

The Impact of Information Technology: Learning, Living, and Loving in the Future

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Submitted : June 2021, Accepted July 2021, Published August 2021.

Citation: Riwa Abyad. The Impact of Information Technology: Learning, Living, and Loving in the Future.

Middle East Journal of Business. 2021; 16(2): 20-23. DOI: 10.5742/MEJB.2021.93887

As Charles Darwin said " It is not the strongest of the species who survive, nor the most intelligent; rather it is those most responsive to change"

We are in the center of the third key revolution in human civilization, (Toffler, 1980, 1990; Toffler and Toffler, 1994, 1995; Cornish, 1996; Bell, 1996;). Humanity and technology develop reciprocally. Developments in one domain prompt changes in the other sphere, and vice versa. We have a traditional anxiety that technology - will take from us of our humanity - nevertheless our humanity to a pronounced degree is developed and preserved by technology (Lombardo, 1996). Information and communication technology in particular is instilling into everyday life - there are personal computers, business and social networks, servers, browsers, providers, telecommunication systems, and the Internet - the leading machine ever built. The Internet and the World Wide Web are figuratively growing into the nervous system of human civilization. So a global brain and a global mind are emerging. Our environment is becoming progressively more intelligent, flexible, and computerized (Stock, 1993). The current economy focuses over the production, distribution, organization, and utilization of information and knowledge (Drucker, 1993; Bell, 1996).

E-commerce relies heavily on the use of information systems and technologies. Information technologies include an extensive range of communication media and devices which connect information systems and people including voice mail, e-mail, voice conferencing, video conferencing, the internet, groupware and corporate intranets, car phones, fax machines, personal digital assistants, and so on. IT may be employed to boost the quality and timeliness of organizational intelligence and decision making, therefore encouraging organizational performance (Finger and Brand 1999). But, we have to keep in mind that some conventional means of communication frequently score higher than advanced technologies with respect to acceptability, ease of use, and richness. Therefore the effects of IT when they are applied correctly can help as an influential addition to an organization's communications infrastructure (Finger and Brand 1999).

E-commerce companies rely heavily on Information efficiencies (INE). Information efficiencies (INE) are the cost and time savings that result when IT permits individual employees to complete their existing tasks at a higher level, undertake additional tasks, and increase their roles in the organization owing to improvements in the capability to collect and scrutinize data. IT facilitates the augmentation of both the quantity and quality of information that may be satisfactorily analyzed. INE are principally a within-person or within-group effect. Therefore, IT simply allows each individual or subunit to execute more work; this will lead to an increase in organizational efficiency.

The use of electronic communication compared to face-to-face communication, has been revealed in the literature to boost the total communication in the organization (Edmondson, & Moingeon, 1999). This leads to the capacity to link and allow employees both within and between functions and divisions to communicate - whether through database repositories, teleconferencing, or electronic mail. Increasing online interdependencies makes critical information more accessible and transparent to employees and increases the incidence of problem-solving (Edmondson & Moingeon, 1999).

The basic rationale for E-commerce organizations is that in situations of rapid change only those that are flexible, adaptive and productive will excel. New technologies are a fundamental factor of bringing enterprise learning in a way that is cost-effective and that results in quantifiable improvements in workforce and business performance. A learning organization offers a wide range of opportunities for individual and collective learning and development. A learning organization is one where the maximum benefit is also leveraged from other learning opportunities such as day-to-day work experiences, team meetings, short-term secondments, and membership of task groups. Thus, for a 'learning organization' it is not sufficient to survive. 'Survival learning' or what is more often termed "adaptive learning" is critical. So "adaptive learning" must be joined by "generative learning", learning that enhances our capacity to create. Organizations learn only through individuals who learn. Individual learning does not ensure organizational learning, but without it there is no organizational learning. Advancing the organization in the right direction requires working to exceed internal politics and game playing

that control traditional organizations. In other words it entails nurturing openness (Senge 1998). It also includes pursuing to allocate business responsibly far more widely while holding coordination and control.

Learning organizations including companies using e-commerce understand how to exploit the power of information and communication technologies. They are used to fortify organizational identity; develop and maintain learning communities; keep staff members, clients, and others informed and conscious of corporate developments; initiate unexpected, helpful connections between people and offer access to their knowledge and ideas; foster innovation and creativity; share and learn from good practices and unintended outcomes; strengthen relationships; develop and access organizational memory; share tools, methods, and approaches; celebrate successes; identify internal sources of expertise; and connect with the outside world (Henderson 1991).

In E-commerce most companies follow the policy of Galvanizing workers as an important step toward becoming a fluid, adaptable learning organization that can flourish in a world of fast change. Many organizations' leaders quote change as the most common problem they face. So it is apparent that organizations desiring to stay pertinent and thrive, learning better and faster is significantly critical. So the key to survival is learning across organizations and knowledge should be constantly enhanced through both internal and external learning.

A successful e-commerce organization appreciates the role that learning can play in developing organizational effectiveness. It proves this by having a stimulating vision for learning and a learning strategy that will support the organization in attaining its vision. Communication systems are employed to encourage the lateral transfer of information and knowledge across formal structural boundaries. In decentralized and geographically spread organizations, particular care is taken to use communication to encourage lateral communication and to overcome the increased danger of the development of "silos" (Leadbeater 2000).

E-commerce stimulated creativity and led to new insights and innovative practices, that encouraged a balanced approach to the importance of both planned and emergent learning. In a learning organization, planning is based on careful reflection through probing questions that draw on data and information from monitoring, review, and self- and independent evaluation (Castells 2001).

E-commerce and learning environment

As Albert Einstein said "I have no special talents. I am only passionately curious"

People like to be part of a great team. They like to be part of something larger than themselves, of being connected, of being generative. The development of information technology has influenced the interactions between individuals.

The development of information technologies led to enhanced interactions between individuals. This encouraged information synergies (INS) which are the performance gains that result when IT allows two or more individuals or subunits to pool their resources and cooperate and collaborate across role or subunit boundaries, a between-person or between-group effect. IT and information technology improved the ability to link and enable employees, improved ability to codify the organization's knowledge base, improved boundary spanning capabilities, improved information processing that leads to increased efficiency; and improved collaboration and coordination that promotes innovation (Castells 2001).

As a response to external changes many organizations are implementing new organizational structures that include less hierarchy and more self-directed teams that can bring together the best combination of people and resources to remain competitive. Overall, the inclination is away from vertical structures towards horizontal structures focused on core work processes. A linked change is giving employees more responsibility and authority for decision making, and a stronger interest in corporate values and culture. Some companies are converting themselves into learning organizations, which stress equality, strong culture values, and a flowing, adaptable structure planned to grab opportunities, handle crises, and stay viable in an unpredictable environment (Senge et al 1999).

E-commerce encouraged decisions being made in teams. This builds positive team dynamics. The best teams normally pass over a period of "storming," where issues are whipped up and disagreement is surfaced. In fact, the most effective teams are composed of members who have a variety of personal styles and preferences for communicating, gathering information, and decision-making. Teams that are successful and productive have learned to value and admire differences, taking advantage of the strengths of each of its members (Edmondson & Moingeon, 1999).

Team learning is seen as 'the process of aligning and developing the capacities of a team to create the results its members truly desire' (Senge 1990: 236). It creates on personal mastery and shared vision – but these are not enough. People need to be able to act together. When teams learn together, Peter Senge suggests, not only can there be beneficial results for the organization, members will grow more rapidly than could have occurred otherwise. The learning process among a team starts with 'dialogue', the capacity of members of a team to suspend assumptions and enter into a genuine 'thinking together'. To the Greeks *dia-logos* meant a free-flowing if meaning through a group, allowing the group to discover insights not attainable individually.... [It] also involves learning how to recognize the patterns of interaction in teams that undermine learning. (Senge 1994)

It is important for companies to invest not just in new machinery to make production more efficient, but in the flow of know-how that will sustain their business (Leadbeater 2000). A failure to attend to the learning of groups and individuals in the organization brings catastrophe in this context. Successful organization needs people who are intellectually inquisitive

about their work, who dynamically ponder on their experience, who develop experience-based theories of change and continuously test these in practice with colleagues, and who use their understanding and initiative to contribute to knowledge development. In short, it needs people who are reflective practitioners.

Reflective practice thrives when people feel a high level of psychological safety and trust, and it is damaged when people feel subjected to unfair negative criticism and when they believe that they cannot rely on colleagues. Teamwork is, therefore, a fundamental element of an honest learning organization. In E-commerce, one characteristic of teams is that they function as learning communities in which sensitively expressed dissent, conflict, and debate are cheered as positive sources of learning. Fostering the safety and trust on which reflective practice and positive teamwork depends, needs meticulous devotion to relationship building and the supervision of individual and collective performance (Castells 2001).

E-commerce organizations attempt to develop and guard the investment made in staff members, through recognition and incentives for learning. The time and effort spent on effective knowledge management and learning are recognized as core activities in the organization's time and performance management systems. Incentives for contributing to learning and knowledge development can be traditional (e.g., career advancement, increased income) or may be less traditional (e.g., informal peer status, time made available for study, or public acknowledgment for an innovative contribution made).

In a learning organization, an important source of individual learning and development is coaching and mentoring support from managers, specialists, and other experienced colleagues. High-quality coaching and mentoring can help reflective practice flourish. However, both involve skills that cannot be taken for granted and must be consciously developed in the organization. It cannot be assumed that good contract managers and technical specialists automatically make good coaches and mentors (Senge et al 2000).

The units of knowledge production are both the individual and the collective. Learning organizations understand that while knowledge is created in the minds of individuals, knowledge development thrives in a rich web of social contact among individuals, groups, and organizations. A learning organization provides creative opportunities for this knowledge to be developed and shared with others through interpersonal contact and access to documentation (Zey 1999).

An organization's main repositories of knowledge are the design and delivery of its products and services and the strategies, systems, and procedures it has developed to guide its decision making. Learning organizations know how best to take a learning approach to the development of this embedded knowledge by putting in place the necessary systems and infrastructure for knowledge management (Edmondson & Moingeon, 1999).

In E-commerce feedback is the dynamic process of presenting and disseminating information to improve performance. Feedback mechanisms are increasingly being recognized as key elements of learning. Key (and often underutilized) sources of knowledge in organizations are the data and information that emerge from monitoring systems and the analyses, conclusions, and recommendations arise from self- and independent evaluations.

A learning organization distinguishes the significance of a strong organizational memory. It guarantees that individuals and teams are reassured to use a range of ways of developing their implicit knowledge and making it accessible to others through carefully targeted documentation and collaborative working practices. Documentation is made accessible to others in the organization with a range of user-friendly information and communication technologies (Zohar et al 1999).

Conclusion

The new era of e-commerce organizations has encouraged learning. Information and communication technologies are used, amid other reasons, to reinforce organizational identity; shape and maintain learning communities; keep staff members, clients, and others informed and aware of corporate developments; generate unexpected, useful networks between people and offer a gate to their knowledge and ideas; inspire innovation and creativity; share and learn from good practices and unintended outcomes; strengthen relationships; develop and access organizational memory; share tools, methods, and approaches; celebrate successes; identify internal sources of expertise; and connect with the outside world.

It can be argued that information technology robs individuals of personal contact. The Internet hides rather than reveals - the computer is a drug which hypnotizes the mind and numbs the body. Also, we may fear being swallowed up and lost within the emerging World Brain/World Mind system. The Information Age theory of the future can be seen as too commercialized, too growth oriented, too technological in emphasis, and too rationalistic and cognitive - we talk incessantly about "bits" and "information," but what about feelings and values? (Henderson, 1991; Lombardo, 1996)

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