



BITS Pilani
Pilani Campus

Organizational Behavior Analysis using Game Theory

SIVAKUMAR MAHALINGAM

2016HT13407



What Is Organizational Behavior (OB)?

- The study of human behavior in organizational settings
- OB research can be categorized in at least three ways
 - individuals in organizations (micro-level)
 - work groups (meso-level)
 - how organizations behave (macro-level)



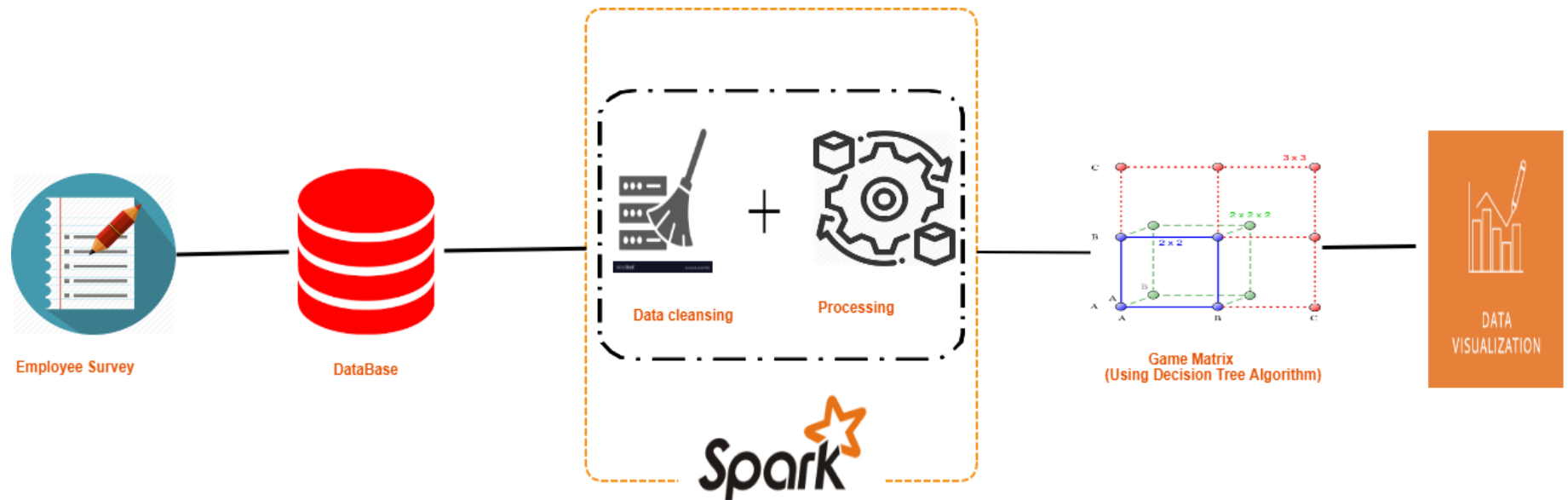
Why we need to research OB?

- The relationship between an employer and its employees is not completely researched and understood
- Motivates the employees
- It help to improve the relationship, satisfaction level and ease the functioning
- Predict and Control the human behavior
- Effective utilization of human resources
- Increases productivity

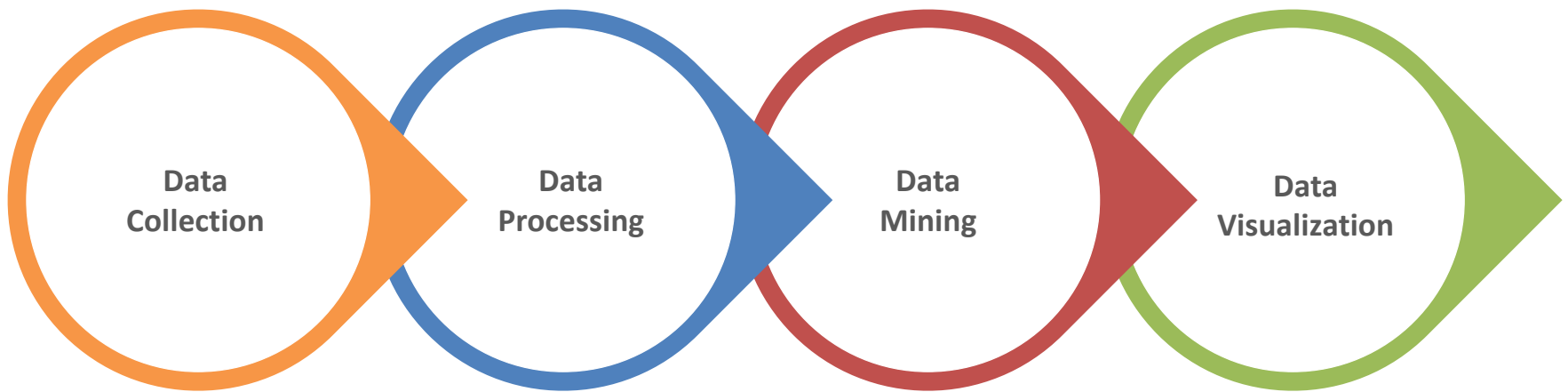
Research Objectives

- To provide analysis of what makes employer/employee to enhance and sustain
- To provide more enriched insights into attributes for measuring connection between employer and employee

Project Overview



Research Methodology



Data Collection

- A survey created to get feedback from employees and store it in a RDBMS
- Implemented in a webform backed with database
- Employee data residing in the database is used along with the survey

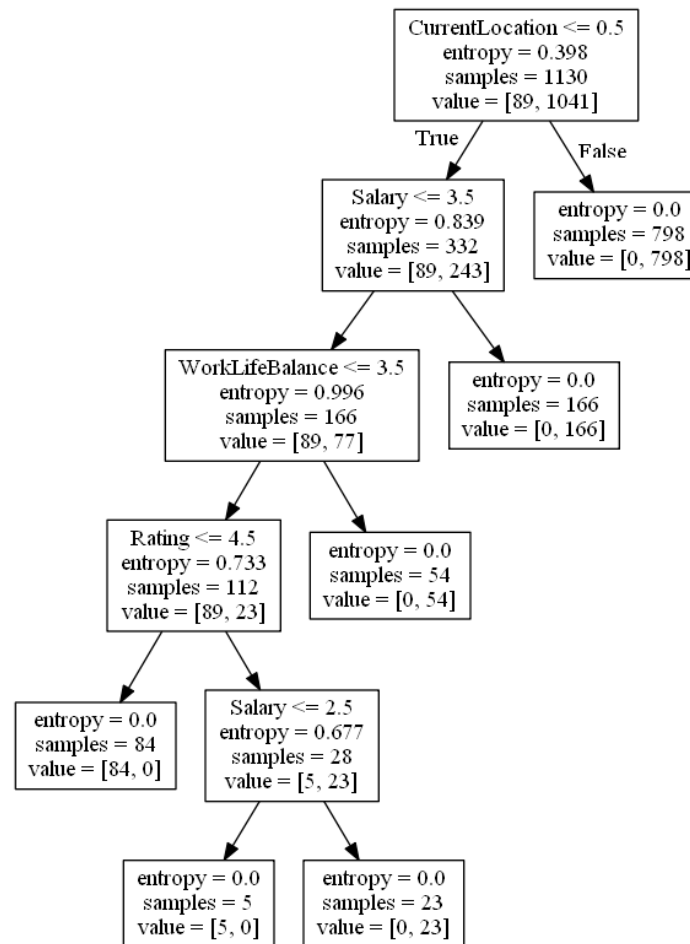
Data Processing

- Data collected will be exported to a csv file
- Computation of Employee and Employer satisfaction level
- Removal of bad records
- Achieved using Apache Spark

Data Mining

- Data collected will be analyzed using a decision tree algorithm
- Historic data is used for training and testing
- Current year data is used to predict the employee/employer behavior – payoff variables
- Payoff variables:
 - Enhance - If employee is the satisfied with the employer or vice versa
 - Sustain - If employee is not the satisfied with the employer or vice versa
- Sequential and Cooperative game
 - Sequential: as employees are aware of employer's action and vice versa
 - Cooperative: as they adopt a particular strategy through negotiation/agreement

Data Mining



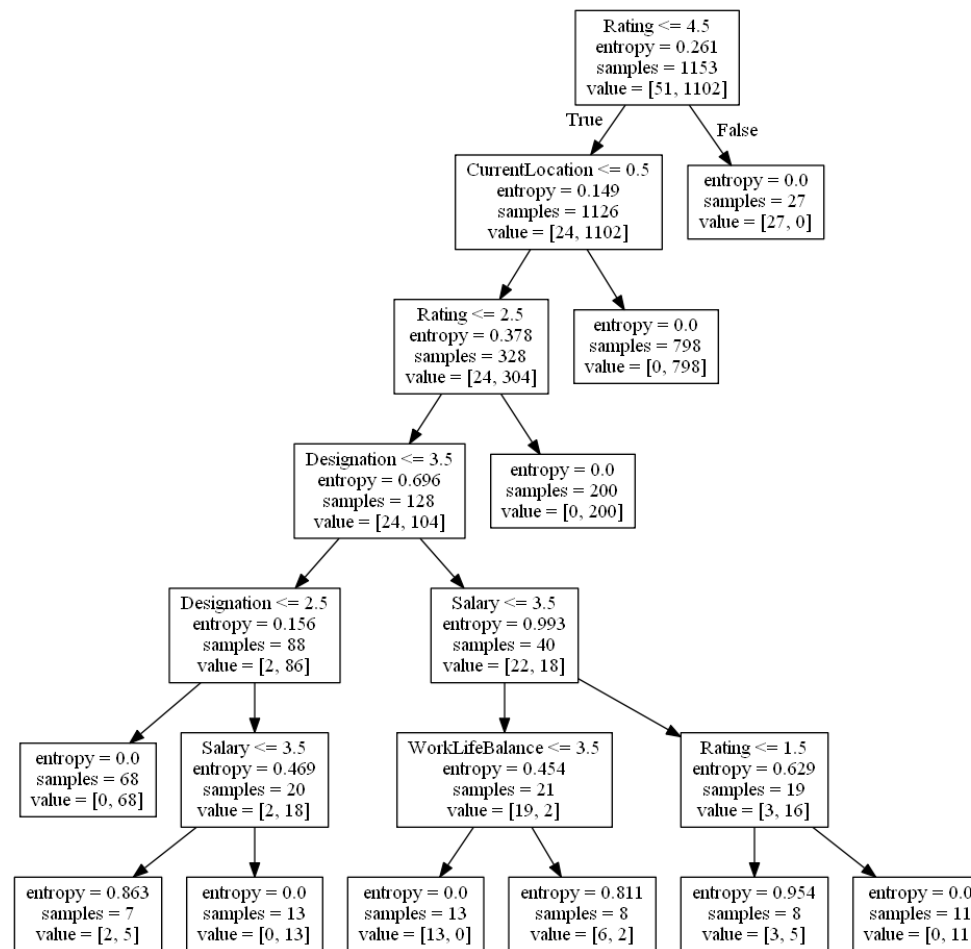
Decision Tree - Employee

Data Mining

innovate

achieve

lead



Data Visualization

- Generated payoff variables will be visualized as a Game/Payoff matrix
- Four quadrants generated through the combination of these variable
- Each quadrant will navigate to reports which give further insight
- Implemented using Tableau

Data Visualization

Navigation

Employer

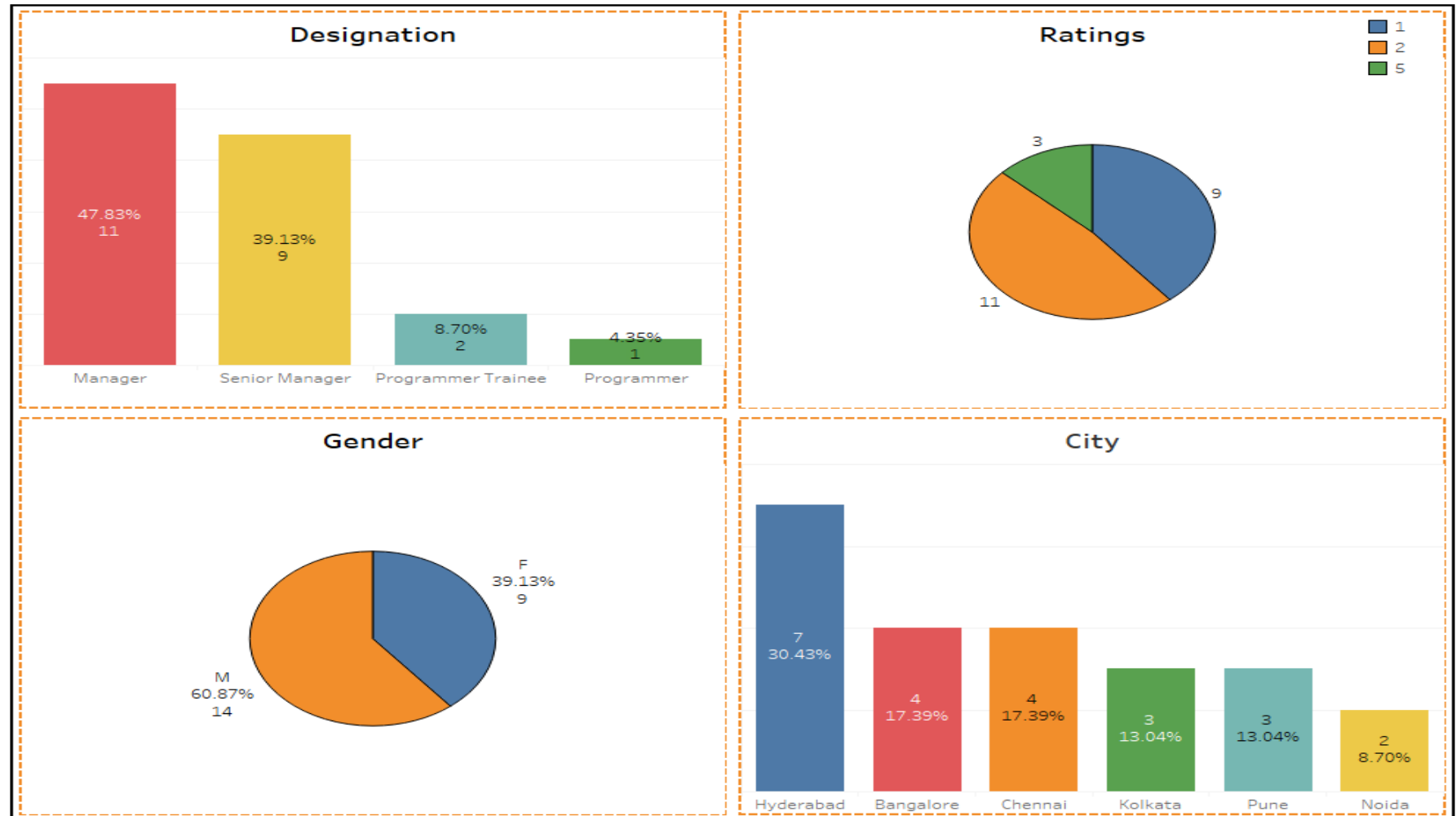
Employee

Enhance

Sustain

Enhance	1,493	87
Sustain	216	23

Data Visualization



Research Tools Used



How this projects improves OB?

- Reads the mind of employees
- Game matrix predicts employee/employer behavioral pattern
- Reduces attrition rate
- Helps to build optimal employee benefit and engagement plan
- Increases ROI(Return of Investment), trust and growth

Directions for future work

- Include additional historical data to get build a more accurate predictive modeling system and identifies trend
- Can be applied for students, military and other applicable sectors

Thank You