**BI & Data Visualization Case Study**

**Please elaborate solution concept and short proposal to address a business goal described below.**

**Context description:**

UK Higher Education (HE) market has undergone a major change after students started paying for the tuition, which has replaced in large former government subventions. Students now paying considerable amount annually have become “Customers” of Universities who have to make sure they provide students with the best service possible for their money paid. This creates challenges for many institutions especially those with less application demand than offer. Data analysis, management of Application and Admission process and Student lifecycle along with capabilities of early identifications of Students at risk of leaving are key to manage University profitability.

Well-recognized university institution is going though the change process to find a new way of working with their with data to derive value and management-relevant information. BI department have been tasked to create a cornerstone of future centralized BI environment. State of the art visualization tools, data analytic and predictive models as well as interaction with data visualization on various devices are all important parts of the delivery.

The institution is looking for areas of improvement with existing processes based on strengths/weaknesses found in the data in different involved departments. Ways to attract new and relevant students are also crucial to university. Prospects pay a good attention to university ranking tables published by Guardian and Times every year. Positioning themselves as high as possible in the Higher Education Rankings locally and globally is a desired achievement.

HE Institution Ranking tables (League Tables), are created using non-public methodology based on the internal data Universities provide to statistical and government agencies (output attached). Input data is currently stored either in excels or collected in MySQL database. It covers Students/Staff Data, Admissions, Courses available

Other departments are using different platforms, which also need to be included in unified BI in the future

League tables evaluation dataset is available in .csv form. This data set needs to be presented in an appealing and interactive way to highlight key information and trends. Statistical Analysis needs to be done to discover which areas in the institution may have the most positive impact on ranking. This analysis will be used to influence University’s business strategy and predict next years’ rankings.

The institution is then looking at BI rollout across main departments. This will require to create:

* data consolidation layer containing data models accommodating objects and data currently stored in excels and SQL database. This layer will also have ETL capabilities to automate data loads and updates
* data visualization layer integrated with data analytics and prediction tools
* quick wins through covering the most important university areas such as Students Admissions (area responsible to attract right profile of prospect students and manage the process for the admission), Marketing and Communication and Research support

**Requested content of the case:**

Please provide a proposal (format of your choice) that will describe the solution covering two main areas:

* Data visualization (preferably using Tableau – trial) of selected league table to **show the situation** of one of the universities (e.g. Edinburgh).
* Data visualization in the tool of your choice. The audience is the most interested in **trends** of the university (pick one) against their competitors (neighbors in the table) and the most watched evaluation attributes are Student Satisfaction, Student / Staff ratio and Spend.
* Also please suggest **what tools and techniques you would use to build sophisticated data analytics** (and prediction models, voluntary) to drive the know how university can improve their position in the table.

**You will present the case study to the audience of 2-6 people and** **we'd like to find out**:

* What did you do with the data,
* How do you “read” and think about the data,
* What steps did you take,
* How did you approach the tool/technology,
* If you enriched or blended the data,
* If you were looking for additional info/context,
* What are your insights and recommendations?