**INFORMS CAP Certified Analytics Professional competencies**

**Business Problem Framing**

**(Ability to understand a business problem and determine whether the problem is suitable for an analytics solution)**

***Objective 1: For the open data source selected, define the problem to be addressed***

* The dataset contains information about past and current employees. We are interested in staff turnover levels and what factors can relate to workforce attrition so that we can improve retention for talented employees.

The dataset is coming from the IBM website, this is a fictional data set created by IBM data scientists.

(<https://community.watsonanalytics.com/wp-content/uploads/2015/03/WA_Fn-UseC_-HR-Employee-Attrition.xlsx>)

***Objective 2: Identify the stakeholders***

Stakeholders will have a vested interest in the outcome of our analysis and therefore are members of the company that are involved in part of the HR and recruitment process. The stakeholders we have identified are:

* Management
* HR Department
* Recruitment
* Finance

Outcomes of this analysis will help our stakeholders to see what factors can attribute to the loss of talented employees and make changes in the form of policies, structures etc. in order to reduce staff turnover.

***Objective 3: Determine whether the problem is suitable for an analytics solution***

One of the factors to success in an organisation is to attract and retain talented employees. Staff retention is a typical problem in all companies where HR departments deal with either too high or too low turnovers. HR departments have available data at their disposal to build models which can identify patterns and trends in staff attrition.

***Objective 4: Refine the statement of the problem with any constraints***

With accordance to GDPR and file retention policies, HR departments have only certain data available to them. This particular data set has no data collected from exit interviews, it should be noted that certain reasons given for leaving are external factors meaning outside influences such as emigration, distance, paternal influences.

***Objective 5: Define an initial set of business benefits***

There are a number of benefits to analysing factors to staff retention, below are just some of the benefits in this exercise:

* Reduction in recruitment costs
* Improved staff retention which reduces the time and costs associated with employee traning and employee handover
* Reduced reliance in hiring of contractors and temps to backfill roles, reduction in time for training and induction
* Less HR administration, improved employee engagement score and net promoter score

**Analytics Problem Framing**

**(Ability to reformulate a business problem into an analytics problem with a potential analytics solution)**

Objective 1: Reformulate problem statement as an analytics problem

* The company deals with high employee turnover and wishes to improve staff retention levels. Using available HR data we wish to build a model that helps to understand which factors influence staffing attrition. The outcomes will help the company to review the recruitment model and the use of temps and contractors to back fill the vacant roles

Objective 2: Develop ABT attributes and outputs

Objective 3: State the set of assumptions related to the problem

* We are making the assumption that all influences on staff attrition are related to the current data that we have. We are aware that some outside influences may have a factor on staff attrition and understand that not all correlating factors are a cause of employees leaving the company

Objective 4: Define the key metrics of success

* Lower staff turnover
* Increased retention metrics
* Improved staff knowledge metric
* Improved Employee Net Promoter score