Study of Human Resource Information System: STING Model

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Abstract

Human Resource Information System evolved in early 70's in developed economies of the globe. HRIS in Indian context is developing many companies have started using it in a past few decades. There are many cities in which these practices are gaining popularity. The shifts in economy have led to new era of adoption of IT practices and it has also helped in value creation. The present study being taken in 20 I.T companies of Indore city which IT hub of central India. The purpose of this research is to explore the contribution and functionality of HRIS with respect to the perception of employees in IT industry in Indore region. It also intends to fill the gap between HRM and HRIS functionalities. Purposive sampling was done, 100 respondents filled the complete survey instruments. Gender which comprises of 72 Male respondents and 28 Female respondents engaged as independent variable in the present study. Factor analysis with Varimax rotation and independent T test on the basis of gender to analyze the data with help of IBM- SPSS. The reported value of Cronbach's Alpha .090 and KMO and Bartlett's Test provided the sample adequacy be 0.725. . The total variance explained denotes that as many as 10 factors have been emerged out of the study. Five statements were significant proving null hypothesis. The findings of the study clearly suggests that Research findings clearly show that senior HR executives are well aware that they can increase the efficiency of HR planning through HRIS, saving time and cost. The Business world globally is picking rapidly machine learning in the human resources and recruiting space. The present research has helped in identifying the HRIS roles that lead to productivity i.e. efficiency and effectiveness in organisations. The proposed model named as "STING Model" for effectiveness and efficiency in business organizations.

Contextual Background: The emergence of human resource information system is dynamic absorption of various disciplines of knowledge. Early 80's witnessed first integrated Human Resource function was SAP R/2 (presently replaced by R/3 and S/4 HANA). It was the first real time system working on single mainframe environment. With further technological development comprehensive Human resource Information System developed on ERP system. HRIS in Indian context is developing many

companies have started using it in a past few decades. There are many cities in which these practices are gaining popularity. At the same time there are some developing cities where IT industry is at developing stage and will flourish in near future.

During the last 65 years a drastic change occurred and, more and more information and the flow of business information. Businesses and organizations now invest in information systems as a mode to cope up with the internal production function. The objectives of organizations behind investing in information systems is nothing but achieving operational excellence ,developing new products and services.

HRIS as defined by Tannenbaum (1990) is the "one which is used to acquire, store, manipulate, analyze, retrieve, and distribute information about an organization's human resource". After sometime HRIS was defined as "the composite of databases, computer applications, and hardware and software necessary to collect/record, store, manage, deliver, present, and manipulate data for human resources" (Broderick and Boudreau, 1992). Human Resource Information is software that contains a database which includes in itself the storage and retrieval of data of employees in an organisation. At the same time it also allows the access and visualization of information of relevant employees of an organization. Human Resource department is the one which makes utmost use of HRIS, as it requires huge number of detailed information regarding various activities of the organization (Adam & Roger, 2012). The activities include human resource planning, recruitment, selection, training, development, employer-employee relations, payroll etc.

The current generation of HRIS devolves and automates routine compliance and administrative functions traditionally performed by HR departments in corporate and also facilitate the outsourcing of HR. Most recent researches show a greater use of HRIS in

aid of strategic decision making by HR (Yao & Fan, 2015).HRIS also lets HR staff to do the updates which are beneficial for them and address the changes. Thus help in freeing HR employees for more strategic functions. HRIS also provided the data necessary for knowledge development, employee management, career growth and equal treatment .Thus managers can easily have an access to the information that they require to ethically, legally and effectively help in the success of their employee (Wong, Lai, Cheng, & Lun, 2015).

The objective of HRIS is to render services in form of timely and accurate information to the "clients" of the system. As there are a number of potential users for HR information like it may be used for tactical, strategic, and operational decision making, to avoid litigation, to evaluate policies, programs, or practices or to support daily operations (Waddell, 2013). All these uses of HRIS mean that there is a vital requirement that the data and reports should be timely and accurate and most importantly the "client" should be able to understand how to make use of the obtained information. Because of the complexity and data intensiveness of the HRM function, it is not a priority in business organizations. The art of human management is continuing challenge for executives in the 22nd century. The globalization has lead to future economic and strategic advantage to rest with the organizations that can most effectively attract, develop, and retain diverse group of the best and the brightest human. Many HR employees and managers are very busy in taking care of their daily duties and tasks which are generally administrative in nature that they sometimes neglect to consider other relevant issues coming down the road. Today with an increasing number of organizations, HR is now viewed as a volatile source of competitive advantage, vital for firms to have skilled human capital with a competitive edge.

The scope of Human resource information systems (HRIS) has increased significantly since first introduced at General Electric in the 1950s. HRIS has been transformed from a basic process of record keeping using manual mode to computerized systems of keeping the data. And it has finally transformed into the system which HR professionals are seeing and using today. HRIS was initially used as automation function to take care of employees in an organization as it used to store and administer the data of line department but now HRIS is not only limited to storing and administering the data of the employees.

HRIS is also helpful in providing essential information to help the functional manager in making decisions. Due to this increasing efficiency for information processing HRIs is becoming useful for any size of organization (Brian E. Becker et al., 2001).

The shifts in economy have led to new era of adoption of IT practices and it has also helped in value creation. This is the most significant reason why business houses and entrepreneurs are now investing on Information technology and information systems. It helps an organization in gaining competitive advantage. Information systems have now turned as the most impactful part of any organizations (Ahmed & Cuenca, 2013). All the activities in an organization such as marketing, human resource, finance, operations etc. needs an automated system performs in an effective manner. Thus all the departments in an organization backed up by IT solutions for their effective performance. The most significant role of Information systems in all these departments is in decision making. It helps in upgrading the quality of business decisions. Thus, information systems are proving to be very beneficial for the organizations. There are several types of information systems and one of them is Transaction processing systems (TPS). Organizations use these systems at strategic and managerial levels and with the help of that, they are able to gain competitive advantage (Waddell,

2013).There are four major information systems used in the organizations, these are Management Information Systems, Executive Support Systems, Decision Support System and Transaction processing systems. All these information systems are helpful in gaining competitive advantage and support strategic decision making within the organization. There are several issues related to these systems and the most significant issue is that all these systems not linked properly in the organizations and due to that the functions of the organizations become inefficient (Waal, 2014).

Purpose of Research:

As far as HRIS considered in Indian context, many companies have started using it in a past few decades. There are many cities in which these practices are evolving rapidly. At the same time there are some developing cities where IT industry is at maturity stage and will flourish in near future. Thus, the city undertaken to study this aspect is Indore City. The case study would focus on Indore region's IT industry and usage of HRIS in the companies. The study will help organisations in determining the effectiveness of HRIS while performing HR functions in the organisation. The research will help them to improve functions.

The role of HRIS in HRM is an exploratory study owing to the lack of similar studies in Indore known as IT hub of central India. The purpose of the study is to analyse the views of the focus group (the HRIS users) in an organisation and develop a sound theory on the role of HRIS.

The purpose of this research is to explore the contribution and functionality of HRIS with respect to the perception of employees in IT industry in Indore region. It also intends to fill the gap between HRM and HRIS functionalities.Purposive sampling used to select HR managers and executives who use HRIS to extract information from the organization. It is

judgmental sampling and the researcher uses his judgment to select the sample.

Research Objectives:

1. To study HRIS role in Strategic HR functions of organisation.
2. To ascertain the HRIS contribution in HR functions within the perception of HR employees.

The sample unit for the purpose of this research is 33 I.T. companies of the India which have adopted or adopting Human Resource Information System especially H.R.P. function in their organization. For the purpose of research, survey instrument administered to 230HR employees, out of which only 141 responded completely filled survey instrument from various participating organizations. To check the reliability of the survey instrument, the researchers has taken feedback from the academicians, researchers and experts in the field. The researchers them the questionnaire and asks for their feedback. After receiving the feedback from the academicians and researchers the survey instrument modified to get the optimum response from the respondents.

While collecting the data, the researcher has obtained prior permission from the respondents and the concerned authorities. The researcher has also ensured the confidentiality of the data. Gender which comprises of 93 Male respondents and 48 Female respondents in the present study.

Data Analysis technique

The researchers have used factor analysis and independent T test on the basis of gender to analyze the data. The tool for data analysis used by the researcher is IBM- SPSS. The total number of items upon which reliability statistics applied was 29. The reported value of Cronbach's Alpha .090 and this suggests that the statements were valid and acceptable

for the study. KMO and Bartlett's Test provided the sample adequacy be 0.725.

The factor analysis applied using Varimax rotation method using IBM- SPSS. The total variance explained denotes that as many as 10 factors have been emerged out of the study. These ten factors are Ease in succession planning (Eigen value 2.7 with variance of 9.6 percent), Training and Development filling skill gaps (Eigen value 2.6 with variance of 9.1 percent), Forecasting HR needs (Eigen value 2.6 with variance of 9 percent), Information for decision making (Eigen value 2.4 with variance of 8.4 percent), Ease in Training(Eigen value 2.2 with variance of 7.6 percent), Identification of Unfilled position (Eigen value 2.1 with variance of 7.2 percent), recruitment plan (Eigen value of 2 with a variance of 6.9 percent), Identification of HR needs (Eigen value of 2 with a variance of 6.9 percent), Ease in tracking application (Eigen value of 1.8 with variance of 6.4 percent) and Effective evaluation of recruitment process (Eigen value of 1.7 with variance of 6.1 percent)

The most significant factor that has come out of the study is that HRIS helps in identification of HR needs. It implies that HRIS helps in identifying the needs of human resource management in the organizations. This further suggests that the IT industry in Indore region is using HRIS so that they can identify the needs of human resource management. The second most important factor is forecasting the needs of human resource management there are various needs of human resource management and these needs are forecasted by HRIS in the IT industry in Indore region. HRIS thus helps in knowing various needs in advance.

The another factor that has been found out after study is that it helps in finding skills gaps in the organization with the use of training and development. Most of the IT companies are in the opinion that with the help of HRIS they can easily find out the skill gaps in their

organization. HRIS helps these organizations to help in tracking the unfilled positions in the organization very easily. The analysis suggests that this is also a prominent factor. The analysis also suggests that HRIS also provides information on decision making and due to that decision making has also become very easy in their organizations.

In this manner the analysis has found out at least one factor from every function of HR. The factors related to succession planning, decision making, recruitment and selection, training and development, forecasting, etc. This implies that IT industry in Indore region is taking benefit of HRIS and HRIS is making companies to deal with their problems.

Ten factors clubbed into five hypotheses of the study the researcher has used independent T test on the basis of Gender.

The results show that the most significant factor that has come out of the study is that HRIS helps in identification of HR needs. It implies that HRIS helps in identifying the needs of human resource management in the organizations. This further suggests that the IT industry in Indore region is using HRIS so that they can identify the needs of human resource management. Most of the IT organizations in Indore region observed that HRIS contributes to efficiency of HR planning through HRIS training needs analysis, HRIS skills inventory, HRIS succession planning, HRIS labor demand and supply analysis and decision making.

The findings of the study clearly suggests that Research findings clearly show that senior HR executives are well aware that they can increase the efficiency of HR planning through HRIS, saving time and cost. However, findings do not support the premise that HRIS increases the efficiency of HR planning other than in functional work such as job analysis. Most organisations have e-recruiting facility but they do not use it fully since they have more faith in traditional methods of recruiting. HRIS e-recruiting facility is used by only 49.40% of senior HR executives to recruit employees.

The user population of HRIS is small because most of the organizations implement it, and most of organization tries to outsource it. For small organisations it is not cost effective to integrate HRIS with ERP initially.

Conclusion:

Machine Learning is intelligence exhibited by machines, has many applications in today's society. Recently Saudi Arabia, made Sophia the social humanoid robot which is first non-human woman citizen in 2017, making it first country to grant a robot the right to citizenship. Sophia was also named the United Nations Development Program's first ever Innovation Champion and the first non-human to given title by UN. Human Resource Management is taking aid of Machine learning is used to screen resumes and rank candidates according to their level of qualification. Machine Learning helps predict candidate success in given roles through job matching platforms. And now, Machine Learning is rolling out recruiting chat bots that can automate repetitive communication tasks. There are present three ways Machine Learning used by human resources and recruiting professionals.

From 2016 to 2017, consumer goods company Unilever used artificial intelligence to screen all entry level employees. Unilever's AI used neuroscience based games, recorded interviews, and facial/speech analysis to predict hiring success. Unilever partnered with Pymetrics and HireVue to enable its novel AI based screening and increased their applicants from 15,000 to 30,000 in a single year. Recruiting with AI also produced Unililever's "most diverse class to date.' Unilever also decreased time to hire from 4 months to 4 weeks and saved over 50,000 hours of recruiter time.

AI is having a massive impact on the human resources field. One of the latest development in AI is in recruiting chat bots. Text Recruit, a Bay Area startup, released Ari (automated recruiting interface.) Ari is a recruiting chat bots designed to hold two way texting conversations with candidates. Ari automates posting jobs, advertising openings, and screening candidates, scheduling interviews, and nurturing candidate relationships with updates as they progress along the hiring funnel. Ari currently offered as part of Text Recruit's candidate engagement platform.

PROPOSED RESEARCH MODEL:

The present research has helped in identifying the HRIS roles that lead to productivity i.e. efficiency and effectiveness in organizations. The proposed model is named as "STING Model" for effectiveness and efficiency in business organizations.

The most important element is joint decision making with transparency so that productivity of organizations is enhanced.
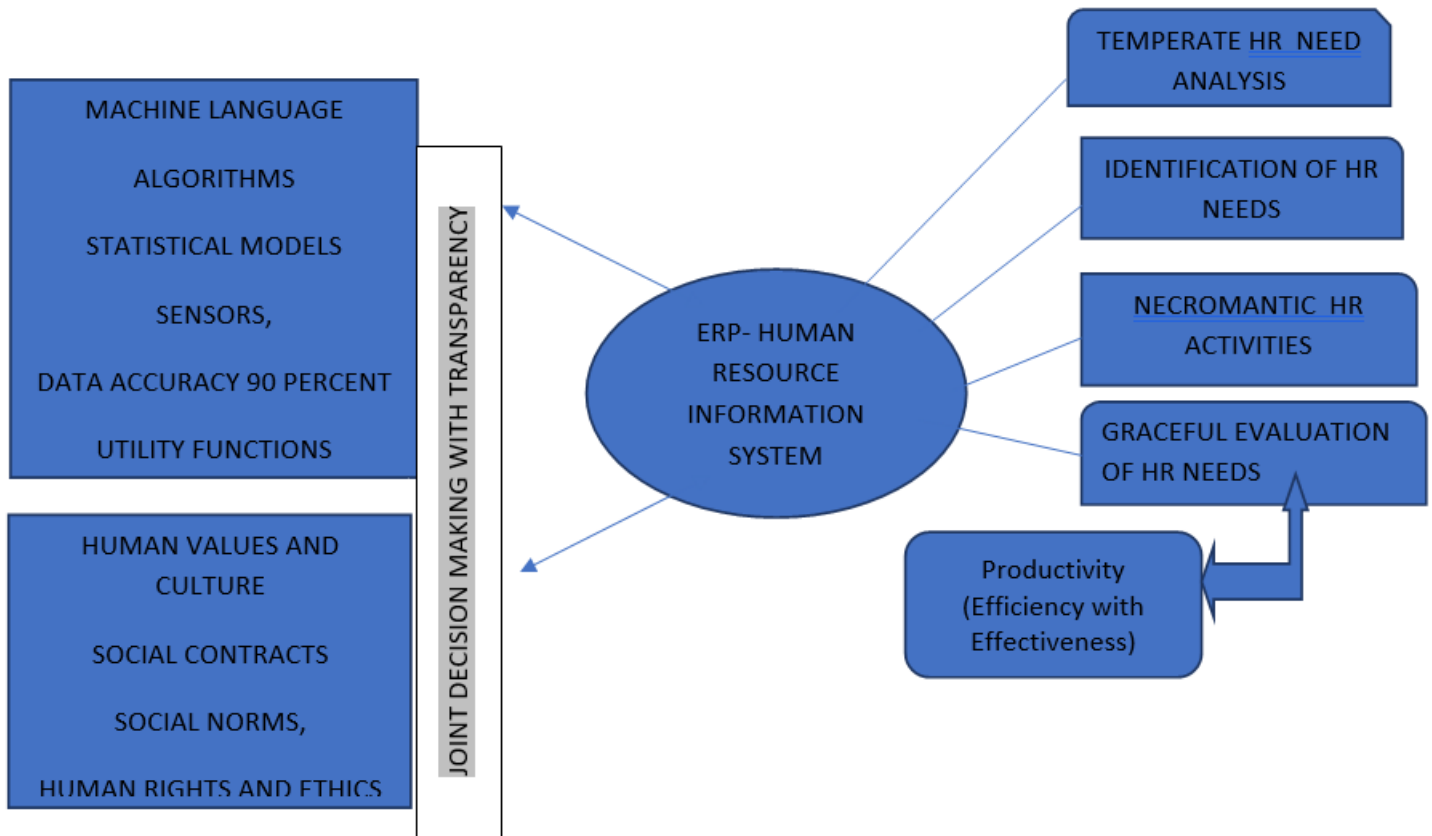
Proposed "STING" Model

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