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Impact *of* Technology *of* Workforce Development

DEVELOPING THE 21ST
CENTURY WORKFORCE

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Introduction

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In this modern era of fast paced technological evolutions, the advancement in technology will not cease to hasten the future. In this regard, technology is not only set to change the world, but also impact organizations, their policies as well as their strategies (Hampel & Martinsons, 2009). The fast paced business world also comes to impact organizations and how they operate. In fact, the essential workforce dynamics of an aging generation of Baby Boomers, continuous technological advancements, the effect of worldwide competition have changed the way practitioners go by training and developing their workforce in order to prepare them to become high end performers. Being able to take a proactive approach differentiates between successful and non-successful businesses. Technology is one major element of the 21st century changes; it is clear that the fast technological advancements have shifted the workplace and modified the way we operate and learn. Accordingly, organizations are not only presented with competition challenges, but also with ensuring they remain up-to-date when it comes to advanced technology to ensure their continued growth and success (Johnston & Packer, 1987).

The impact of sophisticated technologies on the workforce can be looked at from various perspectives. One perspective is that modern technologies will result in the creation of job opportunities in the near future in various industries, where robotics and computers will require new skill sets resulting in job openings for various potential workers (Naylor, 1985). A second perspective is related to the skills expectations and requirements for the forecasted future jobs; Johnson (1991) argued that the complexity of future sophisticated technologies will demand higher levels of expertise, requiring more complex skills and knowledge. Johnson (1991) discussed a third perspective of technological advancement, and mostly automated technology, that would possibly result in the elimination of human labor at a high number, causing a drastic change in the social statuses and economy of the country. These views of future technological advancement impacts on the workforce may only be parables, yet they should be considered in order to be proactively prepared to address the changes in the workforce environment. Therefore, with the impact modern technology has on the workforce, it is important to acknowledge how technology impacts the workforce on the performance level, and how can the workforce and organizations be prepared to address the constant changing skills and competencies requirements for success.

Modern Technology and Workforce Performance

Modern technologies process requires linking and recognizing new knowledge, which in turn requires the internal advancement of human capabilities and knowledge. Any technological advancement is said to impact the performance of organizations in a positive way, which therefore affects the employees' productivity and performance (Mudford, 2000). However, the improved performance and productivity levels can only happen if the proper resources are utilized in an effective and efficient manner (Dauda, 2009). The proper use of technologies in the workplace can help employees be more effective in their job performance, which improves the organizational performance. Nonetheless, it is important to recognize that the present successes are based on past-improved performances; and in order to maintain a long lasting organizational success, organizations have to continue nurturing their workforce with the needed skills and knowledge to best address the future needs and demands of the company's performance. The "workforce performance is intimately linked to technological changes and technological innovation. Technological change could effectively be managed through human resource joint approach" (Dauda, 2009, p. 16), which incites teamwork, collaboration and open-mindedness. According to the resource-based theory, organizational resources are extremely important for the firm's development, and that human capital is a key resource of a firm. The function of this resource depends on the employees' ability and enthusiasm, and on efficient human resource management (Mumford, 2000).

With the constant needs to improve performance and acquire new knowledge and competencies, employees are provided with several opportunities to do so, which includes training, education, coaching, mentoring, ...etc. Furthermore, employee performance and organizational efficiency demands that a leader with a strategic decisional power sees the need to introduce the innovation and create the change, in this regard, Dauda and Akingbade (2011, p.34) argued that organizational change and innovation can only take place when the needs involve the following:

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- Change managerial strategy;
- Make organizations more consistent with both individual needs and the environment;
- Change structure and roles;
- Change the motivation of the workforce;
- Make better planning;
- Improve inter-groups collaborations; and
- Adaptation to new environment.

With the noticeable impact technological advancements have on employee performance, the focus on initiatives that foster employee performance is very important. Likewise, organizations competing in a tough market should utilize proper management programs that guarantee a collaborative continuous organizational improvement between management and individual employees. Various studies have recurrently revealed a positive relationship between a company's technological evolution and performance, and determined that modern technology is significant to employee performance (Foster, 1986).

Modern Technology and Workforce Competency Requirements

While technological advances are the fruit of talented and skilled human inventions, the trend of these advances suggests that technology is blatantly accelerating. In fact, this trend even suggests that technology may be well ahead of humans when it comes to skills and competencies of even the most proactive workforce (Dauda, 2009). This is why organizations and employees must constantly update their skills and knowledge in order to stay valuable and successful. In that regard, a wide variety of skills and competencies are required of the workforce; nonetheless, there are no right skills and competencies to acquire in order to address the emerging needs of modern technology, but this is solely based on the nature of the job and the industry. This article focuses only on a select list of generic recommended competencies and skills that are deliberated important, that Washington (2011) called the 21st century skills, and which help the workforce be placed at the center of learning.

- *Adaptability/Flexibility:* The nature of the business environment is clearly unpredictable and is constantly changing. With this continuous evolution, businesses are expected to grow and mature accordingly. Employees representing their companies should have the ability to adapt to changes in their work environment as well as have the ability to learn. It is believed that technology is causing several jobs to be eliminated and yet require newer sets of skills to perform; hence, employees should be flexible, ready to learn and to adapt to various work environments; otherwise, by having non-adaptable employees that are stuck in their old ways, the business itself will remain stuck in the past; this is why Carnevale, Gainer and Meltzer (1990) called adaptability “the most basic of all skills” (p.8), they argue that adaptability is the core skill that will make the acquirement of other skills and competencies possible. Additionally, the workforce must be ready to learn on the job and off the job at a very fast pace as the old ways of performance become obsolete.
- *Motivation/ Self-Direction:* According to Bartol and Martin (1998), motivation is a prevailing instrument that strengthens performance and activates the tendency to endure. In other words, motivation is considered as an internal drive meant to appease an unfulfilled need and accomplish a certain objective. It is also a system that starts through a physiological or psychological need that fuels a performance established by an objective. Johnson’s study on the impact of technology on the workforce (1991) argues that for organizations to remain competitive in an already saturated market, the workforce has to be motivated and have self-direction. He adds that employees with high motivation levels and self-direction have a tendency to show persistence of effort toward achieving their desired goals on the job.
- *Teamwork:* There is a clear recognition that teamwork has a mounting importance in a technological world that is constantly changing (Barak, Maymon and Harel, 1999), and where learning is an important component of continuous success. Learning is a social interpersonal process (Vygotsky, 1978) which ensures that whatever is learned

in groups may be more transferable to the job. Through teamwork and group work, individuals in an organization are able to acquire complex conceptual knowledge and skills better than when learned individually (Johnson, 1991). According to Carnevale, Gainer and Meltzer (1990), “whenever people work together, successful interaction depends upon effective interpersonal skills, focused negotiations, and a sense of group purpose. The quality of these three factors defines and controls working relationships” (p.14).

- *Problem-Solving:* The nature of the business world and modern technology does not come without challenges, one of which is the occurrence of problems that can prevent the performance. Problem solving is a logical process that requires a wide imagination and critical thinking to find the best possible solution for a certain problem. Being effective problem solvers, employees should be able to identify the problems and their root causes, assess the extent to which these problems are impacting their performance and that of the organization, and decide on the best possible course of action that will address the issue in an effective and efficient manner. The growing complexity of modern technology incites the future workforce to be critical thinkers and problems solvers able to troubleshoot the problems and make operational decisions, and have a good understanding of how this process can positively impact their performance and increase workplace productivity (Johnson, 1991).

The above listed skills represent a short selection of some of the important skills expected of the future workforce. The diversity of jobs and occupations has different skills requirements to best cope with technological advancements and business needs. The rapid technological advances will continue to transform the workplace and require continuous learning and development. Workforce with the above basic skills and abilities is more prone to learning new knowledge and skills to address the rising needs affecting their performance. In the face of the challenging economies and scarce resources, organizations are constantly looking for ways to address their performance needs effectively and efficiently; technology also comes to provides various solutions in that sense to assist with the learning and development efforts of the workforce.

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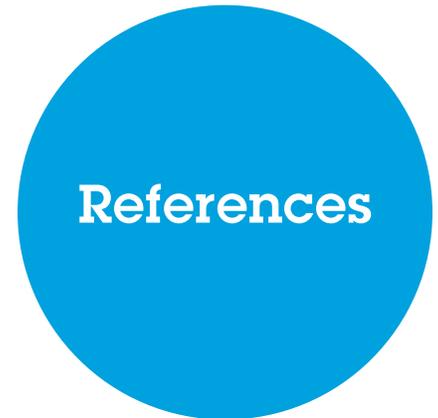
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