

# TECHNOLOGY, ORGANIZATION AND MANAGEMENT



## LEARNING OBJECTIVES

After comprehensive study of this chapter, you will be able to:

- get the concept and technology and its use in organization,
- be familiar with use of technology in social networking
- get knowledge for people management by using technology

## CONCEPT OF TECHNOLOGY

Technology is the application of scientific knowledge, techniques and applications for the purposes of organizational effectiveness and efficiency. It is the advancement in ways or principles of doing things to ensure better productivity and profitability. For example, advancement in computer technology has reduced the burden of office space, retrieval of information, need of people for calculation, computation and reporting. Technology includes anything machinery, equipment, applications and principles based on scientific knowledge for advancement of doing business in the organization.

Technology as a noun, is the branch of knowledge which creates, and develops different application i.e. technical means and their interrelation with life, society, and the environment with the purpose of making like easy, production and distribution process more efficient and effective.

Technology, the application of scientific knowledge to the practical aims of human life or, as it is sometimes phrased, to the change and manipulation of the human environment.

**MacKenzie and Wajzman:** "Technology is the integration of the physical objects or artifacts, the process of making the objects and the meaning associated with the physical objects."

**Britannica:** "Technology, the application of scientific knowledge to the practical aims of human life or, as it is sometimes phrased, to the change and manipulation of the human environment."

**Wikipedia:** "Technology can be the knowledge of techniques, processes, and the like, or it can be embedded in machines to allow for operation without detailed knowledge of their workings. Systems (e.g. machines) applying technology by taking an input, changing it according to the system's use, and then producing an outcome are referred to as technology systems or technological systems."

Technology has changed the lives of people, economy and there is nothing beyond the expectation of human being because of the technology nowadays. Organizations who can manage the advance technology enjoy competitive advantages over other competitors. Technology has connected the whole world into a single stage either through communication or by means of transportation. Many organizations are being global and serving their customers and significant profit because of use of technology. Besides positive effects, many technological processes produce unwanted by-products known as pollution and deplete natural resources causing detrimental of the environment. Technology not only has adverse effect on environment but it also negatively affects to the job opportunities to the people. This has brought new discussion as to what extent technology need to be advanced and used so that human values, social virtue and environment can be protected.

## APPROACHES TO TECHNOLOGY AND ORGANIZATION

Technology plays a key role in sociological analysis of organizations. The conceptualization of technology in organizational studies involves much more than the machinery or equipment utilized in production. It involves the *raw material* including living being, a symbol, or an inanimate object. Its nature affects how the organization is structured and operated. Yoram Neumann (1979) proposed three alternative approaches to understand the organizational technology and their interdependence. Here, these three approaches are discussed to understand technology and organization.

### TECHNOLOGY AS SOURCE OF ORGANIZATIONAL UNCERTAINTY

One of the schools of thought in organizational theory focuses on the role of technology and business environment in explaining variations in functioning patterns and organizational structure. Organizations differ in terms of the uncertainty of their environment and predictability of their technology. Differences in organizational structure and functioning can be attributed to differences in the predictability of the technology and the uncertainty of the environment.

Technical development and technical conditions affect the work system. This approach includes both operations and production processes in technology. Technology can also be explained in terms of work knowledge, including predictability of the tasks, number of exceptional cases, and certainty of the environments.

**TECHNOLOGY AS SYSTEM**

Technology is analyzed at the system. Some fields in organization have developed set of agreed assessment criteria (physical sciences). Different organizational fields in science are not uniformly developed. It can be argued that different fields differ in terms of their technological development. Clear criteria against which the impact of new findings can be assessed and for which the majority of outcomes are more or less anticipated.

**TECHNOLOGY AS SOURCE OF STABILITY**

Technology is positively related to change in resources; stability is associated with technology for certain aspects of organizational activities. Highly developed technology involves change. Organizational goals can be achieved through the optimal use of science system as technology enhances the productivity. Stability was tuned to be positively related to technology. Stability, as a norm associated with technology, is valid only to those change aspects which are not situational constrained.

**SOCIAL NETWORKING IN BUSINESS USING TECHNOLOGY**

Social networks can be defined as a type of virtual communities which can be affected by the online environment. It is a group of individuals who interact through specific and well-defined medium. Each social network, which is connected with the organization, represents a potential target organization. Each should therefore be assessed in terms of potential impact on the organization. We also need to determine the level of participation of organizations in it and build a relationship.

Social network in organization emphasizes on the public relations emphasizing the fact that people often associate social networks, socialization and interaction groups of people with similar interests. Technology helps to build business social networking for improving organizations' communications. Business social networking tools such as Facebook and LinkedIn are being used by organizations to reach the corporate objectives and to create a positive company image. Specific social networks, such as personalized networks of influence, are perceived to be one of the main strategic resources for organizations.

In modern time, social networking is being an inevitable part of work life for personal as well as professional communication. In organization, social networking is found to have two objectives as i. exchanging personalized information like interests, personal life, hobbies and activities adapted for leisure management ii. exchanging professional and organizational information; informing, commanding and reporting job responsibilities in formal organizational structure.

Social networks can be used strategically to communicate organizational activities, processes and products to the market, consumers and channel members. This also can be used to collect new trends, changing consumers' preferences and competitors' activities. Thus, social network represents communication channels to actively communicate with users by helping companies to follow new trends.

Research reports have reported that the social networking is proved as a key factor for business success. Social networks are found to have more suitable for increasing brand awareness, recognition of the company and its bid to improve customer relations and to create new user groups. To achieve these objectives it is necessary to analyze the current situation and create a communication strategy. Organization use such social networks to coordinate a variety of strategies, tactics, messages and communication channels to create a message that will be clear and convincing users.

Social networking is a consequence of information communication technology. Organizations can manage their own social networks and more frequently they can get benefits of other social networks by boosting their promotional activities for larger exposure. There are a variety of popular networking sites for create a positive image of the company. Social networking means that there are websites where people can find and connect with each other and may have an impact on a specific target public.

## USE OF TECHNOLOGY IN PEOPLE MANAGEMENT

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Technology has not just changed the way of doing things and products quality and supply chain but also in people management. Technology, specially information technology has revolutionized the workplace. Technology has changed the knowledge centers and each organization creates inimitable human resources. Importantly, in the rush to embrace new information technologies, organizations must remember the fundamental principle that workers will invest in firm goals in the presence of shared values and a commitment by the firm to make their well-being a priority. With ample incorporation of technology in the organization, management should pay continuous attention to fulfill the psychological contract, and to the "people issues" that frequently seem less critical than issues of hardware or technology.

In last few decades, people management has responded to several major evolutionary changes in organizational life because of technological advancement. These changes include challenges of managing a more diverse work force, re-engineering and total quality management, globalized competition, and the expanded role of information systems and telecommunications technology. Such changes create challenges of impaired commitment or morale that may arise when an organization confronts difficult new challenges, and specifically when it reconfigures to accommodate technology. People and organizations need stability and core values, even in a changing environment. Role of technology in people management can be discussed as follows:

### **TECHNOLOGY AND STAFFING**

Many research works have empirically demonstrated the efficiency and effectiveness of technology in selective staffing practices (i.e., more active recruiting, and selection process). Technology in this way, facilitates in getting right people in right job. With the help of information technology, many people nowadays can be appointed to work from home (distant working).

### **TECHNOLOGY AND TRAINING AND COMPETENCIES**

Technology has critical significance in training need assessment, training design and making training effective. Technology helps in achieving a balance between a concern for mastery of mechanical facets of automation on one hand and for command of traditional "people issues" on the other. Technology also changes the job description and job specification, thus technology can be used to enhance the content of training to have best fit between job and person. Moreover, technology makes it possible to easily and quickly share information among workers and to form teams, perhaps virtual ones, around projects. Technology can reduce the time essential to provide content and understand the content of training. It is found that the employees good in technology can increase their overall competencies. This organizational reality poses serious problems for identifying the worker knowledge, skills, abilities, personality, and other characteristics needed for maximal performance in this environment.

### **TECHNOLOGY AND PERFORMANCE APPRAISAL**

Performance appraisal function is unique because it serves both administrative and developmental purposes in organizations. Performance appraisal is the must to ensure the fair opportunity to competent employees to improve their morale and commitment. Performance appraisal is the most essential administrative function as to determine pay, promotion, and other administrative outcomes. It also helps to determine the training need assessment, training design and creating learning environment and continuous improvement. For this, technology assist with higher efficiency and accuracy. Use of technology increases trust to the appraisal report. Technology can be used to provide the immediate feedback of performance appraisal which helps to improve the performance as soon as possible.

### TECHNOLOGY AND MENTORING

Mentoring is the most effective tool for managing people in the organization. It is proven fact that mentored individuals report more satisfaction, greater career mobility and opportunity, and a higher promotion rate than those who were not mentored. Thus, mentoring relationships have proven to be one key to a number of desirable outcomes in organizational life. Technology can be used at the greater extent to have regular contact between mentee and mentor to share their confusion and solutions. Interpersonal network and psychosocial support that mentoring provides will remain important factors in organizational outcomes such as pay and promotion of employees by using technology.

#### Technology and compensation

Advances in telecommunications and computer technology have contributed information systems permit close monitoring and instant performance feedback, allowing managers to tie rewards more closely to performance. In this respect, there are some obvious ways to fit organizational reward structures to features of technology systems. Whatever the configuration, it is a challenge to devise pay systems that reward flexibility, self-management, and mutual accountability for results along with the process skills that are essential in a team setting.

#### Technology and social support

Research findings have emphasized the importance of social support from supervisors and co-workers in facilitating adjustment to a new situation. Providing social support in the form of employee involvement practices, inclusion in office meetings, social events, and distribution lists, as well as sponsoring membership in professional organizations may all minimize the potential loss of social professional networks. Use of technology helps to increase the social support to each individual associated to the workplace.

#### Technology and competency management

Information technology enables HR professionals both to reach larger candidate pool and make decision making more objective and effective to employ more relevant and competent candidates by means of decision making techniques in the selection and recruiting process. Improving and shortening the recruiting process increases competencies of incumbents and as a result quality of works. Technology helps to enhance the competency of employees and whole organization.



### SUMMARY OF LEARNING OBJECTIVES

- ❑ **Concept of Technology:** Technology is the application of scientific knowledge, techniques and applications for the purposes of organizational effectiveness and efficiency. It is the advancement in ways or principles of doing things to ensure better productivity and profitability. For example, advancement in computer technology has reduced the burden of office space, retrieval of information, need of people for calculation, computation and reporting. Technology includes anything machinery, equipment, applications and principles based on scientific knowledge for advancement of doing business in the organization.

#### Approaches to Technology and Organization

1. Technology as source of organizational uncertainty
2. Technology as system
3. Technology as source of stability

❑ **Social Networking in Business Using Technology**

Social networks can be defined as a type of virtual communities which can be affected by the online environment. Social network in organization emphasizes on the public relations emphasizing the fact that people often associate social networks, socialization and interaction groups of people with similar interests. In modern time, social networking is being an inevitable part of work life for personal as well as professional communication.

❑ **Use of Technology in People Management**

Technology and staffing

Technology and training and competencies

Technology and performance appraisal

Technology and mentoring

Technology and compensation

Technology and social support

Technology and competency management



**Brief Answer Questions**

1. Define technology.
2. How technology is important to the management?
3. How technology can be used in staffing?
4. State how technology can be used in people management.
5. What is social networking used in organization?
6. State different approaches to the technology and organization.

**Descriptive Answer Questions**

7. Explain how technology can be used in management.
8. Explain different approaches to the organization and technology.
9. Explain the importance of social networking in organization.
10. Justify how use of technology enhances people management.

**Analytical Answer Questions**

11. Analyze the significance of technology in management along with challenges and prospectus.