"SURVEY ON HR ANALYTICS USING POWER BI AND MACHINE LEARNING"

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ABSTRACT

A HR dashboard is an advanced analytics tool that displays important HR metrics using interactive data visualizations. It helps the human resources department to improve recruiting processes, optimize the workplace management as well as to monitor and enhance the overall employee performance. HR Analytics applies various analytic tools and generates reports. It provides a better insight to the various issues related to the HR activities. The aim in this project is to present the history of the organization how many employee working, gender and salary structure and performance using machine learning algorithm and predicts promotion chances. It also predicts the attrition rate of an organization. This visualization shows statical information on a dashboard. Human resource HR analytics have the potential to bring great value to the decision making the ability of HR leaders on human and organizational capital. Human resource analytics are useful for improving employee performance and getting an optimal return on investment on its human capital.

Keywords: *Machine Learning, Power BI, Data Visualization, Attrition rate prediction, Due for promotion.*

INTRODUCTION

An HR analytics is a business intelligence tool that allows Human Resource teams to track, analyse and report on HR KPIs. Modern, interactive dashboards leverage an HR analytics platform which makes it easy to combine data from all systems and to deeply explore this data directly within the dashboard. This way, HR teams can quickly find insights that will improve recruiting, optimize workplace management and enhance employee performance.

Employee performance dashboards help HR teams and business managers understand the effectiveness, satisfaction and goal progress of their workforce. To analyse compensation vs. performance this project shows the number of active employees by rating level and salary by employee rating.

Employees are the most important asset within an organization. This HR dashboard project shows an HR leader training program metrics such as completion percentage, hours and cost. It takes the employee's data set and based on this dataset it predicts the attrition rate and due for promotion using Random Forest Algorithm.

HR executives strive to maintain a diverse and balanced workforce, so they need to fully understand the demographic characteristics of their employees. HR dashboard analysis allows them to deeply analyse data on age, gender, location, department and ethnic groups. Using an interactive dashboard, HR professionals can dig deeper into demographic data and analyse one variable, such as ethnic diversity.

Managing and analysing such vast amounts of HR data manually is time consuming and prone to mistakes. This is where Machine Learning comes in. These decision-making models, when provided with the data and

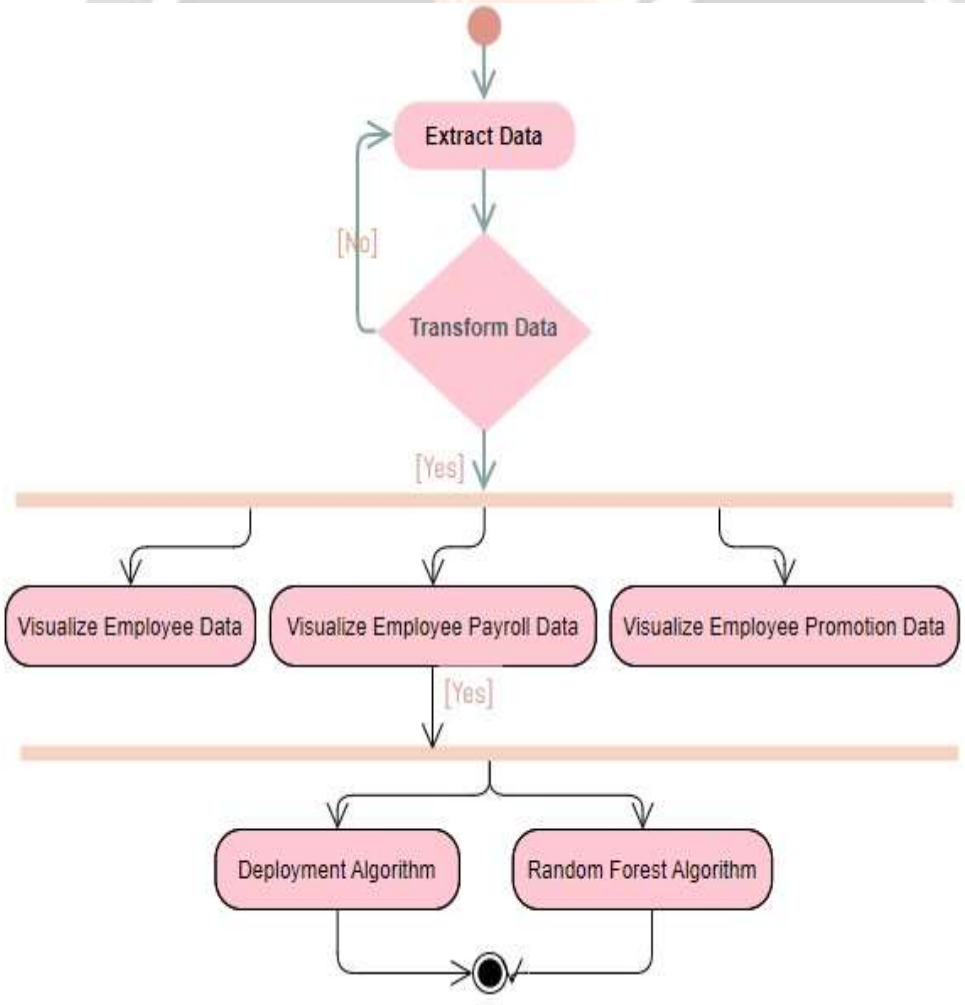
information, can deliver excellent error-free decisions, catch important trends in the data and provide actionable insights, which can be used to help propel the growth of the organization.

LITERATURE SURVEY

A distinguishing feature of strategic human resource management research is an emphasis on human resource (HR) systems, rather than individual HR practices as a driver of individual and organizational performance. Yet, there remains a lack of agreement regarding what these systems are, which practices comprise these systems, how these systems operate, and how they should be studied. Our goal in this paper is to take a step toward identifying and addressing several conceptual and methodological issues regarding HR systems. Conceptually, we argue that HR systems should be targeted toward some strategic objective and operate by influencing (1) employee knowledge, skills, and abilities, (2) employee motivation and effort, and (3) opportunities for employees to contribute. Methodologically we explore issues related to the relationships among policies and practices, sampling issue, identifying the appropriate referent group (s), and who should serve as key informants for HR system studies.

PROPOSED SYSTEM

Activity diagram:



Visualizations display insights that have been discovered in the data. A Power BI report might have a single page with one visual or it might have pages full of visuals. In the Power BI service, visuals can be pinned from reports to dashboards. Used visualizations: Bar chart and column chart, Tales, Slicers, Cards, Filter.

The Strategy is to display maximum details insights that would help HR manager to determine the best and worst performing employees and their distribution across the departments. Also to find which department needs more manpower so that the works follows smoothly despite retrenching the existing employees.

Making use of different KPI's to get detail insights that would not to able find using tradition data watching.

PROPOSED RESEARCH METHODOLOGY

Simple random sampling

In this case each individual is chosen entirely by chance and each member of the population has an equal chance, or probability, of being selected. As with all probability sampling methods, simple random sampling allows the sampling error to be calculated and reduces selection bias. A specific advantage is that it is the most straightforward method of probability sampling. A disadvantage of simple random sampling is that you may not select enough individuals with your characteristic of T interest especially if that characteristic is uncommon.

Research Design

As we know, the research design refers to the overall strategy that you choose to integrate the different components of the study in a coherent and logical way, thereby, ensuring you will effectively address the research problem; it constitutes the blueprint for the collection, measurement, and analysis of data.

Descriptive Research Design

Descriptive research seeks to describe the current status of Tan identified variable. These research projects are designed to provide systematic information about a phenomenon. The researcher does not usually begin with a hypothesis, but is likely to develop one after collecting data. The analysis and synthesis of T the data provide the test of the hypothesis.

Data Collection Technique

I will include data collection technique a s interviews, observations (direct and participant), questionnaires, past records, and relevant documents. The use of multiple data collection techniques and sources strengthens the credibility of T outcomes and enables different interpretations and meanings to be included in data analysis.

FUTURE SCOPE

HR Analytics has become the imperative instrument for using existing data for systematically reporting to high end predictive modelling to predict the attrition rate and promotions in an organisation. Human resources are getting into the limelight with HR analytics.

CONCLUSION

The Project provides the quick insights on People data like People data, hiring, Improves talent acquisition, attrition rate, overall performance of an employee and due for promotion. HR analytics is an essential part of data management and its implementation can yield positive returns for any organization. HR analytics enables strategic decision- making that can drive business solutions through improving: Productivity. In this research paper, the model shows the real time human resource processes, gathering related data and then using this data to make informed decisions to manage employees and reach business goals.

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