The use of IT for Workplace Training

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Abstract

The primary objective of this paper is to analyse the use of Information Technology (IT) for training in the work setting. The main line of argument to be developed is that even if IT is playing an increasingly important part in the provision of training in the work setting, it is essential not to under-estimate the human factor. Fostering a learning culture is of utmost importance so as to motivate employees to get serious about training. This process cannot be completed online. Human interaction is a must. For the purpose of this paper, a survey has been carried in organizations operating in the IT sector of Mauritius. The main element that can be deduced out of this exercise is that the IT tool needs to be complemented or at least supplemented by human interaction. Although IT can contribute extensively to the learning experience, the human factor still has a positive role to play with regards to workplace training.

Keywords: Training, Workplace, IT, Human intervention, Learning, Software
Introduction

The key for organizational well-being in this post-fordist era is the ability to be innovative and creative. Identifying, and responding promptly to opportunities is the challenge of modern organizations. The good-old days of mass production of standardized goods and a stable business environment is no more. The life-cycle of products is becoming shorter and shorter. Increasingly, it is difference, not uniformity, that attracts customers. It is up to organizations to meet these ever-changing needs by innovating constantly and being at the fore-front of creativity. As such, in this jungle-like business environment, where the law of nature, the “survival of the fittest”, prevails, what measures must organizations take so as to be lean and healthy? So as to face these harsh business conditions, organizations are increasingly betting on learning. It is only when people within an organization are constantly in touch with the new trends in their business environment, regularly updating themselves with regards to theoretical and practical evolutions pertaining to their job, that they are able to be innovative, creative and pro-active. Time is a crucial parameter here: the product/service has to reach the market before competitors identify this niche and erode the market with their product. There is a need, therefore, to be prompt in the identification and development of these new products/services. On-going learning and constant updating of one’s skills and knowledge is definitely a valuable tool in this quest towards creativity and innovation.

Some US$ 109 billion are spent yearly in the US employee-training market alone, with organizations such as general Electric and Hewlett Packard devoting roughly some US$ 1 billion and US$275 million respectively to education and training(Crane:2006). In the UK, organizations of less than 250 people spend on average around £417 per head on training(Menell:2007). From this angle, however, it is clear that funds committed for training each and every year by business organizations is not considered as money being thrown out of the window. In fact, it is an essential cog in the operational mechanism. “Live only for today…and you ruin tomorrow” says Charles Simmons (2005). Organizations worldwide and across different sectors are investing massively in training as it is the key to enhanced performance. But then, the link between Training and IT has constantly been expanding. A multitude of organizations provide training to their employees through the IT medium, and numerous companies are engaged in the development and provision of these innovative learning tools. Online classrooms and training centers, offering general or tailor-made online training programmes are commonplace.

There are many undeniable advantages linked with the delivery of training programmes through IT. Convenience, flexibility and cost-effectiveness are the main ones (Shank:2002). Indeed, whereas traditional training normally involves employees to be off the job for some time, with the use of IT, training can be carried out during their free slots without any need to leave the workplace. Employees can also learn at their own pace and at any time convenient to them. The training programs devised through IT can also be used as and when required, which means that, in the long-run, the organization is going to benefit from it, even if a high initial investment has to be made. Online training is rapidly gaining momentum because of these numerous advantages.

However, does this online trend mean that the traditional ‘offline’ mode of training will soon be obsolete? Does it mean that trainers and training managers will be made redundant in the work setting, being replaced by computers and software programmes? There are some
essential elements that organizations cannot avoid to overlook, in spite of the buzz around IT training programmes.

**Literature review**

One important element that needs to be remembered is that organizational training is targeted at adults. How do adults learn, then? In spite of minor differences, adulthood is generally characterized by maturity, experience, responsibility and independence. And this has an important impact on the way they learn. Knowles (1996) differentiates between *pedagogy*, the form of teaching and learning appropriate to children in formal settings, which see them as recipients of instruction, and *andragogy*, the art and science of teaching adults, a process of learning in which the learners are participants, contributing fully to the learning process and shaping the learning experience, and by controlling the pace of delivery. They want to be in charge of the learning rather than being constrained to follow strict guidelines and procedures. Earlier works by Brookfield (1991) and Kidd (1983) also point out to the fact that adults prefer to learn through interaction. The greater the interaction, the quicker and the more efficient is the learning process.

Adult learners want to learn for a number of reasons, and at times it is based on a number of factors. The behaviourist theories based on the work of Pavlov (1927) and Skinner (1974) point towards the stimulus as being the root cause of learning. The cognitivists, such as Kohler (1925) and Piaget (1950) outline the fact that human beings are pro-active learners and intelligent seekers, willing to understand the world better. The humanist theories, on their part, consider learning as a natural pre-disposition of human-beings. What is needed for learning to take place, according to them, is the right internal and external condition. Otherwise this learning potential will be stifled. From these different theoretical approaches, it can be seen that there are many reasons why people want to learn, and that there are important factors impacting on learning capacities and behaviours. The implication, therefore, is that training providers need to take into account the individual personalities and situations before attempting to meet the training needs. When Training through IT, however, identifying the different reasons for learning and taking these into account when devising training programmes is a very difficult task.

Based on Bloom’s taxonomy (1956), knowledge and skills acquired though learning can be broadly classified as ‘cognitive’, ‘psychomotor’ and ‘affective’. ‘Cognitive’ refers to knowledge-related skills, knowledge, comprehension, application, analysis, and evaluation. ‘Psychomotor’ relates to motor skills in the form of abilities, techniques and competences. ‘Affective’ pertains to feelings and attitudes and activities such as responding, valuing and judging. As such, trying to transfer all types of skills and knowledge through computer programmes is not very rational given that different skills can be more efficiently learnt in different ways. Gagne (1967) and Gardner (1984), on their part, asserts that forms of intelligence can be multiple. They identify seven of them: linguistic, logical/scientific, visual/spatial, bodily/kinaesthetic, interpersonal and intra-personal. It is clear that training though IT will inevitably concentrate on specific forms of intelligence whilst neglecting others.

In addition, adults who take up training programmes join in with their own ideas about learning, primarily based on experience accumulated, and this impact on their learning experience. Building on the work of Kolb, Honey and Mumford (1986) isolated four styles...
of learning: the **activists**, who learn by doing things, the **pragmatists** who learn by deliberate experimentation, the **theorists** who learn by analyzing information and developing models and the **reflector** who stand back and view events from different angles. Even if most of us use one or two learning style, it is clear that training through the use of IT tools can make some employees uncomfortable, as it fails to cater for their specific learning style/s.

It is also important to outline the fact that adults are very often constrained by barriers to learning. According to Parr (1996), Apart from being practical, institutional, financial and social, this barrier can be psychological, generally resented by a feeling of being too old to learn. The use of IT for the delivery of training can accentuate this feeling amongst those who are fully conversant with computers. Indeed, older employees who have not mastered the IT tools will need to be catered for in a more traditional manner, or else these employees might feel that they are being considered as second-class workers, whereas, in fact, they are those who have committed their life to the organization and have contributed extensively towards its development.

An analysis of the learning theories clearly shows, therefore, that the application of IT tools for training in the work setting are not without its shortcomings. Crane (2006) rightly points out that “training doesn’t just involve teaching someone how to structure an aircraft loan, write nifty software or even hew to company policies. It also focuses on softer skills like team-building, leadership and communication”. There is no close substitute to human interaction with regards to the acquisition of these soft skills. Lonely learners are more likely to give-up when meeting with difficulties. Personal contact and interaction, with prompt feedback, support and encouragement through the most tedious learning tasks and when learners get stuck, are also essential elements in fostering motivation amongst people receiving training. Learning is made easier through group works and discussions. For that reason, online group discussions and video-conferences are increasingly being used to meet this need that adults learners have in terms of interaction and relationship with others.

There is an important point that has to be raised here, with regards to the evaluation of training. Given that millions of dollars are spent on training annually, it is essential for organizations to assess clearly what they are getting in terms of return on investment. Kirkpatrick (1960) pioneered a systematic way of doing so by developing a hierarchy of evaluations which would indicate benefits derived from the training process. Level 1 focuses on the students views of the course, Level 2 to the skills acquired, level 3 refers to the application of the skilled learned and Level 4 to the benefits derived by the organization. Argyris (1991) puts forward that there is a need for organizations to move from mere monitoring of training through questionnaires and interviews, which he refers to as single-loop learning, to a real evaluation of training through double-loop learning, which involves returning to the objectives set initially and revisit these, so as to ensure that the training being offered matches with the objectives of the organization. It is more difficult to evaluate fully the contribution made by Training through IT so as to ensure that it matches fully with the objectives set. Most of the evaluation is made online, which means that it focuses on level I and 2 of Kirkpatrick’s model only, failing to evaluate the application of skills and the benefits derived by the organizations. Rationality and cost-cutting being the order of the day, and the main reasons behind IT based training, it is essential for organizations to be consistent and ensure that they are really getting value for money whilst using IT software for training.
Methodology

For the purpose of this study, two questionnaires were developed and a survey carried out in the Mauritian IT sector. 160 employees and 50 managers working in the IT sector were selected through the snowballing and their views with regards to the use of IT for training was collected. More specifically, the questions set investigated the advantages and disadvantages, the cost element associated with IT-based training. It also focuses on the ability of training-sofwwares to replace human intervention in training. The rationale behind the selection of the IT sector for the purpose of this study is that employees in this field are fully conversant with the IT tool and are therefore more likely to take full advantage of IT-based training. They are in a better position to identify the strengths and weaknesses of such training. The respondents were also queried with regards to its cost-effectiveness and its ability to enhance performance. Finally the ability of IT to replace human intervention and interaction in training was put to the test. The main results of this study are analysed in the following section

Summary of main findings and analysis

When asked about whether it is worthwhile to invest in IT training, with regards to the costs involved, some 60% of employees responded positively. The managers are more conservative on this issue, as only 40% consider it to be worth the investment. The main reasons given in favour of IT based learning are that we are nowadays operating in an era that is highly technological and that, as such, being online is the norm. What is its impact on enhancing performance? It is surprising to note that only 27% of employees and 10% of managers/supervisors are totally satisfied with the ability of IT training to help employees to perform at a higher level.

Employees perception- IT and performance

<table>
<thead>
<tr>
<th>Perception</th>
<th>Percentage</th>
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<tr>
<td>Very effective</td>
<td>27%</td>
</tr>
<tr>
<td>Quite effective</td>
<td>13%</td>
</tr>
<tr>
<td>Not so effective</td>
<td>33%</td>
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<tr>
<td>Not effective at all</td>
<td>27%</td>
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One essential point to be noted, however, is that when supervisors/managers were asked about the main instruments used to evaluate the training provided, 12% of respondents conceded that they did not have any form of systematic evaluation, and based themselves only on managerial judgment.

68% have recourse only to an evaluation which can be classified at Level 1 of Kirkpatrick’s model, the evaluation been based upon feedback collected from the trainees themselves. Only 20% of these organizations have a rational way of noting and evaluating the improvements made in terms of performance after the training process.

It is important to note the fact that employees and management are on the same wave-length with regard to the positive and negative elements associated with IT based training. The main advantages noted are its flexibility and convenience, as it eliminates time constraints and the need to leave office or to travel. Respondents also point out the fact that it involves less paper work, and is prompt. On the other hand, the main disadvantages outlined are the costs involved and its complexity. Respondents also pointed out that only those possessing IT skills can take full advantage of it whereas those who are not fully conversant with the IT tool
might lag behind. A final weakness is the fact that whenever the learner is meeting with difficulties, it is quite difficult to seek and to obtain help through remote assistance.

When queried about the method they would prefer if they were given the choice, it is surprising to note that only some 42% of employees only prefer the IT tools, in spite of its advantages over the traditional methods.

![Employees-Preferred method for training](chart)

This is confirmed by managers as some 58% of respondents think that their employees prefer on the job training with the help of colleagues 22% of respondents of the opinion that employees would prefer to be trained through IT. This is a worrying indication as employees in the IT field prefer alternative methods for training. It would be interesting to know about the perception of employees in other sectors as this preference for other forms of training is likely to be even more pronounced.

What is the perception of Management with regards to the ability of IT programmes to replace human interaction in the provision of training? 46% of respondents think that IT can fully replace people, with regards to training, whereas some 36% share the view that they complement each other. However, employees have a totally different outlook, 50% of respondents are of the opinion that IT and human interaction need to work hand in hand with regards to Training, and that IT is unable to fully replace human intervention.

![Managers' perception-can IT replace human interaction?](chart)
However, the management’s view with regards to replacing Human interaction is in contradiction with their responses concerning the need for human intervention. In fact, some 22% of respondents concede that human intervention is needed all the times whilst providing training online, 62% point out that it is regularly so, and only 16% are of the opinion that it is only very rarely the case.

Conclusions and recommendations

It is clear therefore that IT based learning and human interaction need to work side by side. Technology does help tremendously in assisting the training process, and this contribution is going to be even more important in the years to come. Training has, however, a social aspect that needs to be catered for. This cannot be fulfilled online. Trying to automate learning in an attempt to eliminate human interaction would also mean overlooking several key aspects of the learning process itself.

Adults have different preferences and expectations with regards to training and betting on one unilateral training method can be at the detriment of specific groups of employees. It is essential to ensure that training meets the needs of one and all in the organization.

What is needed, then? Technology by itself is nothing. Galileo rightly asserts that “you cannot teach anyone anything. You can only help them discover it for themselves” (Rogers: 1996). What is needed in most organizations nowadays is a learning culture where management and employees are all fully committed to the learning process, and willing to help each other in that process. Adult learners have to be constantly encouraged to engage in learning, and fostering a learning culture is a key step in this direction. This learning culture will inevitably inspire and motivate employees to take full advantage of all training tools available so as to outstand in spite of the increasingly competitive business environment. Putting in as much effort as possible to foster this learning culture will also be beneficial to organizations, as they will be equipped with employees who are constantly broadening their knowledge, who are in touch with leading-edge technology, and who have the ability to be creative and innovative. Online training will be used at its optimum level in the organization only if the people within the organization are willing to put in their essential contribution. IT based learning and human interaction complements each other in the organizational setting.

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