

An Overview Of Organizational Growth By Human Resource Based On Knowledge Management

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Abstract

The quality of an organization is the prime pillar and it stands over the legs of the standard employees. There are so many factors which contributes the growth and development of an organization. The purpose of Human Resource Management is measuring employee performance and engagement, studying workforce collaboration patterns, analyzing employee churn and turnover and modeling employee lifetime value. Human resource predictive analytics is an evolving application field of analytics for HRM purposes. The HR metrics helps the organization to consider the promotional factors. In this survey paper, we would like to put an overview about various research papers to analyze their findings for further exploration.

Index Terms - HRM, Performance Evaluation, Turnover

I. INTRODUCTION

The Human Resource (HR) processes more dynamic and complex in many times. The great challenges met by the human resource managers have long-term influence on company development and have often problems to manage their performance. The tremendous change in new technology, modern communication system helps in analyzing human resource process. Human resource discipline is therefore investigating influence of usage information and communications technology, which allows not only faster acquirement of information, but offers extra help at decision making on human resource field. The fundamental element of HR is the acquirement of knowledge. Information management has recently become one of the priority tasks of HR management, especially the integration of information into a whole and the subsequent creation of new knowledge. Data mining techniques [1] attract much industrial attention since they enable development of powerful tools to extract knowledge [2] from data.

The human resource management is one of the core competences for construction companies to maintain their competitive advantages in the knowledge economy. In order to find the right people to do the right things for the right jobs, developing effective selection approaches is very critical. Their work implies that data mining [3] techniques can help team members in value management workshops to understand their problems more clearly and to generate more ideas for current problems.

Performance Evaluation of an employee is derived as a systematic and general constant process. It evaluate an individual employee's job performance and productivity in relation to certain pre-defined criteria and organizational objectives and also the aspects of employees are considered such as strength and weakness, organizational citizenship behavior, potential for future improvements, accomplishments, etc.

The idea proposed in various surveys is to analyse number of parameters for the derivation of performance prediction indicators needed for assessments, monitoring and evaluation. The analysis [4] depends up on so many reasons like encompassing organizational feedback, student's feedback, institutional support in terms of finance, administration, research activity, etc.

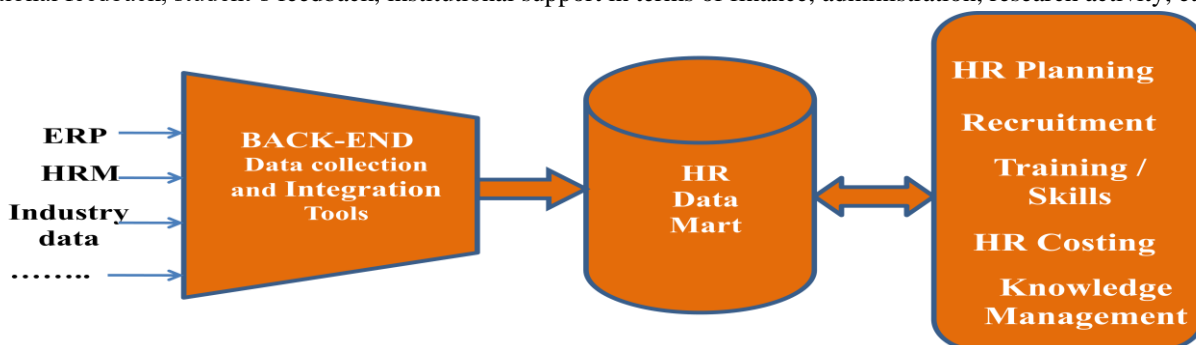


Figure 1: Human Resource management Activities

The Fig.1 shows the different activities of Human Resource Management using business intelligence in every organization. The various management activities of HRM enhance not only the organizations performance but also the employee's standard. The HRM tools supports to discover the knowledge, which will make useful benefits to the employees. It can also suggest the activities and resources that they can use based on the insights from the past and improve the various levels of management like Resource Allocation to Knowledge Management.

II. RELATED WORKS

The modern organizations center of attention is on top of accomplishment, a prominent level of competitive advantage in a global business market. Towards to achieve that goal, nowadays organizations try to take advantage of globally accelerating changes and the new concepts in business and IT. One of new concepts that have been adopted in organizations is Business intelligence. The different related works of various authors were collected and analyzed.

Anuj Srivastava and Parikshit Joshi found that an organization became dynamic and growth oriented if their people are dynamic and proactive. In their work they emphasize proper selection of people and by nurturing their dynamism and other competency level of the individual, dynamic and proactive. It highly focused about that it is essential to adopt the change in the environment and also constantly prepare their employees to meet the challenges will make a positive impact on the organization.

P.Jyothi and V.Sree Jyothi analysed that the critical HR challenges in Indian Banking Sector are hiring right staff, retaining talent, cutting staff, staff development, salary inflation, external threats, etc. The other challenges [5] are changing working conditions, re-skilling, compensation etc. Coping with the massive technology adoption programmed change management from employees" as well as customers" perspectives.

The research survey results shows that the HR challenges in Social Sector of India are, recruiting qualified performer (70%) is indicated as the biggest human resource challenge. Many socents are growing, and therefore, are on the constant lookout for qualified employees. Given that socents are perceived to be more risky and less well paying compared to traditional organizations, they tend to struggle with attracting the best talent. This challenge is further emphasized challenges indicate that so cents possibly struggle to create a strong layer of middle managers.

Ernst & Young initiated that the key HR challenges in the Indian Oil and gas Sector are Aging Workforce leading to difficulty in replenish talent loss due to heavy retirement in the coming years. A study of total attrition [6] by level reveals that the upstream oil and gas sector is faced with significant attrition at the middle-management level, while other subsectors are facing this challenge at junior-management levels. Middle management attrition in the E&P sector is due to various international opportunities available for employees with more than 10 years of experience. The lack of career [6] opportunities and extreme working conditions are other primary reasons for employee attrition.

Praveen Kumar Shrivastava established that the tourism industry lacks competent people and one of the reason behind that is most of the people joining the industry are simply graduate or under graduate not having any specific degree or diploma in tourism course. Moreover the industry does not have any specific recruitment policy regarding recruitment of specialized people in the industry. Moreover most of the respondents agree to the fact that the salary package is very less and the HRD practices are missing in most of the organization. It has also been studied that the tourism courses are not promoted well and lacks scalability and also the courses taught by university lack removability.

III. ROLE OF HUMAN RESORUCE MANAGEMENT

3.1 Academic Performances

Many Organizations use performance appraisal system to evaluate the teacher's performance. The teacher's performance is very essential [7] to the students and as well as college management, in which usually involves crisp and uncertain values to evaluate teacher's performance. Here, we proposed to evaluate the performance of teachers on the root of dissimilar factors using data mining [8] techniques, we can consider some of most relevant factors, and develop rules using data mining techniques. Evaluating of the performance of a teacher is necessary due to many reasons for betterment of students and teachers:

- Improvement of the Student's Performance
- Monitoring of the students
- Betterment of the students
- Increase motivation to further improve performance
- Increase self respect and ambition

3.2 Ministry of Human Resource Development (MHRD)

Assessment of teacher's performance in higher education system is very important. The MHRD has planned massive reforms aimed at bringing flexibility, transparency, and quality into the Indian Education system. The MHRD has also invented the private sector to contribute the growth of education system in the country while emphasizing upon the fact "profit" and "surplus" needed to be delineated distinctly. Recently, the MHRD works through two departments:

- Department of School Education & Literacy
- Department of Higher Education

The Dept of School Education has its eyes set on the "Universalisation of Education" and making better citizens out of our young team. For this, various new schemes and initiatives are taken up regularly and recently, those schemes and initiatives have also started paying dividends in the form of growing enrolment in schools. On the other hand, the Dept of Higher Education is occupied in bringing the world class chances on higher education and research to the country, so that the Indian students are not finding any deficient while facing an international stage. For this, the Government has launched joint endeavors and signed Memorandum of Understanding (MOU) to help the Indian student benefit from the world opinion.

3.3 Educational Data Mining

The Data mining endow with many useful techniques and methods for various fields including education. The research in Educational field [9] is rapidly increasing due to the massive amount of students data which can be used to discover valuable pattern pertaining students learning behavior. Nowadays, the Institutions of Higher Learning (IHL) data base contains so much information about their student's .Data mining is the suitable techniques in managing the IHL data to discover new information and knowledge about students. There are several studies conducted using students data comes from IHL, and these study become the main guideline [9] of the research. All of these studies conducted to find the relationship between independent parameters and dependent parameters selected in their studies.

3.4 Information Technology (IT) Sector

The most emerging Information Technology (IT) is accepted as a vital infrastructure in many of the organizations. IT is also an effectual provider to organizational presentation. It is often argued that success of the IT induction is attributed to consistent delivery, systems usability and strategy. This finding suggests that HR in an organization plays a major role. Information Systems (IS) research has also accepted the significance of HR in the IT achievement process. Here, the IT achievement process is considered as a theatrical process, and the pressure is on HR assistance. Further a skeleton is discussed and structural equation modeling (SEM) is used to realize the organizational inclination.

IV. HUMAN RESOURCE MANAGEMENT (HRM) METHODOLOGY

In Fig.2 which elucidates that Methodology of Human Resource Management containing every employee's collecting the data, from that data we can identify the suitable case, and then we apply the various data mining techniques. Then we analysis the data for the improvement of each employee's performance and finally we predict the collections of information's of employees.

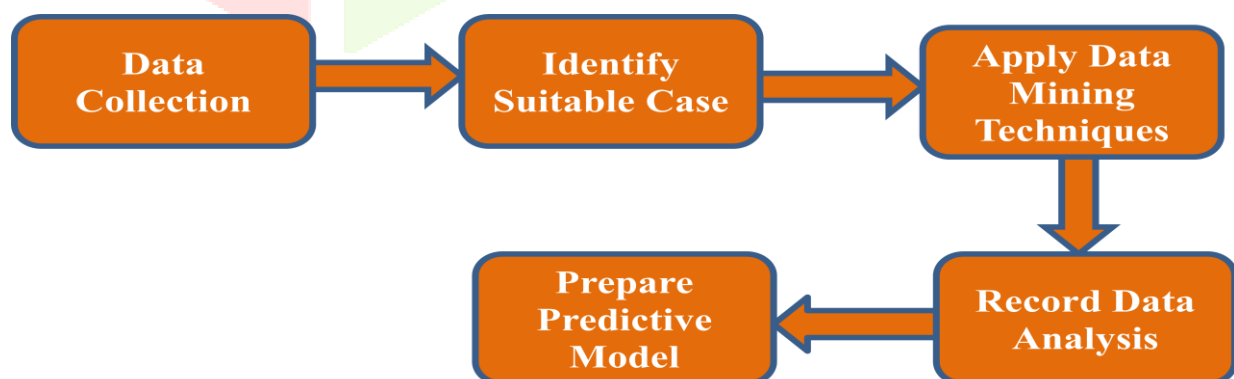


Figure 2: Methodology of HRM

The development of the research followed the various sectors including Telecommunication, Educational institutions, Healthcare Systems, Multinational Companies, and so on.

V. DATA MINING APPROACHES IN HRM

Human Resource Management (HRM) is a new stream in the data mining research field. It uses many approaches such as decision tree, rule induction, neural networks, k-nearest neighbor, naïve Bayesian. By applying these methods, many kinds of knowledge can be set up such as association rules, classifications and clustering.

5.1 Classification

Classification is generally assigned [10] data mining strategy, which utilizes an arrangement of pre classified attributes to build up a model that can group the population of records at large. This approach regularly employs decision tree or neural network based classification algorithms. The data classification process involves employee's performance and classification. In HRM, data of employees are analyzed by algorithm. In classification test data are used to estimate the accuracy of the rules. Classification is the most natural and best data mining procedure used to classify and anticipate values. Human Resource Management (HRM) is no exemption to this fact, hence it can be used to analyze collected employees' information through a survey, and provide classifications based on the collected data to predict and classify the employees' performance in their future improvement.

5.1.1 Decision Trees

Decision tree techniques are easy to understand and implement. It allows the addition of new possible stages. It helps to find worst, best and expected values for different stages. It can be combined with other decision tree techniques to generate rules easily. This technique has many disadvantages as the number of analyzing data increases like over fitting. It does not handle numeric data and pruning may become unmanageable. Decision trees can be won to figure Productivity improvement is a matter of great concern in numerous organizations – private or public. Organizations at all levels are trying to ensure that their departments and units are doing more with less. Employee performance appraisal system can be considered as a tool that can measure and suggest how to improve productivity.

5.1.2 Bayesian Classifier

Naive Bayes technique is simple and easy to understand, requires a small amount of analyzing data to estimate the parameters, Fast Space efficient, Insensitive to irrelevant features and handles both real and discrete data well. Patterns that are discovered by Bayesian Classifier from Human Resource data can be used to enhance decision making in terms of finding employee at risk, decreasing employee's performance, increasing employees' success and improving work efficiency of employees [10].

5.1.3 Neural Networks

Neural network is another preferred technique used in Human Resource data mining. The advantage of neural network is that it has the capability to spot all possible interactions between predictor variables. It includes algorithm like Multilayer Perception. This technique is a generalized method, works well with noise. But it does not scale well from the small research system to large real-time system. It is possible to model an artificial neural network that can be used to predict a candidate's performance based on some given HR [11] data for a given employee.

5.1.4 Support Vector Machine

A powerful Support Vector Machine (SVM) which was first proposed by Vapnik and it has a great strength of interest in the machine learning research community. Several past performances have described that the SVM generally has a proficient in delivering the high accuracy in classification when compared to other data classification algorithms. There are several advantages of SVM such as it uses greatest marginal hyper plane for classifying linearly separable data. In Human Resource Data Mining SVM Classifier can provide valuable information to every department employee members in making decisions.

5.2 Clustering

In clustering, the goal is to find data points that naturally group together, splitting the full data set into a set of clusters. Clustering is especially beneficial in cases where the most common categories within the data set are not known in advance. Clusters can be created at several different possible grain-sizes: such as, various level of employees based on their performance such as low, medium and high to be clustered together to examine similarities and differences between departments, or employee measures could be clustered together to investigate patterns of behavior. Clustering algorithms can either start with no earlier hypotheses about clusters in the data like the k-means algorithm with randomized restart, or start from a specific hypothesis, possibly generated in earlier research with a distinct data set using the Expectation Maximization algorithm to iterate towards a cluster hypothesis for the new data set [10].

5.3 Prediction

In prediction, the goal is to build up [12] a model which can gather a single aspect of the data known as predicted variable from some blend of different aspects of the information called predictor factors. This is a common advent in programs of research that attempt to predict employee performance outcomes without predicting intermediary or mediating components first. In a second type of handling, prediction approaches are applied in order to expect what the output value would be in contexts where it is not desirable to directly obtain a label for that construct.

Baker et al., developed a prediction model by using observational methods to label a small data set, building up an expectation show utilizing consequently gathered information from co operations amongst improvements and the product for indicator

factors, and afterward approving the model's exactness when summed up to extra performances and settings.. They were then able to learn their research question in the context of the full data set. Commonly, there are three types of prediction: classification, regression, and density estimation. In classification, the anticipated variable is a binary or categorical variable. In regression, the anticipated variable is a consistent variable. Various chosen regression procedures in Human Resource data mining comprised linear regression, neural networks, and support vector machine regression.

VI. CONCLUSION

The research and development activities on HR grows in different dimension to bring the best among the employees to promote their organization. Data mining and predictive analytics are much-needed techniques for decision making for human resource management in organizations. The application of modern techniques provided better solutions to the existing limitations. The ordering of components in the designed framework was well chosen to complement existing system that relies on data warehouse and mining. The framework if fully implemented will enhance decision-making capability of HR. From the literature study, most researchers have discussed HR applications from different categories.

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