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Efficacy of Data Mining Techniques in Talent Management of HRIS Applications With Special Reference To Medium Scale Textile Industries

Dr. C. Y. S. Krishna 7-4-76/2, venkateswara colony, Mahabubnagar – 509001. A.P.

Dr. M. Venkatasubba Reddy VISIT, Shadhnagar, Mahabubnagar . A.P.

ABSTRACT

Industries plunged into vibrant and rapid pace with several troupes entrance. Globalization of economy drives companies rethink strategies, any firm and highly dependent on applications, its utilization to result fair and consistent decisions for return on investment. Pragmatically, Human Resource decision practices depend on various factors pinpointing talent management a big challenge. The conundrums of Human Resource data functioning paved from rarity to quantifiable data. This empirical study is on efficacy of data mining techniques in talent management of Human Resource applications embedded with Artificial Intelligent ingredients potentially using techniques for performance in procuring asset to organization.

KEYWORDS: Techniques, Applications, Computer Information Systems.

Introduction

In present era scenarios are done in the industry which has potential implications on Data Mining. The Information Communication Technologies in firm is utilized for generating, storing and analyzing mass produced data not only for operational purposes but also enabling strategic decisions to sustain in competitiveness. Data Mining facilitates and reduces information overload, redundancy, easy and friendly usage from the huge dataset collected by organizations. The challenges for personnel are to manage and retain talent assets, especially to ensure the right person for the right job at the right time. The applications embedded with AI techniques can solve unstructured and indistinct decision making problems.

Data Mining is one of Artificial Intelligence technology developed for exploration and analysis in large quantities of data to discover meaningful patterns and rules. In reality, current Human Resource decisions depend on various factors such as experience, knowledge, preference and judgment. In connected to this talent management is to plot existing, retrieve them as pivot asset for challenges. These challenges can be managed using Data Mining Techniques in order to predict the suitable talent based on their performance.

Intelligence Techniques In Hr Application

The application is a part of Decision Support System of Management Information Systems of firm used in decision making process. The advancement of technology and fast innovations in web particular in AI technologies has contribute to new Information System and application which are commonly called as Intelligent Decision Support System (IDSS). The evolution in information systems sprouted for effectiveness in decision making is Intelligent Decision Support System. IDSS is developed for integration of modeling tools and human knowledge. The

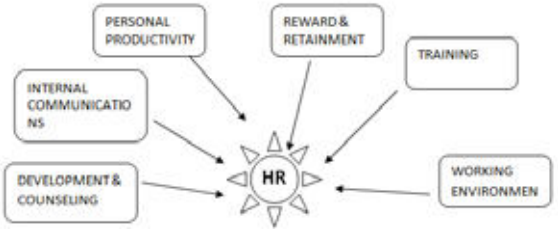

Fig.1 HR ACTIVITIES OF A FIRM

tools born with great effort of innovations for helping organizations in decision making in times of uncertainty, inconsistent, inaccurate and unpredicted decisions exists and where decisions involving risk must be made using human judgment and preferences. In Human Resource Management there are several tasks that can be solved using this approach, they are procurement, recruitment, and identifying, matching people to jobs, career planning, training needs and current employee performance. Most researchers agree that the purpose of IDSSs is to support the solution of a non-structured management and enable knowledge processing with communication capabilities. Besides that, IDSS can slot in definite domain knowledge and perform some types of intelligent behaviors, such as learning and reasoning, in order to support decision making processes.Apparent incorporate domain knowledge and intelligent capabilities in decision support system has been identified in various forms and models by many researchers. Incorporating knowledge component (through case base, rule base, knowledge acquisition subsystem or domain models) and intelligent component (through an intelligent advisory system, intelligent supervisor or model solver) can produce the intelligent applications. Intelligent behaviors are presented by an intelligent system related to the abilities of gathering and incorporating domain knowledge, learning from the acquired knowledge, reasoning about such knowledge and when enquired, being able to issue recommendations and justify outcomes.

DM - Technique as a Catalyst of Talent Management in Hr Applications

In speed of thought days dynamics of HR function paved to enhance productivity, enlightened customer service, maximization of profitability and overall growth. In order to get link, management must not only face current issues of human resource management but also deal with future challenges to HRM effectively. Aspect of Human Resource Management in now a day is selection of technology and implementation. The outcomes of technology in HRM should be integrated with a unit vision which produces easily to deliver information from top to bottom workers in an organization, convenient to communicate with employees and it is easier for personnel to formulate managerial decisions.

For these reasons, HR decision application utilized to archive simultaneously achieving goals in all levels of tasks. The potentialities of HR applications are increased productivity, consistent performance and institutionalized expertise which are among the system capabilities embedded into specific programs (Hooper., 1998). Computer application a such as DSS that interfaces with DM tool can help executives to retrieve, summarize and analyze decisions related data to make wiser and more informed decisions. Data mining are generally categorized as clustering, association, classification and prediction.

In the organization, talent management is crucial way of approaching HR functions. Talent is considered as any individual who has the capability to make a significant difference to the current and future be defined as an outcome to ensure the right person is in the right job; process to ensure leadership continuity in key positions and encourage individual advancement; and decision to manage supply demand and flow of talent through human capital.

There are several ways to identify talent in an organization and one of the methods is from employee performance records. The previous performance records can be used to product the right talent for the right job. The record can be analyze using Data Mining techniques in order to find out the patterns and rules related to employee performance. The generated rules and patterns can perform a prediction model related to talent performance.

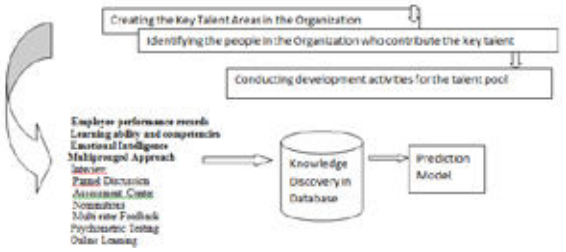

Fig.1. TALENT MANAGEMENT PROCESS

The techniques Clustering process of grouping a set of physical or abstract objects into classes of similar objects of HR mass data for maximizing the intra class similarity. For instance, List of employees has similar characteristics and group of top performers. Association technique analysis finds interesting association or correlation relationships among a large set of HR data items for prospective maintenance and retention of asset. For example, associate the employees profile to the most appropriate program/job and another one associate employee attitude with performance helps in analysis loss leadership analysis and for cutting edge policy design. Prediction and Classification procedure are two forms of data analysis that can be used to extract models describing important data analysis that can be used to extract models describing important data classes or to predict future data trends and producing the percentage accuracy in employee performance; predict employee's behavior and attitude, predicting performance progress, identify the best profile for different category of employee which significantly influences the return of investment.

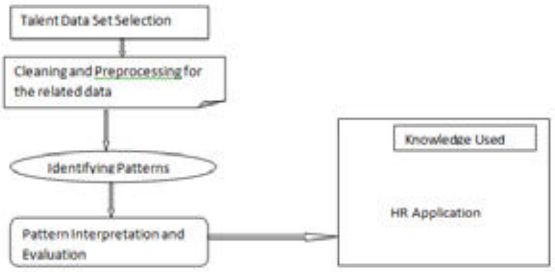

Fig.1.5 – Data Mining Process for Talent Management Tasks

Review of Literature

The evolution of information communications and web technology applications makes it an absolute obligation on behalf of the decision makers to continuously make the best decisions in the shortest possible time. A technology driven Decision Support System (DSS) and application facilitates managerial decision makers in utilizing data and its models in solving semi-structured and unstructured problems (Qian et al., 2004). Among recent enrichment of development of technologies and techniques collaboration of integration gave birth to Active DSS which will take place in new millennium era (Shim et al., 2002).

Human is important and a very valuable asset for an organization and managed by Human Resource professional. HRM system is an important element in the success of an organization, known as an integrated and interrelated approaches to managing human resources (DeNisi & Griffin, 2005). Activities in HRM involve a lot of unstructured processes such as staffing, training, motivation and maintenance (DeCenZo & Robbins, 2005). Computer applications as decision support tool can be used to provide fair and consistent decisions, and at the same time it can improve the effectiveness of decision making process (Zahedi,1999). In general, the traditional functions of DSS is used to support managerial decision makers in semi-structured and unstructured decision situations, a part from being assistant to the decision makers to extend their capabilities but not to replace their judgment(Turban 2007). The present study concentrates on data mining techniques utilized in talent management of Human Resource Information Systems applications of medium scale textile units and evaluation is rare. In continuation with this evaluation of benefits of Data mining techniques in talent management of HR application is rare to find in the context of Indian Business Environment.

Purpose of the study

The objective of the research study is to survey and evidence the support levels of data mining techniques in talent management of Human resource information system application in medium scale textile industries. It also evaluates techniques overall benefit in talent management of Human Resource Information System applications in the same industry.

Methodology

The present conclusive study is in the specialized area of HRIS with reference to the influence of MIS in the Medium Scale Textile Manufacturing Industries of Hyderabad.

Research Design

Primary Data :	Hyderabad based medium and scale industries
Secondary Data :	Industrial Directory and websites
Sample Universe:	Employees of textile companies working in HR management
Sample Frame :	HRIS implementing industries in Hyderabad
Research Tool :	Five Point Likert Scale Questionnaire
Sample Size :	96
Sampling Technique :	Stratified Random Sampling

SAMPLING DESIGN The study precisely selected the following employees in the pre-defined approximate ratio of 1:3:5 as respondents from the different medium-scale textile industries of Hyderabad.

Table 2: Characteristics of Respondents

Employment Type	No. of Respondents
Top Level Mangers	10
Middle Level Managers	34
Processing Managers	52
Total Respondents	96

DATA COLLECTION A pre-tested, well structured questionnaire is used for the data collection. The questionnaire was distributed to the selected respondents of the medium-scale textile industries and their opinion is recorded on 5-point Likert-scale. Further the collected field survey data was processed and prepared the primary data which is the basis for the further data analysis and conclusion.

ANALYSIS AND INTERPRETATION

One of the important parts of this research study is to assess and establish the data mining techniques in talent management of HRIS and support levels using the primary data that is pertaining to usage intensity of HRIS alongside demographic factor: Occupation of the respondents. Cumulative weighted average (CWA) technique was used for the data analysis.

DM-Techniques Support Levels In Talent Management of Hris

The data pertaining to the support levels of data mining techniques in talent management of HRIS in the respondents' respective organizations are presented in the table 2 and the same is depicted in the form of bar chart in figure 1.

Table 3: Support Levels in Talent Management of HRIS

Occupation Category	DM - Techniques For Talent Management – Ratings (in WA)			
	Clustering	Association	Prediction and Classification	CWA
Top Level Manager	3.32	2.53	3.02	3.10
Middle Level Manager	3.57	2.72	2.64	3.01
Processing Manager	3.18	2.68	2.40	2.63
CWA	3.26	2.59	2.79	3.05

(Source: Field Survey) WA: Weighted Average (also called Weighted Mean)

Interpretation: From above table, the CWA value of 3.26 offered to Clustering Data Mining Technique on 5-point mean rating scale confirms that medium-scale manufacturing industries are quite low competent of storing, managing and accessing the product and customer related information with the help database. Similarly the moderately high CWA value of 2.79 offered to Prediction and Classification on 5-point scale indicates that they are very less competent to maintain and manage moderately the Data administration activities with fewer issues with the help of HRIS.

In contrary, the CWA values of very less than 3.0 on 5 point scale offered to Data Mining technique Association spot the moderately ample less support levels towards the components. The studies suggest to immediate updating of HRIS system and also enhance exercises, of course, with an added passion for value addition.

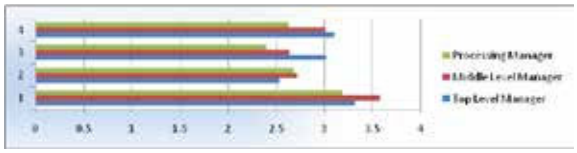

Fig.2 - Support Levels in Talent Management of HRIS

Techniques Benefit Level - Talent Management In HRIS

The data that was collected through questionnaire in order to assess the techniques information of benefits in talent management of HRIS is processed and presented in the table below and the same is depicted in the figure 2.

Table 3: Credentials of Talent Management in HRIS

Variables	Weighted Average
Support of Creating KTAs	2.48
Facilitating for Plotting	2.77
Shore up Activities Intuitiveness	3.53
Employee Performance Recording	3.22
Equipping Learning Ability and Competency	3.47
Emotional Intelligence	3.53
Knowledge Discovery in Data base	2.65
Average	3.26

Interpretation table 3 demonstrates the overall benefits attained with the facilitation of DM techniques in talent management of HRIS with the CWA value of 3.26 on 5-point mean rating scale, evidences that Hyderabad based Medium Scale Textile Units are capable of attaining low moderate levels of benefits in talent management of HRIS. Precisely the variables with average score > 3.5, shore up activities intuitiveness, emotional intelligence are capable of providing potential benefits through DM techniques in talent management of HRIS. But the remaining variables plotted < 3.5 are support of creating KTAs, Facilitating for Plotting, Employee Performance Recording, Equipping Learning Ability and Competency and Knowledge Discovery in Data base variables emphasized the improvement in the techniques impeded in talent management of HRIS in order to reap the fruits of return on investment.

Results And Discussions the sustainability of techniques in talent management to the HRIS components clearly indicates that medium-scale textile industries are still lagging. Firms must first recognize the significance of IDSS role in talent management of HRIS and then update and install the systems in order to lime light the performance. The companies are able to attain only less than moderate average 2/3 of the benefits from DM techniques in talent management of HRIS and losing the remaining more than 1/3 of benefits. This evidently indicates that the support levels must be firmly analyzed timely installed with compatible elements to integrate, collaborate in enriching value addition to present and future outcomes from the HRIS.

CONCLUSION

The study evidences efficacy levels of medium-scale textile industries towards talent management of HRIS is moderately average and suggest immediate resolutions of improvise with apparent additions in Human Resource Information Systems to effectively and efficiently functioning of the system in order to procure and conquer the opportunities for continuous lading of organization. The researchers recommend that firms must concentrate with immediate effect on the areas of HR computer information systems and its applications.

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