating renewed products

2. Organizational Background

The Industries & Commerce Department is under the control of the General Administration Department, Government of Telangana, Secretariat, Hyderabad. This Department is looking after the Sections like Mines, Handlooms & Textiles, Industrial Establishment – Sugar Industries & Commerce, Export & Promotion, INF & IP (Infrastructure & Industrial Promotion), MSME-FP- Biotech, Vigilance & IFR & Miscellaneous. https://industries.telangana.gov.in/#.

Mines: Matters relating to Major Mineral and Minor Mineral & Sand along with establishment matter of Mines & Geology and TSMDC.
INF & IP: Allocations of Land and Infrastructure facilities to Industrial Investors and also Investment subsidies and incentives to entrepreneurs including SC/ST and others.
Handlooms & Textiles: Establishment matters of Handlooms & Textiles, HDC, APCO & KVIB along with other schemes, subsidies etc.
IE- Sugar Industries, IE and C & EP: All Establishment matters of Commissioner of Industries/District Industries Centres and C & EP wing. Industrial Estates and Industrial Development areas, Establishment matters of C & EP Wing. Purchase Tax/SDF/matters relating to all private factories /correspondence with Govt. of India/Cane Price Fixation and pay and other allied matters relating to it. Cane price fixation. Sugar Cane Act 1961. All matters relating to NSL.
MSME-FP- Biotech: Matters of Coop. Industrial Estate, Balanagar, APSSIDC, marketing assistance, productivity council, IID projects, implementation of SSI policy. Establishment of Leather parks of LIDCAP and their budget matters, Administration matters of KVIB, Implementation of PMEGP, LEAP, etc.
FOOD PROCESSING: Food Processing Policy matters of incentives and subsidies for large, medium, and SSI units' assistance to marketing capabilities of FP units and electronic trade exchange, testing labs, and training centers. All plan schemes of the Ministry of Food Processing Industries like Technology upgradation, strengthening of nodal agencies, infrastructure development, creation and development of FP, NMFP schemes, Matters relating to Telangana State Food Processing Society, etc.
IFR & Miscellaneous: Matters relating to (1) DBR Mills, (2) IDPL (3) HCL (4) APHMEL, (5) Praga Tools, etc. Supreme Court /High Court Cases, and all other related Court Cases. All BIFR/A AIFR Cases about Cement and Steel. Matters relating to A.P. Scooters, R.F.C. All matters relating to erstwhile HAL/AWL/Voltas. Audit paras etc.
Telangana State/Districts Export Turnover.
The total export of INR 858,57,10,19,087 (i.e. USD 10,26,08,52,215)
As per the Telangana District-wise Merchandise Export Summary Report Period from April -2024 To October -2024.

3. Problem Statement

The following are the problem statements for analysis.

- **Statement-1: *Low exports despite high investments received in some areas*.**
    - Certain districts like Jayshankar, Khammam have high investment but exports are quite low.

- **Statement-2: *Investment concentrated in only few districts. (3 out of 31)***
    - Few districts getting huge amount for investment whereas remaining are getting less than 5 percent of investment. This uneven proportion affecting many districts in state.

- **Statement-3: *Lack of awareness of government incentives*.**
    - Many local entrepreneurs don't have proper awareness of govt incentives. Govt incentives include subsidies, tax exemptions, financial and non-financial benefits. Example: tax redemptions, some incentives have 100% power tariff exemption. Increasing Awareness among the local businessmen/traders can lead proper utilization of these incentives.

4. Background of the Problem

- **Statement-1**
    - Low export in district BHADRADRI that has an average of 11.64 crore investment per unit, while the export is low. It has 4.7% of the industrial units of the state.
    - District KHAMMAM has an average of 1.07 crore investment per unit, while the export is low. It has 7.3% of the industrial units of the state.
    - District JAYASHANKAR has an average of 6.23 crore investment per unit, while the export is significantly low. It has very little (i.e. 0.15%) of the industrial units of the state.
    - Lack of infrastructure support in boosting export and lack of interaction of export partners with industry.

- **Statement-2**
    - State of Telangana has 31 districts. Only 3 districts get about 55% of the total Investment of the state. About 16 districts have invested less than 0.6%.
    - About 50% of industrial units are concentrated in 3 districts.
    - 8 districts have less than 1% of total industrial units.

- **Statement-3**
    - Schemes such as Investment Subsidy, Pavala Vaddi, and Power Cost Reimbursement are being used by units in Adilabad and Asifabad, the uptake is limited to a small number of beneficiaries. This shows that lack of incentive programs.

- Only few recent Investments in innovation and R&D centers.
- Increased power supply to interior districts.

5. Problem-Solving Approach

5.1 Data Analysis:

I will be analyzing the data of the past 6 months of data in incentives, MSME growth, and Raw material support. Find an opportunity for industrial growth in backward districts

5.2 Tools & Techniques:

To analyze this data for trends, and plot the analytic charts, I will use Python libraries, descriptive statistics, and pivot tables.

- Step 1: Data preprocessing.
- Step 2: Data analysis.
- Step 3: Prepare insights using data visualization techniques like a bar graph, histograms, sns (sea-born) plots, pie charts, and scatter plots to know relationships.

5.3 Data Collection & Artifacts:

The following data which I collected:

1. List of Factories in Telangana
NIC code, Division Description, Group Description, District, Mandal, Reg.No, Name of the factory, H.P., Men, Women, Total, Max. Empt., Ave Empt.

2. Industries
Districts, Industrial Units, Employees, Investment (Rs. Crore)

3. ts_industry_raw_material availability (6 months data)
district, mandal, village, rawmaterialtype, nameofunit, applicationfileddate

4. Telangana Industries TS-iPASS Data
columns: | district | mandal | village | unit_name | line_of_activity | sector | investment | number_of_employees | application_date | approval_date | progress_of_implementation | in_online | social_status |

5. TS_industry_msme (6 months data)

unit_name, ie_or_not, industry_category, district_name, mandal_name, employment, line_of_activity, investment, presentstatus, typeofindustry, export, typeofconnection

6. ts_industry_incentives (6 months data)
district, mandal, village, unitname, unitaddress, incentive_name

7. TGSPDCL Industrial consumption data
circle | division | subdivision | section | area | catdesc | catcode | totservices | billdservices | units | load |

5.4 Analytical Methods:

The following methods can be applied:

Regression Analysis (Linear/Multiple Regression)

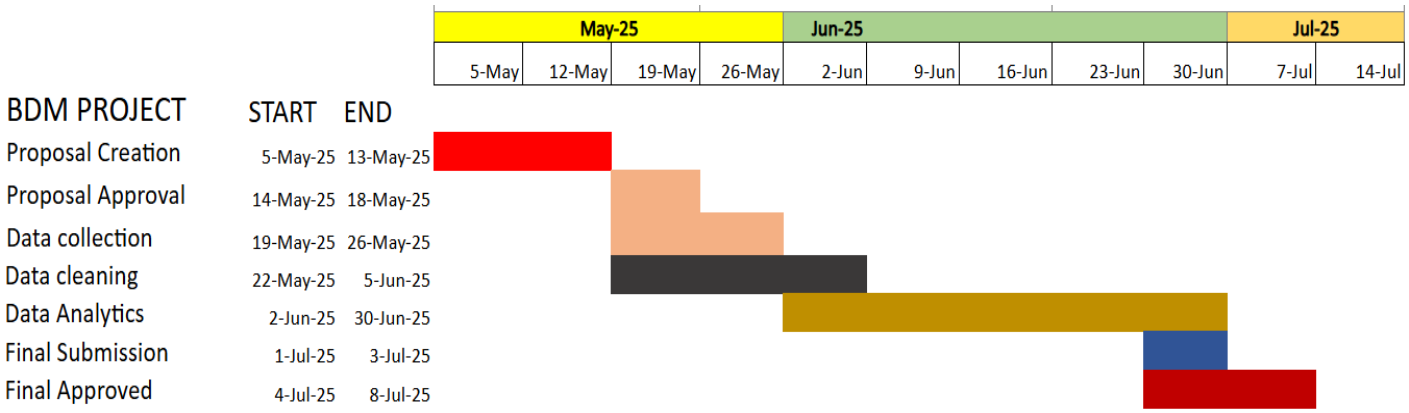
A) Forecasting export revenue: Based on past patterns, using a logistic regression model.
B) Forecasting the number of industry investments & applications in districts over time.
C) Forecasting the raw material applications in different districts over time.
D) Predicting investment for MSME units based on factors like employment, line of activity, and industry category.
E) Categorizing industries as small, medium, or large based on employment and investment.
F) Group industries by consumption of fuel type (coal vs. ethanol) and envision the distribution.

Time Series Analysis

A) Calculate employment trends in different industries and regions (districts).
B) How the employment grows in different industries for the next few years?
C) If suitable data is available, we can conduct Multiple Linear Regression that considers even the external factors for demand forecasting. This information can support the state and department in investment promotion & orientation. Also helps the entrepreneurs to invest.

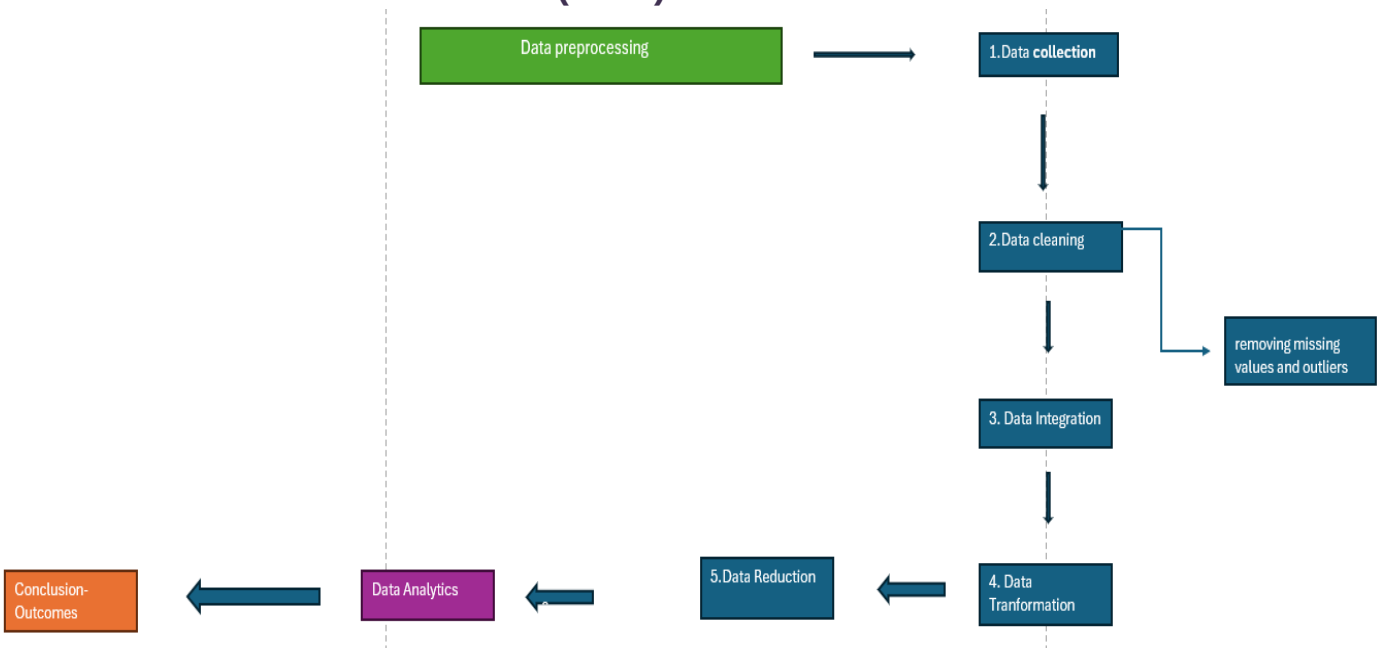
6. Expected Timeline

6.1 Gantt Chart



The gantt chart gives us idea for approximate time that can be taken to complete the project.

6.2 Work breakdown structure (WBT)



WBT helps us to know the sequential order and steps to do for analyzing the data.

7. Expected Outcome

Following are the envisioned outcomes based on the proposed analysis.

- Suggestions and opportunities for improvement in export revenue. Few districts which have high revenue but low exports. It helps them to identify the underlying problems and make strategic decisions to enhance their growth
- Opportunities for investments in interior districts of the state. This helps in expansion of market reach and boost their economic activity in less-developed areas
- Investment/industry size predictions. Like Industry categorization (Large, Medium, and Small scale) based on investments, and exports. This helps investors to identify sectors and make appropriate decisions for new setup.
- Power consumption (HT/LT) forecasting for industries and sectors. It helps to identify the areas with high tension and low tension. So that they can ensure adequate power supply to the industries.
- Industries can expand their market to global level by improving their market access and understanding the market trends