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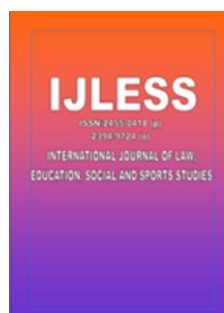**(Law)**

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Transformations in HR Function: Analysing The Dominance Patterns Between Technology and Manpower Now and in Times Ahead

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ABSTRACT

Over the years, the HR sector has encountered major developments in technology which has seen a divergence in their field of influence. From a division that manages employee records to a sector that raises the overall efficiency of an organisation. This was achieved by integrating necessary technology to handle the vast amounts of data and streamline everyday activities into a system without much human intervention. Also, the role of the HR from being value oriented to being production oriented is on the rise. Though it is still unclear about the role of technology in causing this shift, it necessary to retrospect the part technology has had in the growth of HR sector. This paper outlines the trends in the use of technology and its overall advantage/disadvantages to both the organisation and the employee. Its findings are in line with current studies that suggest that HR is expanding its scope of business to be a strategic partner to firms by assisting in financial development.

Keywords: HR sector, technology, growth and development

1. INTRODUCTION

The successful functioning of an organization depends on the degree of coordination and interaction among its employees to carry out all the necessary activities with minimum turbulence. For the seamless execution of such activities, it is essential for a company to have a well organised human resources sector. The competence of the organisation depends on the potential of the HR to manage the workforce by providing support and assistance. For decades HR practitioners have been tagged as administrators, with the task of selection, recruitment, training and employee engagement. However, organisations needed HR to go beyond the delivery of cost effective administrative services and provide expertise on how to leverage human assets (Jamrog & Overholt, 2004). It became specialized with the task of screening talent oriented employees and ensuring their commitment towards the organisation.

There are difficulties in finding an agreed definition of the concept of HR systems with research studies indicating variations in both their composition as well as with the internal relationships among their components (Chadwick, 2010; Jiang et al., 2012). There is general acceptance that HR systems comprise a number of different levels (Boxall & Macky, 2009; Jiang et al., 2012; Monks, 2103); that, at a minimum, consist of HR policies, practices and processes (Kepes & Delery, 2007); and that they can be linked to outcomes at employee and organisational levels (Nishii et al., 2008; Boxall et al., 2011). But they are generally governed by the business discourse of the

organisation. Hence the practices and processes followed by the HR associated to a company are not a general factor of consideration and are not absolute even to companies within the same domain (Kepes & Delery 2007). As the trends change, so do the objectives of the policies and the implementation of practices and processes of the HR. From being a sector that was primarily focused on employee recruitment, the domain of HR has now grown into a sector that contributes equally in terms of financial output as the regular product based employees. Today the role of the HR may be morphed into a sector that is focused on the efficient use of man-power resources to extract maximum output for the benefit of the organisation (Monks, 2013). Though they do not directly contribute to the product or services of a company, the value they add by exploring the potential of the workforce is a commendable contribution in itself. But in doing so it can damage the fabric of employer-employee trust and hence it is necessary to cater to the needs of the employee. Without a certain level of job satisfaction, security and freedom of self-expression, it would be difficult to improve employee productivity.

Competencies are personal characteristics about people; who they are, what they know and what they do, or personal characteristics cause superior performance (Yeung, 1996). It was narrowed down to six fundamental competency domains that HR professionals must demonstrate to impact business performance – strategic positioned, credible activist, capability builder, change champion, HR innovator and integrator, and technology proponent. It was shown that HR professional competence explained almost 10 percent of business success which lead to HR managers changing focus from a commitment-based ideology to a production based strategy.

Due to developments in IT (Information Technology), Artificial Intelligence (AI), HR Analytics tools the HR is going through transformation in its functions to improve organizational performance and to achieve competitive advantage.

This paper explores the basic role of HR personnel with an insight on the growth of the industry over time. The rapid technological implementation in HR practices without adequate study going into it before-hand is disturbing as there is no framework for implementation (Gani & Anjum, 2017). Though there has been a surge of IT solutions that are being utilized, it is still not clear as to what the potential of technology holds for HR in the future. Companies that are currently using E-HRM are doing so mainly to reduce cost and HR personnel instead of being a tool for smooth functioning of the organisation. Though in the recent past there has been a lot of research conducted on E-HRM and its integration into the HR domain (Stone, 2015; Parry, 2011; Bell, 2006), there still seems to exist gaps in the knowledge of appropriate technologies, implementation and the future of such technologies. The future would be seen as a place with increased automation in HR related tasks using Artificial intelligence, Talent websites, Vedio Job interviews, Cloud Based Systems, HR Analytics, Remote Staff using technologies that enable more productivity and employee engagement. But this cannot happen if companies are not ready to either utilize it to its potential or are simply unaware of it.

2.   AIMS AND OBJECTIVES

This study is aimed at tracing the transformation undergone by the Human Resource Management sector and the impact it could make on performance of an organisation. The study will try to shed light on aspects such as:

- The impact technology has had on shaping the practices of HR sector in the past.

- The technology-based methods used by HR for data management and communication.

- The role of HR technologies in improving efficiency.

- The status and prospects of HRM functionality with a focus on the causes of the reasons predicted.

3.   METHODOLOGY

The research ideas presented in this paper are based on secondary data collected mainly from peer reviewed journals and compiled to give a clear insight into HR practices. Prior data on topics pertaining to the scope of HR practices and policies were analysed to understand the basic role of a HR personnel, which also provided a background on their status. Data was compiled and then narrowed down to topics that focussed on the trends of HR practices and how they influenced productivity of an organisation.

4.   LITRATURE REVIEW

The Human Resources sector's function in any organization is crucial, because it deals with a very important and difficult to manage resource: human capital. People make the organization work. Firms need to recruit, find the best person-job fit and retain talented employees (Laumer, Eckhardt, & Weitzel, 2010). Recent technological developments have made these activities easier by making 'paperless office' a reality and has created a real time, information based, interactive work environment.

4.1   HR Functions and Technologies Emergence

According to Stolt (2010), HRM departments are created to manage all issues connected with the organization's workforce. They are responsible in managing duties that include employees' performance, human resources planning, staffing, training, payments, compensations, employees' benefits etc. As industries began to expand, both in economy and manpower, there was a need to effectively manage their daily activities efficiently. To keep pace with requirements, by the start of the 50's, mainframe computers were first used to support payroll applications, some of the first business processed to be automated and supported by information systems. A small German company, SAP, began developing applications to support payroll and basic human resource functioning which they later integrated into R/2, which became the pre-cursor of the integrated enterprise systems that companies use today. As technology became more compact and user friendly, companies began to decentralize power by giving the client and the employees acess to manage their own data. The client-server approach allowed for processing on both the central computer (likely a mainframe or minicomputer) and on a local personal computer. By doing this, organizations were able to distribute computing power and store employee data in multiple locations. The early leader in the client server space was PeopleSoft, which was developed and released for the client-server platform rather than the mainframe.

In the early 2000s when Web-based software enabled organizations to centralize all HRM and organizational data so that users could access it through Web browsers at any time or place. An era of "eHRM" in which HR transactions were enabled and delivered through Web browsers over the Internet and private networks (Lengnick-Hall & Moritz, 2003). These Web-based systems allowed HR to communicate with both internal and external stakeholders. Thus due to integration of technology in HR processes, the role of the HR also diversified. Information technology became a critical driver of HR's transition from a focus on administrative tasks to a focus on serving as a strategic business partner. This strategic role not only adds a valuable dimension to the HR function but also changes the competencies that define the success of HR professionals.

With the improvement in technology delivery, technologies that performed management related tasks became easier to access with software available for all platforms. The traditional HRM was replaced with E-HRM, which made possible to automate a majority of the processes and improve productivity. Strohmeier, (2007) defined E-HRM as "the planning, implementation, and application of

information systems for both networking and supporting actors in their shared performing of HR activities". E-HRM can be used for traditional HRM activities such as recruitment, selection, training, compensation and performance management; and transformational activities that add value to the organization, and may be used to manage HR across the whole employee life-cycle (Strohmeier, 2007). Applications like e-learning, virtual recruitment, self-service HR and portal technologies which collectively make up the E-HRM system. The functional unit of E-HRM is the HRIS which is a computer application on which the HR, the employee or the client can perform administrative tasks. A contemporary HRIS is a dynamic data base about employees' performance and demographic information. HRIS provides information about employees' data, employment, application requirement, job characteristics, selection and staffing, procedures of employment, corporate structure, professional and individual improvement, education costs, performance appraisal, personnel planning, organizing etc. And these data are used for many purposes simple or complex. Unlike previous generations of HRIS software, which was installed at the client's location and often customized to fit their needs, cloud computing delivers software to clients as a service. With cloud computing, rather than designing and customizing software to meet each organization's needs, vendors now offer a standard software product to all firms. Although the software is not customizable, each organization can configure it to meet their specific needs. Organizations no longer have to purchase and maintain hardware and software but instead access the software over the Web though a Web browser. In other words, HRIS' have evolved into sophisticated IT solutions designed to manage a wide variety of human resource data and to provide analytical tools to assist management in HR decision-making. Using IT tools such as intranet, virtual collaborations, data storage and data mining can improve skills for knowledge acquisition and distributions.

The big data is taking the world with a big storm. HR is no exception. "HR Analytics" includes the use of statistical techniques, research design, and algorithms to evaluate employee data and translating results into evocative reports (Levenson 2005). Analytics can be categorised as descriptive, predictive and optimization analytics. *Descriptive Analytics* is a first level of analysis, includes understanding the historical data, behavior and outcomes, it only describes the relationship (Fitz-enz 2009). It involves the use of data visualization, adhoc reports, drilling-down, dashboards / score cards, SQL Queries. Turnover rates, Cost per hire and Absence Rates can be found out using descroptive analysis. The second level of analysis is *Predictive Anaytics* includes forecasting the futre behavior and outcomes based on the past data. It involves the use of Data Mining (correlation between data), decision trees, pattern recognition, forecasting, root-cause-analysis, and predictive modeling (what will happen next). Predictive modeling will help the HR managers in forecasting attrition rates, proability of employee success on job based on recruitment / selection methods used. The third level of analysis is *Optimization Analytics*, includes not only achieving the best outcomes by using limited resources. It involves using linear programming, simulations, creating mathematical modelling and implementing are used to find the best alternative training investment to achieve organizational effectiveness. Some technology tools for HR analytics include SAP, IBM, Oracle, Microsoft are vendors in Business Intelligence. BI software's have HR modules with BI and data analytics capabilities. R-Studio is a data analysis and visualization software tool which can be applied for very large data sets, Python is a preferred programming language of all data scientists for statistical data analysis and visualization. Microsoft Excel is a traditionally a great data analysis tool to collect, analyse and transform data using formulas, pivot tables, scenario building and graph tools. Microsoft Power Business Intelligence software has power to extract data from various sources and makes easy for us to analyse, aggregate and visualization of data, the best part of this software is it (Erik Van Vulpen, n.d),

4.2.   Contemporary Role of HR Technologies in Organisations

In the case of HRM, it can be assumed that the HR function may contribute to a firm's competitive advantage by providing more effective management, development or deployment of the firm's human resources in a more efficient and effective manner. There is not much literature to support the assertion that the use of e-HRM may allow the HR function to increase its value (or the rents that it generates) through an increase in differential labour in the form of a strategic orientation. But there is past literature on the use of e-HRM that suggests its use can allow the HR function to increase its involvement in delivering strategy (Marler, 2009). In this context, Benson et al (2002) stated that the development of technologies in work place, internet and web based IT have very important impact on HR professionals and affects their functions and activities. IT facilitates distributions of information along the organizational hierarchy; it empowers organizational decision making and knowledge management. For instance, a recent study by the Institute of Management & Administration (IOMA) found that 70% of companies reported that technology led to improvements in the quality and timeliness of HR services to employees and 67% reported that eHR has led to improvements in overall organizational efficiency (IOMA, 2002). This may suggest that the development of sophisticated e-HRM systems within organizations is related to the need to improve the quality and efficiency of the HR services to employees, while the breadth of e-HRM use is connected to a desire for the HR function to make use of its skills and adopt a more strategic role in the organization. However, their findings do not support the suggestion that e-HRM may allow HR to reduce headcount and therefore costs through the completion of transactional activities in a more efficient manner.

Using self-service technology reduces the processing costs of HR up to 75%. E-selections and e-recruiting decrease costs of staffing and selections due to reduced employee turnover, reduced staffing costs, and increased hiring efficiency.

4.3   Impact of HR Technologies on manpower in an organisation

By the beginning of the 21st century, Truss (2008) had observed that HR policies had undergone radical changes. Corporates were merely focused on increasing productivity and less into employee well-being. Soft HRM practices as they were termed were those that placed emphasis on managing employees as humans instead of resources, suggesting that employees needed to be treated with consideration and a personal touch in order to attain favourable outcomes. In line with soft HRM, a general consensus has risen that HRM affects organizational performance indirectly through its impact on employees (Paauwe, 2009). And as Lawler and Mohrman, (2003) had stated earlier, with the growth of information technology, much of the administrative aspects of human resource management can be accomplished through technology solutions hosted by the company or outsourced. As technology frees up HR from some of its routine tasks, there is a greater opportunity for HR professionals to become a strategic partner (Ulrich et al, 1995). Over the recent years, Parry (2014), observed a shift in the delivery of transactional HRM from an approach which is "labour intensive" to one which is "technology-intensive" whereby a large proportion of transactional activities are now delivered using a wide variety of software rather than by HR administrators. The services are provided directly to employees and managers through the use of self-service systems. This increase in automation, in the past, has induced concern among employees about the security of their personal information which remains an important company and public policy issue. In a case in early 2005, ChoicePoint, an information data Storage Company discovered that the expected security of their HR information was widely compromised, leading to personal and proprietary data being opened to the public domain. But this doesn't necessarily mean that E-HRM is threat to security. It points out the lack of planning that has gone into the execution of a program and hence can be improved.

The beginning of electronic era effects the HR in two ways how the employees would work and how new technologies for HRM would be embracing in organization so that the firm can develop new tactics for sustainable growth. As technology has become more persistent the formation of communication between employer and employees has been changed. The integration of HRM with information technology has shaped ingenious HR operations that have been widely used by number of organization. Thus for a company to gain strategic advantage over competitor needs to invest rationally in E-HRM for its future and its success, but not just copying the system rather it should be customized to the unique needs of a company to structure a HRM that improves overall performance.

Artificial Intelligence (AI) technologies are reshaping HR function beyond shortlisting the applicants in talent attraction, AI supported systems are supporting HR departments in automating repetitive tasks like performance management, training using gaming based technologies, reward management and employee retention using HR data on performance, enabling HR managers to spend greater time on mentoring, engagement of motivation of employees. Self-Service Employee Systems are enabling employees more empowerment by self-generation of employment letters, payslips and proving feedback to the management at a click of a button.

4.   DISCUSSION

The role of HR in contributing towards improving the overall performance of a company has now been acknowledged by many researchers. Hence we see that though initially companies were reluctant to focus on and develop their respective HR departments, the scenario has changed over time. Evidences from research conducted in the past pointed out that an integration of technology in HR functions would ease the manual load on HR executives and may improve overall progress, though there were scepticism on the negative impact on HR executives in terms of reduction in workforce due to increased automation. The papers reviewed in this article provide information on technological advances in the HR sector in the recent past. It has shown that organisations that have implemented the use of technology in HRM have witnessed increase in employee productivity, ease of access and management of one's own information while the HR executive has the opportunity to manage and organise the workforce, hence improving productivity and proving essential to the company's economy (Truss, 2008; Ömer, 2012; Stone et al., 2015). There is evidence that suggests that the HR role is becoming increasingly strategic, but this role is not replacing traditional HR roles, rather, it is being grafted on, adding to the diversity, challenge and complexity of HR in the public sector. Moreover, it was found that the professional standing of HR professionals has been enhanced by the specific use of HRIS for strategic partnering but that this is not as pronounced as that experienced by those from other professions (De Alwis, 2010). A partnership is being formed between the human resource and information management professionals who work hand-in-hand and serve as the guiding relationship for all future activities and decisions. Capitalizing on the latest web-based technologies, global access to human resource information should be provided to managers and employees to support a variety of management and personal decision-making purposes. Hence as of today it is not possible to predict in certainty, where technology may lead HRM in terms of data computation and storage, and shape the future of business management based on the how the data is managed and utilized. What we can be certain is that as of now, human interface is a crucial part of decision making, to hire the right type of workforce related to the type of output required (Čábelková, Abrhám, & Strielkowski, 2015) . The current status of smart technology is not yet capable of completely eliminating human intervention but can reduce the need for human supervision by helping to collect organise and interpret employee data, thus helping HR professionals focus their attention on being strategically involved in the business process. Data being an important factor in the financial development of the growth in the use of technology in the HR sector has been steady and ever increasing as companies are looking to reduce the need for human intervention in HR

management. It also is important to recognize that not all companies are utilizing information technology to move HR toward becoming a strategic business partner.

5. CONCLUSION

Though technology has taken over the laborious tasks of information management and given the HR more time to focus on productivity, the shift towards total automation requires more time. Collectively the present research suggest it to be the most appropriate economic option but as pointed out by this paper, there is a need for further research that explores software like HRIS and others that have a direct influence on both the employees and the organisation as well. As far as the papers reviewed in this article is concerned, the integration of technology into the HR sector shall only benefit the organisation and its employees but it also depends on the policies implemented by the organisation. Using a variety of web-based technologies and Internet solutions, managers and supervisors are obtaining real-time information from their desktop. Visits to the HR office are limited to matters requiring personal consultation or management advice.

It is recommended that that first sin of Artificial Intelligence is to allow computer systems (machines) to make ethically sensitive decisions. It is important that the HR technologies can take input from human decision makers, before decision is made. And these technologies should alert decisionmakers but not to make or arrive at the decisions. As the decisions should not violate important labour laws such as discrimination, disabilities. There is a danger of employee confidentiality, trust and privacy because of HR data analytics and using clean data for decision making.

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