Data Science :- Data Mining and Predictive Analytics (Knowledge discovery techniques) for service delivery optimization in the South African government

# Introduction

## Background

The South African government is experiencing a few challenges and the challenges just to mention a few include:

1. Water Shortage (Draught)
2. Energy Crisis (Load Shedding)
3. Skills Shortage
4. Crime
5. Matric Results

The researcher would like to investigate the possibility of using Data Science and Predictive Analytics as tools to enable the government to attend to such issues before they become problems. To allow the government to forecast based on the knowledge discovered through predictive analysis and address issues before they develop to be come a crisis that sometimes leads to panic within society.

Herodotou, et al.,(2011) states that Big Data is becoming a key success tool in Government, in science and the private sector. He also provides examples of big data in use, tellescopes in the field of astronoly, particle accellerators in physics, social media for advertising and we can also talk about mobile phones nowadays which are generating big amounts of data on daily basis. All this tools put numerious amounts of data into our data bases accessible to data scientists,data analysts and reseachers. This professionals are able to discover significant brakthoughs and knowledge through this computational analysis of the big data.

This is the Analysis that can help the South African government deal with crisis and problems before they become problems and plan ahead to prevent crisis or to minimize its impact.

## 1.2 Problem Statement

## 1.3 Research Questions

## 1.4 Research Objectives

## Delineation and limitations

## Underlying Assumptions

## 1.7 Significance of the Study

## Brief Chapter Overviews

## References

# References

Herodotou, H., Lim, H., Luo, G., Borisov, N., Dong, L., Cetin, F. B., & Babu, S. (2011). Starfish: A Selftuning System for Big Data Analytics. *5th Biennial Conference on Innovative Data Systems Research (CIDR ’11)* (pp. 1-2). Asilomar, California, USA.: Creative Commons Attribution License.