ISB CBA Batch 6 – Data Visualization Project Proposal

Group Name : Data crunchers

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With the DISE dataset provided, we explore and analyze the data and create 3 Tableau dashboards for the Human Resource Development Ministry and Education Ministry

**Data Munging/Data Wrangling**:

During our exploration of the data, we found a few challenges in the dataset, which had to be solved before the data is ready for a good model. Some of the challenges were

1. Joining data between teachers and enrollment on district, state, year.
2. Multiple Columns having the same data – count of students, teachers etc

We munged the data using Python from the input raw data into different sets which we could then join within Tableau.

**Target Audience**:

I). The key regulators of Government of India, Prime minister of India and HRD (Human Resource Development of India) Ministry.

II). Other Enthusiastic of Indian Education system to find the gaps.

**External Data**: Gross Enrolment Ratio Data published by UNICEF (<http://data.unicef.org/education/overview.html>).

**Dashboards**:

1. Performance of INDIA at Global level

The Global Enrolment Ratio(GER) provides an indication of where India, as a country stands within the global community. A comparative chart also indicates her performance within the Asia Region.

Motivation:

To first identify and recognize where India stands at a global level and accordingly germinate actions.

Data Source:

The Source of the data is from UNICEF, which is an external Data, link to which has been provided above.

Data Insights:

Bring out insights by comparing India with rest of the world and within the Asia Region.

Possible Charts:

Map

Bar Chart

Tree map

Line chart

Additional Information:

GER = number of actual students enrolled / number of potential students enrolled.

The gross enrolment ratio can be greater than 100% as a result of grade repetition and entry at ages younger or older than the typical age at that grade level.

1. Pupil to Teacher Ratio(PTR)

Pupil-teacher ratio is the average number of pupils per teacher in primary school. The ratio is often used as a proxy for class size, although various factors can lead to class size varying independently of student–teacher ratio (and vice versa).

By comparing the Pupil to Teacher Ratio(PTR) of India at country, region and state level., we try to bring out the insights across the breadth of India and try to answer few pertinent questions related to India’s education program.

Motivation:

As per Wikipedia, this ratio varies widely among countries and is one key indicator often used to perceive how effective the education is. It also serves as a great selling point to those choosing schools.

Source:

The Source of the data is from DISE School data.

Data Insights:

Insight into progress made on PTR KPI across India with drill through capability. Quick caution - when such figures are stated for regions, states, they often represent averages values and thus are vulnerable to skewing.

Possible Charts:

Map

Bar Chart

Tree map

Line chart

Time series

Additional Information:

The Right to Education Act mandates a pupil teacher ratio (PTR) of 30:1 for all Indian schools in order to ensure that children learn better in the classroom.

1. Drop-Out Ratio

As per Wikipedia, despite the high overall enrolment rate for primary education in India, among rural children of age 10, half could not read at a basic level, over 60% were unable to do division, and half dropped out by the age 14. The responsibility of enrolment and retention of school children lies with the state governments that have so far been unsuccessful in preventing students from leaving school halfway.

We attempt to enlighten the dropouts happening across the breadth of India.

Motivation:

The Prime Minister of India, speaking at the first meeting of the governing council of the national literacy mission, Sarva Shiksha Abhiyan, expressed concern over the failure of state governments to stem the "unacceptably high" dropout rates in primary and elementary schools. He reiterated the Centre's promise to provide funds but said state governments must match this with an equal determination to succeed in the mission.

Source:

The Source of the data is from DISE School data.

Data Insights:

Year 2012-2013 showed a high dropout percentage across India but was more profound in Central and East India. Through heat-maps, we can visualize with relative ease that states of Chhattisgarh and West Bengal saw huge dropout numbers in the districts of Raipur and North 24 Parganas respectively.

Possible Charts:

Bar Chart

Tree map

Line chart

Time series