



TATA INSIGHTS AND QUANTS

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presents

NATIONAL ANALYTICS CHALLENGE 3.0

Problem Statement

GaLAXi is a success story of the new millennium. Founded by a group of XLRI alumni with varied expertise in manufacturing, supply chain, and consulting, the company saw an opportunity in the API market in India. The founders identified that the Indian API industry had the potential to grow and decided to invest in it. They started by buying some sick mills in rural India and turned them around, creating jobs and generating revenue for the local economy.

As the company grew, it implemented TPM & Lean techniques and leveraged innovative technologies and the power of early-stage Industry 4.0 to improve efficiency and reduce costs. The Chinese environment policy on the API market boom for India also helped the firm to grow. However, the outbreak of COVID-19 posed a significant challenge to the company. But the firm was able to make intelligent decisions that ultimately improved revenue.

As the company has achieved enough profit and revenue, it is mandated under the Indian CSR law to spend a certain percentage of its profits on social development activities. **The board of directors at GaLAXi has appointed a consultant to help the firm understand how best to spend its CSR funds.**

GaLAXi has always been at the forefront of implementing sustainable practices in its operations. **The company's top management is deeply committed to aligning its corporate social responsibility efforts with the United Nations' Sustainable Development Goals.** They see these global objectives as a roadmap for creating a better world and driving long-term business success. As a company, GaLAXi is committed to using its resources and expertise to drive progress toward the SDGs. To effectively achieve this, the company has passed over some internal workings that clearly illustrate the coherence between its CSR goals and SDG targets, as shown in Exhibit 2. For example, CSR's goal of promoting renewable energy aligns with SDG 7 (Affordable and Clean Energy), while its goal of improving education and skills development aligns with SDG 4 (Quality Education).

The consulting firm will be provided with a data dump compiled from various sources of repute. **The data dump contains multiple macroeconomic indicators of multiple regions, which are to be used for proposal creation. Each indicator value has been taken from multiple survey agencies.** The candidates will place themselves in the consultant's shoes to present to the board. **The consultant will be expected**

to do Exploratory Data Analysis, Regression to identify the significant independent variables, and propose to the board of GaLAXi the apportionment of CSR funds on specific CSR activities in specific cities.

The consultant will have to evaluate different CSR verticals and select the best one/s that aligns with the company's vision and mission in one or multiple cities of operation.

To qualify as CSR, the activities must fall under the following categories:

- Reduction in poverty
- Promotion of health care
- Promotion of education
- Promotion of gender equality
- Utilisation of clean energy

The problem must be approached in the following way:

- i. Perform Exploratory Data Analysis and provide critical insights & understandings at the surface level.
- ii. Every SDG is provided with a dependent indicator from the data (Exhibit 2; the candidates are encouraged to identify other dependent variables as well). Identify the independent variables that may affect the dependent variable for every SDG.
- iii. Perform Regression analysis to determine the most affecting/significant independent variables (identified from ii) for every SDG for every city. (Refrain from performing any prediction. Here, regression is used to identify significant variables only).
- iv. Using the solution from iii, propose different kinds of CSR initiatives (aligned with the SDG Goals) that can be performed in certain cities. Also, provide the apportionment of investment (in %) with a good rationale.

Submissions

- i. Presentation deck in the specified format named <Team Name>_PPT (mandatory). A maximum number of 9 slides must be used (including Title and Thank you slides).
- ii. Files containing Exploratory Data Analysis named <Team Name>_EDA (if required)
- iii. Files containing the Regression Analysis named <Team Name>_Regression (if required)
- iv. Zip all the files into a folder named <Team Name>_ChiSquare (mandatory)

Appendix

Exhibit 1: About GaLAXi

At GaLAXi, we believe in building a sustainable future for our community and the planet. Our vision is to be a leading global API provider that drives innovation and progress while minimizing our environmental footprint. We strive to be responsible corporate citizens who positively impact the communities in which we operate.

Our mission is to deliver high-quality API solutions that meet our customers' needs while promoting sustainable practices. We aim to achieve this by investing in innovative technologies, implementing lean manufacturing processes, and adhering to strict environmental standards. We are committed to investing in developing our employees and building strong partnerships with our suppliers and customers. Together, we can create a more sustainable future for all.

Exhibit 2: CSR actionable area vs. UN SDG Goals

CSR Deliverables	Related UN SDG Goal	Suggested Dependent Variables (not an exhaustive list)
No Poverty	SDG 1	SI.POV.GINI - Gini index SI.POV.MDIM.XQ - Multidimensional poverty index (scale 0-1)
Good Health & Well-Being	SDG 3	HD.HCI.OVRL - Human capital index (HCI) (scale 0-1)
Quality Education	SDG 4	SE.ADT.LITR.ZS - Literacy rate, adult total (% of people ages 15 and above) HD.HCI.OVRL - Human capital index (HCI) (scale 0-1)
Gender Equality	SDG 5	SL.TLF.CACT.FM.ZS - Ratio of female to male labor force participation rate (%) (modeled ILO estimate) SE.ENR.PRSC.FM.ZS - School enrollment, primary and secondary (gross), gender parity index (GPI)
Affordable & Clean Energy	SDG 7	EG.ELC.RNEW.ZS - Renewable electricity output (% of total electricity output)

Exhibit 3: About United Nations Sustainability Goals

The United Nations Sustainable Development Goals (UN SDGs) are a set of 17 global goals adopted by the United Nations in 2015 as part of the 2030 Agenda for Sustainable Development. These goals aim to end poverty, protect the planet, and ensure all people enjoy peace and prosperity by 2030. The SDGs are a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity.

The SDGs were created to replace the Millennium Development Goals (MDGs), which had been in place since 2000 and were set to expire in 2015. The SDGs are broader in scope than the MDGs. They include a more comprehensive range of issues, such as poverty, hunger, health, education, and gender equality, as well as environmental and economic problems.

The Indian Government has been actively working towards achieving the SDGs through various initiatives and schemes. The country has also set up a National Institution for Transforming India Aayog (NITI Aayog), a policy think tank of the Government of India, which has been tasked with planning the SDGs and their implementation in the country.

Overall, while India has made progress on several SDGs, there is still a long way to go to ensure that all people in India enjoy peace and prosperity by 2030. The Indian Government and private sector will have to work together to ensure that the country continues to progress on the SDGs and achieve them by the target date of 2030.