Human Resource Management and Technology: A study of the Status in Nepalese Enterprises

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Abstract

This article is concentrated on the study of use of technology in HR management system in Nepalese organizations. At present most of the most of the corporate organizations of Nepal use different forms of related software for managing human resource in an effective way to bring effectiveness in performance outcomes. They use technology in various HR activities consisting of recruitment, selection, training, development, financial transactions, performance appraisal, job analysis, HR planning, learning, performance management, career management, compensation management, and maintaining good labour and industrial relation. The main focus of the use of modern technology along with relevant software for managing HR activities is to bring specific system in organizational activities for improving performance to use resources consisting of money, material, machine and information technology in an effective way which helps to maximize productivity, maintaining quality and minimizing cost of products and services which facilitates to improving competitive strengths of the organization in the market. In practice it is found that most of the Nepalese enterprises especially unorganized sectors are still using manual system for managing HR activities of the organization.

Background of the Study

Human resource technology refers to the use of related software and hardware technology for the systematic management of human resource functions of the organization. In other words, human resource technology is a broader term that is associated with the application of software and hardware for automating the essential human resource functions in the organization. The common human resource functions involve filing, communication services, talent acquisition, talent

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management, compensation management, benefits administration, and performance management. They also involve collection and storage of data, systematic organization of data and analysis of such data for disseminating HR related information to managers for taking important decisions. HR technology can be defined as any technology that is used to attract, hire, retain, and maintain human resources, support HR administration, and optimize HRM (Julie Bulmash). HR technology is an umbrella term for software and associated hardware for automating the human resources functions in organizations (Shaun Suttner).

Impact of Technology on Jobs and Organizations

The introduction of new technologies has a large impact on the work that people do and on organizations. Technology may displace, alter the nature of, or generate new jobs (Zuboff, 1988). Organizations may adopt new technologies and accordingly change their organizational structures and work processes. This theme did not newly emerge in the 20th century. Serious scholarly attention has long been given to the effect of technology on jobs and work organizations, as is exemplified by the intense debates on mechanization and automation during the Industrial Revolution (Mokyr, Vickers, & Ziebarth, 2015). However, the job-changing effect of technology received renewed attention after World War II with the advent of digital computing technology. In the following, we discuss how this theme was addressed over time in Human Resource Management since its inception in 1961 and how three technology conceptualizations inspired HR scholars to examine this subject from different angles.

Effects of Automation

The impact of automation on the nature of work and organizations was a major concern in the 1960s. In this period, researchers were particularly interested in the possibility of job displacement caused by automation and how organizations should respond to this phenomenon. In the 1960s, automation was often considered a tool using which organizations could achieve the same level of productivity with a reduced number of workers (Blum, 1964). Several scholars studied the adverse effects of this change, such as the loss of jobs, challenges in equipping workers for higher-skilled jobs, and unhealthy tensions in labor relations (Blum, 1966; Hodgson, 1963). Others (Rico, 1966) argued that automation might not necessarily be a job destroyer. Although it displaced some jobs, it created new jobs; thus, the net effect on employment could be positive rather than negative.

Human resources are said to be the creative and dynamic resources of the organization. The successful functioning of an organization totally depends on effective functioning of the human resources. Therefore, the major responsibility of HR managers is to acquire and utilize human talent for the best use of physical resources for effective functioning of the organization. For this purpose, the concept and practice of HR technology is started to implement in most of the corporate organizations. Most of the successful business organizations are using associated

hardware and software for maintaining record of acquisition, development, utilization and retaining talent of the organization. The main focus of the use of HR technology in the organization is to maximize productivity through the best use of human efficiency, skills and knowledge. It would be supportive for sustainable development of business operation of the organization for long period of time.

Computer-aided manufacturing and IT

In this period, the declining competitiveness of the manufacturing industry was a primary concern in the United States. Along this line, computer-enabled flexible manufacturing technology, or AMT, received much attention as a potential method for boosting the productivity of the manufacturing sector in the United States (Nemetz & Fry, 1988; Piore & Sabel, 1986). The core argument was that the U.S. manufacturing sector could be revived by moving away from the Tayloristic mass production system and instead adopting the new computer-aided production systems, thus allowing organizations to meet diverse and rapidly changing customer needs (Hayes & Jaikumar, 1988). Our review shows that toward the end of the 1977–1996 period, there was a shift in focus toward IT. IT led many organizations into a vastly different business environment. HR scholars have examined IT and its resulting organizational changes from different angles.

HR database is a system where all the information of employees of the organization is stored and managed. Such information includes personal, financial and performance related information of employees. There may be some differences among organizations for maintaining information of the employees. However, the common pieces of information include in HR database should have name of employees, address, contact information, job title, authority to report, skills and efficiency, salary and benefits, annual leave, absenteeism, grievances, performance review, and training and development.HR database system would support for proper division of work and also for smooth functioning of business activities of the organization. HR database is the part of internal HR management system of the organization. So, it is essential to maintain secrecy of HR database system within the related authorities of the organization. Therefore, access to HR data will be granted only to those officials with a direct job-related need for such access.

E-Human Resource

Electronic human resource(e-HR) refers to the web-based applications and process that digitalize human resource management activities of the organization. It is concerned with collection, store, use, management and regulation of HR related electronic information and processes within the organization. It also includes the use of internet and internal network system to support the HR activities, processes and procedures of the organization. It is the means that can support to bring effectiveness in organizational activities through deeper transformation of the HR department. The HR managers can get readymade data in accumulate form through e-human resource system that can support them to take valuable decision. E-human resource is

the function of human resource which is concerned with the use, management and regulation of electronic information and processes within an organization (Parry and Tyson, 2011).Electronic human resource management is the planning, implementation and application of information technology for both networking and supporting at least two individual or collective actors in their shared performing of HR activities(Strohmeier, 2007).The concept and practice of e-HR has emerged due to innovation of internet and networking system within the organizational activities. It facilitates to implement HR strategies, polices, and practices in the organization through direct support of web-based channels. HR managers can get all the HR related information of the organization through networking system within short time based on requirement. The availability of needed HR information can help the HR managers to take valuable HR decisions such as HR planning, recruitment, selection, training and development, reward and compensation and other HR related decision. The significant benefit of e-HR tasks and practices is that it facilitates to transform traditional papers, labour intensive HR tasks into fast and efficient direction. It supports to save time, effort and cost for accomplishment of HRM activities of the organization. It helps to increase working efficiency of employees and enhances the degree to which management can attract, utilize, motivate and retain talent and competent employees.

Application of E-Human Resource

Electronic human resource concentrates on collection, store, use, management and regulation of HR related electronic information and processes within the organization. It is the means of accumulating HR related data and information in a readymade form through use of internet and web-based networking system of the organization. It can facilitate the HR managers for taking value decision of the organization.

- E-Job Analysis: E-human resource system can be used for systematic job analysis of the organization. Job analysis is a process of determining the task involved in the job and personal qualities of the individuals required to perform it. The process of job analysis involves two components consisting of job description and job specification. Job description involves all the information related with job whereas job specification involves capabilities of jobholders. At present, HR managers have access to job descriptions and job specifications online for collecting data of job analysis through employees and supervisors through online questionnaires. It can support the HR managers for placement of right person to the right jobs which can facilitates for improving organizational level of performance.

- E- HR Planning: Human resource planning is the process of systematic review of human resource requirement in the organization. It is the basis through which the HR manager can initiate the recruitment and selection process to fulfill the required employee in the organization. E- human resources systems offer devices that support the HR managers to collect, store and update the existing data related to the experience, skills, knowledge and competencies of the employees working in the organization. They have easy access to the updated information

based on requirement. It facilitates the HR managers for taking faster and rational decisions.

- E- Recruitment: Recruitment is the process of attracting and obtaining as many applicants as possible from qualified job seekers. It is the process to ascertain the sources of manpower to fulfill the requirements of the staffing. E-human resource systems provide facility to use web-based systems and portals for attracting large number of competent applicants. E-recruiting systems are used to track large pool of talent candidates and provide them opportunity of virtual job previews. At present the use of electronic recruitment is getting popularity among the human resource experts working in different sectors of businesses. It also minimizes the cost of recruitment and also speeding up the process of recruitment.

- E- Selection: Selection is the process of choosing candidates having required qualification and competency to fill up jobs in the organization. The use of E- human resource practices provide the facilities of e-selection of competent employees. At present most of the modern organizations are using e-selection system to assess the knowledge, skills, and abilities of job applicants. They conduct job related interviews, assessment of personality, background analysis of the candidates through online by using computer systems. Finally, intelligent web-based systems are used to generate profiles of candidates which can help the HR managers for making hiring decisions.

- E- Learning: Learning refers to the permanent change in behaviour and activities of employees due to experiences and practices. An effective implementation of e-human resources projects can facilitate e-learning in the organization. At present, HR managers use various forms of web-based technology to design and enhance the delivery of education and training programs for employees such as Viber, Messenger, Zoom, Microsoft Team, Google meet and other online means. The use of e-learning systems facilitates to deliver education and training to the employees having various locations which may increase the flexibility and also reduce learning costs.

- E- Performance Management: Performance management refers to a set of measures should be taken in order to increase level output through the proper use of facilities and resources. An effective implementation of e-HR system can facilitate to e-performance management that can support for effective functioning of business operation of the organization. A computer monitoring system can be used to count the number of work units completed per time period, the number of key tasks, time spent for various tasks, and error rates. Besides, technology may be used for performance appraisal and for delivery of feedback of employees. It can facilitate to track unit performance, grievance rates, absenteeism and employee turnover over time.

- E- Career Management: Career management is a life-long process of using resources and capabilities by the individuals for achieving future career goals. E-HR system provides career guidance to the employees within the organization and also outside the organization that can support them for managing future career. The computer-based career guidance systems are analytical tools that facilitate the employees to identify and give priority for future career development. These systems also facilitate the employees to compare the skills and efficiency

they hold and level of skills and knowledge required for various positions.

- E- Compensation: Compensation refers to the incentives and benefits provided to the employees in return of their contribution towards the organization. E- human resources systems facilitate to use web-based software to administer incentives, benefits and payroll system of the organization. E-compensation supports HR managers for developing rational compensation system by providing information of design and model of compensation, critical market information, cost and benefits assessment, and provision of laws and union contracts. HR managers can use e-compensation to ensure that compensation system is equitable and may enhance employee motivation and retention levels.

- E- Industrial Relations: Industrial relation refers to maintaining productive relation between managers and employees and also among the team of employees. E-human resource systems emphasize to use web-based software that facilitates to establish an effective HRM system in the organization. It supports the HR managers for taking decision to solve HR related problems which facilitates to maintain good industrial relations in the organization. Whenever any conflict arises between managers and employees, the established system would be the basis of collective bargaining and entering into contract with labour union.

- E- Occupational Safety and Health: Occupational safety and health in workplace is the means where workers and managers collaborate for continuous improvement in health and safety of all the members. With help of electronic means the managers continuously inform to the employees about the effectiveness of activities through reducing risk of accidents. They encourage replanning the work process so that occupational diseases, accident and other risk factors would be minimized. Timely sharing of such safety and health related information support to change the attitude, behaviour and activities of employees.

Status of HR Technology in Nepal

The HR technology has been seen significant advancing in most of the successful entities of Nepal. But, most of the traditional Nepalese entities are still using manual spreadsheet and paper work for dealing the HR activities. At present, in most of the modern entities there is cloud-based HR technology is applied to process HR database system of the organizations which helps to reduce the paper-work and manual hassles. Most of the modern Nepalese entities are using automation and IT based HR system for systematic management of HR activities. Some popular HR software used in Nepal include BambooHR, Darwinbox, and Zoho People. However, there are still several challenges that need to be addressed by the HR managers to operate HR functions more effectively and efficiently across various entities. The status of HR technology in Nepal may be studied through following dimensions and perspectives:

- Human Resource Administration: Most of the successful corporate entities of Nepal are using HR technology for administration of their HR functions. They are using HR software that can help for systematic management of employee database system of the organization. They serve as

the means of systematic and safety store of all the detail information of employees. It would support executives, HR managers and the employees to get access to information of all the employees working in the organization. However, traditional Nepali entities are still using manual paper-based system to administer HR activities.

- Human Resource Planning: HR plan is formulated by maintaining link with objectives and strategic plan of the organization. HR planning is the process of systematic review of human resource requirement in the organization. It is the basis through which the HR manager can initiate the recruitment and selection process to fulfill the required employee in the organization. HR managers of modern corporate entities of Nepal are using HR software that support them to collect, store and update the existing data related to the experience, skills, knowledge and competencies of the employees. However, traditional and non-institutional entities of Nepal are maintaining manual paper-based HR system.

- Recruitment and Selection: The main focus of recruitment and selection is the placement of employees based on job requirement of the organization. Most of corporate organizations are using various job portals for recruitment and selection of talent and competent candidates. These job portals include merojob.com, froxjob.com, jobsnepal.com, kantipurjob.com, ramrojob. com and kumarijob.com. Similarly, Civil Service Commission is also using online portals for recruitment and selection of civil servants and employees of public enterprise. But, most of the un-institutional entities of Nepal are using manual system in recruitment and selection process.

- Human Resource Development: HR development programs are essential for improvement of working efficiency and skills of employees. Application of HR software can support the HR managers for introduction of efficiency development programs based on requirement. Most of corporate organization and also Government institutions of Nepal are using IT and various software programs to organize efficiency development programs such as training, seminar, workshop, and career development of employees. HR development programs ensure the required competencies of the workforce to perform assigned task efficiently. However, most of the Nepalese traditional business houses have lack of such training and development programs for improving employees' working efficiency.

- Career Development: Career development is an individual's lifelong process of establishing personal career objectives. It refers to the searching of career scope for future professional life of individual employee. In context of Nepal, most of the organizations have lack of IT and technology-based career development and career counseling programs for the employees. However, for civil servants and employees of public enterprises, there is the provision of technology-based career development programs based on their experience, education, job performance and other criteria. Similarly, corporate business entities of Nepal have their own provisions of developing future career of employees.

- Performance Appraisal: Performance appraisal is the process of getting feedback of the performance outcome of individual and groups of employees. It is the basis of judging critical

behaviour and activities of employees. In the context of Nepalese government institutions and public enterprises they have provision of using HR technology and software for performance appraisal but there is lack of up-to-date technology. Similarly, Nepalese corporate business entities have their own HR software and system of performance appraisal of employees. But most of the unorganized sectors of Nepal have lack of any provision of using technology in performance appraisal system of employees.

- Compensation Management: Compensation management concentrates on incentives provided to the employees based on their skills, experience and job performance. They are essential for fulfillment of needs and maintaining social value for the employees. In most of the Nepalese organization there is no provision of using IT and technology for compensation management. However, in the context of government institutions and public enterprises, there is provision of using software and integration of compensation system in central location. Similarly, in corporate business houses of Nepal have their own provisions of maintaining software programs for the management of compensation system.

- Industrial Relation: Industrial relation refers to maintaining productive relation between managers and employees and also among the team of employees. IT and technology-based HR systems emphasize to use web-based software that facilitates to establish an effective HRM system in the organization. In the context of Nepali government institutions, public enterprises and also in corporate entities, they have networking system for maintaining communication among employees and their representatives. However, in unorganized sectors there is lack of networking system for communicating information between employers and employees.

Use of technology for HR decision-making

Employers have searched for new ways to improve the efficiency and effectiveness of people management by using new data processing technologies. Rosenthal (2019) suggest that the history of data-driven HRM is longer than it may seem by demonstrating how early 19thcentury American plantation owners utilized the advanced data management techniques of their time to make the most of their slave workers. During the 20th century, IT provided organizations with unprecedented opportunities to try new ways to improve HR practices. Over the last 60 years, HR researchers have followed the development of new HR technologies from EDP to HR analytics and examined how these technologies were employed to support HR activities including record keeping, work scheduling, workforce planning, recruiting, training, performance management, and HR decision-making. In the following, we discuss the developments over time in this theme. In this period, computer technology engineers emerged as an influential workforce (Etzioni & Jargowsky, 1984). This period also saw concerns in the United States about the shortage of science and technology workers (Gover & Huray, 1998). Organizations wished to attract and retain capable technology workers and convert them into committed organizational members.

Conclusion

At the present most of the corporate organizations use different forms of related software for managing human resource in an effective way to bring effectiveness in performance outcomes. They use technology in various HR activities consisting of recruitment, selection, training, development, financial transactions, performance appraisal and other activities to bring system and improve overall performance of the employees. Technology is also applicable in job analysis, HR planning, learning, performance management, career management, compensation management, and maintaining good labour and industrial relation. The proper use of technology in HRM facilitates the management to save time, effort, budget and helps to bring effectiveness in organizational performance through the proper use of human skills and efficiency. The main focus of the use of modern technology along with relevant software for managing HR activities is to bring specific system in organizational activities for improving performance to use resources consisting of money, material, machine and information technology in an effective way which helps to maximize productivity, maintaining quality and minimizing cost of products and services which facilitates to improving competitive strengths of the organization in the market. However, in most of the Nepalese enterprises especially unorganized sectors are still in manual system of managing HR activities.

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