Impact of Technology on HR Practices

Dr. V. K. JAIN
Associate Professor & Head, Dept. of Commerce,
G M N College, Ambala Cantt., Haryana (India)

Abstract
Our world has become a global village. The improved means of communication, technological advancements, computer and internet have brought the horizons closer and changed the functioning of the business world in a great way. Many business functions can be performed speedily and with much more accuracy with the aid of computers and the Internet. The impact of technology has been observed in all areas of business including HR practices. Human Resource Management (HRM) is no longer limited to recruitment and training. It has become an indispensable part of every organization. Technology and HRM both are closely associated to each other. IT has significant impact on increasing the efficiency of recruitment, maintenance, development and decision-making functions. The present paper is an attempt to study the impact of information technology (IT) on HR practices.

Keywords: Technology, Information Technology (IT), Human Resource Practices (HR), Recruitment, Training, Development

1. Introduction

“The HR professionals should remember that employees are the lifeblood of any company. If we create a great workplace experience for them, they’ll pay you back one hundred fold in feedback and productivity”, Craig Bryant.

Human Resources are the most significant and vital for the success of any organization. The roles and skills of HR managers have grown considerably in recent times due to the adoption and use of new technologies. The managers are now able to perform the traditional functions of procurement, maintenance, development and utilization more effectively and efficiently. The human resource managers can now take up more challenging roles in the organizations. The growing use of information technology in human resource has significantly increased the efficiency of HR management activities and processes, increased their speediness and reduced cost. It has created an effective and efficient communication system, employee engagement, talent management, employee development, performance management,
training and learning. In addition, the use of HRIT provides value to the organization and raise HR professionals’ status in the organization (Ulrich, 1997).

The traditional HRM style mainly focused on supportive personnel activities for a company including collecting employee information, monitoring individual performance, and implementing organization policies. The new role of HR manager should understand the business strategy and formulate the corresponding management strategy on human resources to improve delivered service, and act as a strategy partner with top management team (Beer, 1997; Mohrman & Lawer, 1997).

HR professionals should adopt technologies that support organizational changes and create a proper developmental climate to develop innovative and knowledge-based organizations.

Craig Bryant In his paper “Five Predictions for Where HR Technology Is Going in 2014” observed that HR professionals at companies large and small should be ready for a few changes and trends that the new year could bring. A brief description of the challenges before HR is given below:

1. Hiring is likely to be on rise and this would mean, competition for talent will increase. HR managers need to hire people who could increase overall productivity and develop employee’s perception in relation to company’s overall operations.

2. HR people can spend more time on the human aspects of the workplace, and less time chasing papers and emails. This would lay foundation of good organizational culture. HR would play a significant role of helping employees to learn, grow, and contribute which will be a key differentiator in an increasingly competitive marketplace for talent.

3. Comprehensive HR tools coupled with stunning point solutions for recruiting and performance management are coming of age and are increasingly accessible to smaller organizations. It will help small organizations to compete in the talent market. It is good for entrepreneurship, diversity and innovation.

4. As the technology improves and education makes its way, organizations will have more cost-effective options and will be able to put more choices into their employee’s hands.

5. As the economy gains momentum again, would-be startup founders will get more as they will be more confident about throwing their hat into the ring. The newer, tech-centric innovators and professionals will have better opportunity than the traditional HR consultancies.

The HR professionals should remember that employees are the lifeblood of any company. If we create a great workplace experience for them, they’ll pay you back one hundred fold in feedback and productivity.

2. Survey of Literature

A number of studies have been made and many books have been written regarding the role of IT on Human Resource Management. The use of information technology in HR has grown considerably in recent years. A review of literature reveals that:

The role of IT in HRM can be traced back in the last decade of 20th century. Ruel et al. (2008) have explored that the term e-HRM was first used in the late 1990’s when e-commerce was sweeping the
business world and e-HRM is internal application of e-business techniques. It helps the management in more effective and efficient flow of information and method of doing HRM. Organizations could manage an increasing number of HRM processes in an effective manner with the improved information technology, thereby contributing to the availability of information and knowledge. This in turn helped HRM professionals to play a strategic role in attaining improved competitive advantage.

Attracting, retaining, and motivating employees, meeting the demands for a more strategic HR function, and managing the “human element” of technological change in the future has been enabled by advancements in IT to meet the challenges of HRM (Ashbaugh and Miranda, 2002). HRMSs can meet the challenge of simultaneously becoming more strategic, flexible, cost-efficient, and customer-oriented by leveraging information technology (Snell, Stueber, and Lepak, 2002).

Adewoye, 2012 in his paper “The Impact of Information Technology (IT) on Human Resource Management (HRM): Empirical evidence from Nigeria Banking Sector - Case Study of Selected Banks from Lagos State and Oyo State in South-West Nigeria” has mentioned that the interaction and intersection between IT and HRM lead to the emergence of HRMS. It merged all HRM activities and processes with the information technology field while the programming of data processing systems evolved into standardized routines and packages of enterprise resource planning software.

Walker (1982) states that an HRIS is a systematic procedure for collecting, storing, maintaining, retrieving and validating the data needed by an organization for its human resources, personnel activities and organization unit characteristics. It can support long-term planning in relation to manpower (Kovach et al., 2002) including supply and demand forecasts, staffing, separations and development with information on training program costs and work performance of trainee. It can also support compensation programs, salary forecasts, pay budgets, employee relations, contract negotiations etc. Communication and information technologies have added value to HR applications which helped in developing a human resource information system (HRIS).

Pinsonneault, 1993 observed that the use of IT in HRM to organizations has helped to free the HR staff from routine roles and enable them to concentrate on strategic planning in human resource development. In the present context of increasing globalization, Tansley and Watson (2000) observed that the organizational environments have become increasingly complex. Managers in these organizations face growing difficulties in coping with workforces as they are spread across a variety of countries, cultures and political systems. Managers can utilize IT as a tool in general as well as in human resourcing functions in particular to increase the capabilities of the organization.

Highlighting the impact of IT applications on HRM in banking sector, Iraz and Yildirim (2004), explained the role of IT in e-learning.

From the above mentioned studies, it can be concluded that HR is now being considered as an integral part of the organization. It is not limited to procuring and utilizing manpower only. It is equally significant in cutting costs by keeping record of employee data, their potentials and performance as well. New software is being developed for strategic planning, manpower forecasts, managing training and manpower budget, compensation system management, bettering employer-employee relations etc. Information Technology has made a great impact on the increasing the effectiveness and widening the
role of HR function. HRIS system helps employees to add and modify information relating to them and view their reports. However, little research has been made to explore the impact of IT on HRM.

3. Statement of the Problem

Many researchers have been undertaken in the past to study the changing role of HR function. HR is no longer now restricted to procurement of manpower. HR professional are rather involved in complete transformation of HR processes with the use of latest technology. The use of IT in HR is likely to reduce cost, improve service, and achieve effectiveness. Keeping these facts in mind, the present study has been undertaken.

3.1 Methodology

Secondary data has been used for the present study. The secondary data has been collected from extensive desk research through library, different published materials and the world-wide web.

The study has been made to examine the IT tools used for HR Planning, Recruitment, Communication and Engagement, Maintenance and Development.

3.2 Objectives of the Study

The study seeks to explore the answers of the following questions:
1. What are the functions performed by the traditional HR Dept.?
2. What changes have taken place in HR function in the recent past?
3. What is possible role of HRIT on the changing HR function?

3.3 Significance of the Study

The study is of great significance to the business organizations as it highlights the various technological tools applied by HR professionals from time to time, the changing role of HR and likely impact of technology on HR.

4. Analysis and Interpretation

To achieve the above objectives, the study is divided into two parts -

A. Traditional Vs. New HR Functions
B. Role of Technology in HR

4.1 Traditional Vs. New HR Functions

4.1.1 Traditional HR

Storey (1995) has stated that – “The traditional personnel managers paid attention to labor management, but did not participate into a company’s planning and strategy decision. They paid great attention to control their employees, including carefully designing the contracts and rules for monitoring the employees.”

Till the last two decades of the 20th century, HR function was designated as the personnel management performing the functions of personnel administration and industrial relations including recruitment, selection, training and development, performance appraisal, rewards and industrial relations. HR was not
given due importance in the organizations. The role of HR manager in the organization was limited frame rules and regulations for employee management. Actual decisions were implemented by the line managers as they were responsible for building employee relations and maintaining peace.

During this period, there was a shift in the role of HR professionals as they were being considered for strategic business issues. Scope of HR was widened to some extent with new HR functions relating to strategic business issue. Besides, performing the routine HR issues at the operational level and procurement and maintenance of workforce at managerial level, he was involved to higher level in policy formulation to get talented and qualified people and analyze long-term manpower demand. Thus, HR professionals began to be included in organizational policy framework. However, it was still mainly involved with routine administrative matters only in most of the organizations.

![HR Professional](At Operational Level)

![Line Manager](Policy Execution)

![Employee](Policy Execution)

Figure 1: Traditional HR Function

It can be inferred from the above discussion that HR in its traditional role was concerned with administration of HR function, making decisions on issues of industrial relations and forwarding them to line managers. Later a new role was added i.e. to participate in policy framework for forecasting long-term manpower demand.

4.1.2 New HR

There was considerable change in the role of HR professionals in the last decade of the 20th century. Ulrich (1997) defined four roles of HR professionals including - role of strategic business partner, change agent, administrative expert and that of employee champion. As strategic business partners, HR professionals work with top executives to develop, implement and appraise competitive business strategies, HR strategies, policies and practices and supportive business strategies. In their role as change agents, they manage the Organizational changes and create new culture where its employees are motivated to participate in the new situation. As administrative experts, they help in designing organizational processes, building organizational capacity to gain competitive advantage, reducing cost, adding value and better HR services to make HRM works more effective and efficient. In the role of employee champions, the HR professional plays a significant role of motivating the employees and provides them training to enhance their competencies. He represents the voice of the employees and is responsible for enhancing their commitment, skills, knowledge and capabilities of the employees.
The first decade of 20th century started with new role of HR in the organizations. The old roles of HR were widened and some new functions and responsibilities for HR professionals were assigned. HR which initially had lesser significance as compared to other functions like finance and marketing was now gaining significance similar to its counterparts.

The role of HR professional as strategic business partner has been confirmed by other studies also (Svoboda & Schroder, 2001). Kraut (2005) opined that HR department sets closer relationship with the whole organization. He viewed the role of Line managers as executors and proponents of HR policies and strategies. Besides, the line managers are the policy-makers and executors of own department. HR professionals should assist the line managers to connect the aim of department with whole business objective, and help line managers on HR related tasks.

The changing role of HR professionals in the present scenario made Ulrich and Brockbank (2005) to develop a new model. The model explains five functions of HR professional which replaced their earlier model with four roles developed in 1997 as explained earlier. These five roles were: strategy partner, functional expert, employee advocate, human capital developer and HR leader. They also specified the responsibilities with each role.

These roles are briefly explained below:

The **strategy partner** has multiple roles including business expert, change agent, and knowledge manager. The change agent which was designated as separate role in the previous model now becomes part of the strategy partner. The role of strategy partner is to help line managers to reach their goals.

**Functional expert** in this model is an extension of the traditional function of administrative expert. Its scope now includes the use of technologies for administrative efficiency and is responsible for the HR practices delivery.

**Employee advocate** is concerned with the employees. The employee advocate focuses on current employees to ensure friendly relationship between employees and employers.
Human capital developer also deals with the employees. It lays emphasis on the future workforce, including developing present employees for future development as well as acquiring suitable workforce externally.

HR leader controls the whole situation. The leadership is a function of all the above mentioned four roles. HR leader should set the relationships with each HR function, and supervise the whole HR community.

Truss et al. (2002) have done the research about different roles of HR professionals in different types of organizations viz. creating effective communication channels between different work levels, employment administration and labor relations, acting as the internal consultant for their employees, services to assist in the career development of employees; to coordinate with line management and to support employees; and focus on executive and strategic issues.

It can be concluded that HR function has shifted its rationale from technology-oriented to strategy-oriented. The relationship of HR professional manager with line manager and the employees has also changed. HR professionals as business partners have started working in alignment of HR strategies with business strategies, and collaborating with line managers of other departments. HR professional is shaping the organization at the strategy level; at the managerial level, he is working with Line Managers in a collaborative manner and at the operational level he has now no role to play. The line managers deal with the employees to execute the policies. They perform new tasks such as planned development, talent management, etc. It is, thus, creating values for the business enabling its growth and prosperity.

The HR professionals today needs focus on the development of employees with potential and constantly stimulation of their motivation. They provide training and studying program to help workforce to reach new qualification level, keep competitive knowledge and skills, and maintain the advance of business (Gutierrez, 1995).

4.2 Role of IT in HR

The globalization and liberalization on the one hand and technological advancements on the other require the business organizations to rethink the role of their HR function. The HR professionals should effectively utilize the information technology for developing competencies of the people to face these challenges and for the growth of the business as well. The application of information technology can make value-addition and raise the status of the HR professionals as a whole.

The business world is becoming more and more competitive and faced with new challenges each day including business environmental change, technological change, customer satisfaction, growing competition and issues relating to reduction in cost and increase in productivity. It is the ‘people’ who can meet the challenges of the present day market.

The technological advancement has been driving force for creating new roles for the HR function to improve their business competence. Human Resource Information technology has made it easier for the HR department to integrate their databases, and provide information on the policies, news, and publications etc. It is the simplest form of implementation of the HRIT which could be accessible by anyone, anytime and anywhere within the organization. It has also enabled the employees to update the information and thus, relieved the HR professionals of the burden of maintaining and storing records.
They can now focus on other important tasks including interpretation of the data, strategic planning, career planning and development, employee training, appraisal and feedback.

Long, Yu (2009) has mentioned that a survey of HR executives by SHRM (Society for Human Resource Management) indicates that extensive use of HRIT which requires HR processionals to focus on developing IT-based HR applications. The finding suggests that IT can reduce routine work and allow better information communication and autonomy, which leads to fundamental change in the nature of HR professionals’ work. He also explained different roles of HR are mentioned in the form of diagram which is presented in modified form below:

Figure 3: An Overview of HR Roles

- **Changing Roles of HR**

  - **Traditional HR**
    - HR Professional
      - Recruitment
      - Selection
      - Training
      - Performance Appraisal
      - Rewards etc.
    - Line Manager
      - Relationships
      - Communication
      - Selecting suitable people
      - Managing
      - Planning training programs
      - Managing leaves, LTC etc.
    - Department Policy Maker
      - Executing HR strategies
      - Making HR policies for own department
      - Supervising department employees
      - Managing recruitment, selection and training program
      - Making programs for employee motivation
  
  - **New Role of HR**
    - HR Professional
      - Strategy Partner
      - Change Manager
      - Admin. Expert
      - Employee Champion
    - Line Manager
      - Relationship Builder
      - Operational Supervisor
      - Selecting suitable people
      - Managing employees
      - Planning training and Learning programs
    - Employee
      - Self-developer
      - Self-manager

- **HR and IT**

  - HR Professional
    - Strategy Maker
      - Organizational Developer
      - Internal Consultant
    - Line Manager
      - Department Policy Maker
      - Operational Supervisor
    - Employee
      - Self-developer
      - Self-manager

1. Developing HR strategies and policies.
2. Developing evaluation method.
3. Monitoring the implementation of strategies.
4. Training, motivation and Communication.
5. Organizing culture change.
1. Building employer-employees relations.
2. Establishing effective communication.
3. Selecting the suitable people for organization.
4. Managing the employees.
5. Planning training and Learning programs.
1. Monitoring HR strategies and policies.
2. Keeping a track record of employee till retirement.
4. Passing instructions on HR Issues.
1. Executing HR strategies.
2. Making HR policies for own department.
3. Supervising the dept. employees.
4. Managing the recruitment, selection and training program.
5. Making programs for employee motivation.
1. Managing personnel data.
2. Checking information about salary, increments, other benefits such as pension, and health benefits.
3. Managing leaves, LTC etc.
HRIT has caused significant impact on HR functions. The application of HRIT can change the information flows significantly, due to the fact that the system enables users more efficiently to collect, disseminate and access the information (Stone, Romero & Lukaszewski, 2006). A number of tools have been developed such as e-recruiting system, e-selection system e-performance system, and e-compensation system. For example, in the recruitment, without the face-to-face interview and inquiry HRIT can make the applicants easier to collect information about jobs and to access to the HR professionals. Similarly, information about employee skills, qualities, appraisal data etc. can help in making decisions about their promotions, information on employee feedback can be used for improving their qualities. Further, the modern techniques like internet, email, sms etc. are quite useful in sending and updating information and executing tasks and can reduce the constraints of place and time.

4.2.1 Technological Tools used by HR Professionals
Technology has played an important role in transformation of HR and its role in business in last two decades. Some of the technological tools used by HR professionals for performing various HR functions are mentioned below:
Mishra, Alok and Akman, Ibrahim (2010), in their paper explained the use of various IT tools including application software such as DBMS, spreadsheets, data mining/data functions; information system software such as decision support systems, executive information systems, expert systems; information and communication technologies (ICT) such as LAN/WAN/neural network, internet/intranet, web portals etc. They confirmed the use of computers and IT tools for recruitment functions such as position inventory, recruitment using recruitment tasks Internet, employee selection, employee management and workforce planning; training functions including training and human resource development, and maintenance and performance evaluation, employee turnover, tardiness and absenteeism analysis, management and planning functions like personnel files and skills inventory, benefit and planning management and planning administration, government reports, succession planning and implementation. The various tools used by HR professionals for HR functions are mentioned below:

1. **Procurement**: Procurement is the most significant function of HR. It includes employee recruitment, selection and placement. Hiring is becoming more and more complex. To seek information about the job seekers and jobs both employers and employees use job portals and other technological services as mentioned below:

<table>
<thead>
<tr>
<th>Technology Tools</th>
<th>Use of Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>e-recruitment web portals</td>
<td>Employers post their positions and qualification. Job seekers select their expertise and apply online.</td>
</tr>
<tr>
<td>Social Media Sites like Facebook, LinkedIn</td>
<td></td>
</tr>
<tr>
<td>Induction Packages</td>
<td></td>
</tr>
<tr>
<td>HR Planning &amp; Forecasting</td>
<td></td>
</tr>
</tbody>
</table>

2. **Employee Development**: Employee development as a function of HR has gained significance in the recent past. The increasing competition has necessitated the reduction in costs on the one hand and increasing efficiency on the other. The organizations are therefore, laying more and more emphasis on improving employee skills and developing their potentials to increase their efficiency. Various technological advancements are helping the organizations in this direction as mentioned below:
3. Compensation: A good compensation system motivates the employees to work. Compensation is yet another important function of HR.

Table-3: Compensation

<table>
<thead>
<tr>
<th>Technology Tools</th>
<th>Use of Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payroll, e-compensation, Compensation settlements Flexi-reward Packages Facilities/ benefits Administration.</td>
<td>The IT tools on compensation management company and the employees to discuss the compensation plans. The company can determine the cost to company (CTC) for the compensation plan awarded to employee and employee can also determine the pay he will get in hand.</td>
</tr>
</tbody>
</table>

Payroll, flexi-reward packages and other employee benefits make the compensation management more complex. Various technological tools are available for assisting HR in effective compensation management.

4. Employee Relations, Communication and Work Environment: Various technological tools are available to ensure Organization Development (OD), knowledge management and thus help in developing good employee relations and create sound work environment. There are tools for maintaining effective communication, data protection and data sharing also. Table 4 mentions some of these tools.

Table- 4: Employee Relations, Communication and Work Environment

<table>
<thead>
<tr>
<th>Technology Tools</th>
<th>Use of Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication data sharing , data protection, knowledge management, Intranet, OD and Team Development</td>
<td>Creating Shared information environment to allow flow of information from one central point enabling smooth flow of information- Upward, downward, horizontally, and outward, quick communication and better decision-making. OD exercises will help in bringing organizational change and effective team development and build better employer-employee relations.</td>
</tr>
</tbody>
</table>

5. Decision-Making: In complex and large organizations, there is large data which is difficult to handle and use effectively for decision making. Technology has made a great change in assisting the HR to
make effective decisions. The various technological tools for effective decision making have been given below in Table-5:

<table>
<thead>
<tr>
<th>Technology Tools</th>
<th>Use of Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decision Support System (DSS)</td>
<td>Technology will help you make quick business decisions through the IT tools having capability</td>
</tr>
<tr>
<td>Data warehouse having data mining tools</td>
<td>of summarizing large amount of data with speed and getting useful results</td>
</tr>
<tr>
<td>Artificial Intelligence (AI) System,</td>
<td></td>
</tr>
<tr>
<td>Online Analytical Process (OLAP)</td>
<td></td>
</tr>
<tr>
<td>Group Decision Support System (GDSS)</td>
<td></td>
</tr>
<tr>
<td>Groupware</td>
<td></td>
</tr>
</tbody>
</table>

6. Human Resource Information System (HRIS): HRIS is also very useful function of HR in the modern times. The information is made available to the employees, managers and the external parties on internet, intranet and company portals in no time. The technology has added a new dimension of ‘transparency’ in place of traditional system of ‘confidential’ which has helped in creating an atmosphere of trust and belongingness in the organization. Table-6 highlights such tools of HRIS.

<table>
<thead>
<tr>
<th>Technology Tools</th>
<th>Use of Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intranet availability of Data record of Employees, Spread of information throughout organization, employee self-service</td>
<td>The availability of information throughout the organization via intranet, company portals, employee portals and access of information on company policies, employee feedback etc, brings in transparency and boosts employee morale</td>
</tr>
</tbody>
</table>

These technological tools are highly significant for the HR professionals as they will increase the overall efficiency of the business. The accuracy of information, analysis of data, dissemination of the policies and outcomes in business will certainly provide competitive advantage over others as information technology is able to propagate right information to the right people at the right time. These changing techniques are creating a positive impact on the HR practices. By understanding and adopting these new techniques will help HR professionals to make a place for himself and his organization for continuous growth in the market.

5. Conclusions
From the above discussion, we can draw the following conclusions:

1. There is a shift in HR functions from traditional personnel functions such as recruitment, selection, training and development, performance appraisal, rewards to consultative strategic business issues and policy formulation to some extent in 80’s.
2. The scope of HR activities was widened in 90’s with HR professional performing the role of strategic business partner, change agent, administrative expert and that of employee champion.
3. During the 1st decade of 21st century, HR professional was assigned new roles including strategy partner, functional expert, employee advocate, human capital developer and HR leader with wide range of activities as mentioned by Ultrich. Later, the globalizations and liberalization policies
and increasing use of IT in HR, HR professional is now performing the role of Strategy Maker, Organizational Developer and Internal Consultant continuously monitoring HR strategies and policies, keeping a track record of employee till retirement, managing employee talent and Passing instructions on HR issues.

4. The task of HR professionals has been simplified with new technological tools, communication technologies and new application software have made and they can now spend more of their time on policy framework, strategic planning and other such issues.

5. Various HR functions of HR can be effectively managed through the use of computers and IT tools. For example, the functions of recruitment, employee selection, employee management and workforce planning are managed through Internet, web portals, video conferencing, data warehouse etc.; training, maintenance and performance evaluation, feedback, employee turnover, tardiness and absenteeism analysis, management and planning functions, succession planning etc. through Internet, Intranet, employee portals, and company portals etc. It appears that the role of technology in HR management is likely to increase in the coming years. The significance of HR function in the organizations has increased much in the last 20 years. New roles are likely to be added with the changing scenario. Talent acquisition, competency mapping, newer appraisal systems like 360 degree feed forward, retention, contractual labour, compensation, employee engagements, rewards etc. are the new roles being added. Newer software and technological tools will certainly help the HR professional in these new assignments. Nevertheless, the role is HR has become more challenging in the organization.

6. References


