Encyclopedia of Human Resources Information Systems:
Challenges in e-HRM

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Making E-Training Cost Effective through Quality Assurance

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INTRODUCTION

Since the 1990s, more and more corporate learning has been moved online to allow for flexibility, just-in-time learning, and cost saving in delivering training. This trend has been evolved along with the introduction of Web-based applications for HRM purposes, known as electronic Human Resource Management (e-HRM). By 2005, 39.67% of the corporate learning, among the ASTD (American Society for Training and Development) benchmarking forum companies, was delivered online in comparison to 10.5% in 2001.

E-learning has now reached "a high level of (technical) sophistication, both in terms of instructional development and the effective management of resources" in companies with high performance learning function (ASTD, 2006, p.4). The cost per unit, reported by ASTD in its 2006 State of Industry Report, has been declining since 2000 despite the higher training hours received per employee thanks to the use of technology based training delivery and its scalability. However, the overall quality of e-learning either public available in the market or implemented at the workplace remains unstable.

Findings from a recent European survey on quality and e-learning indicated that 65% of the 433 respondents (European training professionals) rated the overall quality of e-learning as "fair" or "poor." Only 1% rated it "excellent" and only 5% rated it "very good" (Massy, 2002). Criteria used to evaluate quality in e-learning are in order of priority:

1. Functions technically without problems across all users.
2. Has clearly explicit pedagogical design principles appropriate to learner type, needs, and context.
3. Subject content in state of the art and maintained up to date.
4. Has a high level of interactivity.

Lack of better match between learning design and learner needs and context could significantly reduce the intended impact of training. This shortcoming could be more effectively remedied by introducing a quality management system for training in general and for e-training in specific. However, most managers do not know how to measure the benefits of training and the return on training investment. ISO 10015: 1999 *Quality management—Guidelines for training*, provides answers to the crucial question: how to make training cost effective and more?

BACKGROUND

In response to global competition coupled with technological innovation, companies from European and North American economies have been shifting from industrial to knowledge-based production of goods and provision of services. Traditional advantages such as manufacturing know-how have been eroded due to competition from companies based in newly industrialized countries. For the advanced industrial nations, competitive advantage now depends on superior innovation, intellectual property, and intellectual capital–which, in turn, demand increasingly sophisticated human skills and knowledge. In this context, during the last decade

there has been a shift of attention from the formal education system as provider of knowledge and skills, towards the role of training in enterprises; the latter is increasingly recognized as already having a significant contribution to knowledge and skill formation. (OECD, n.d., p.2)

On the other hand, developing countries are facing similar challenges as their competitors in OECD

countries in terms of their need to ensure higher quality workforce based productivity gain. These countries can no longer count on cheap labor as key factor for their market success since least developed countries can offer even more favorable labor conditions and attract labor intensive foreign direct investment. For companies in developing countries, the move towards higher value added production and services has already become a reality and cannot be avoided any longer. Consequently, the old human resource stratagem of providing no training but relying on ample supply of cheap and unskilled labor to drive down the cost and push up the productivity became unattainable (Saner & Yiu, 2005).

Porter and Sölvell (1998) offer a more holistic explanation of regional competitiveness. Discussing innovation and sustainable competitive advantage of firms, he states:

... While some knowledge is embedded in materials, components, products and machinery, other knowledge is embedded in human capital, part of which is tacit. (p 447)

Findings from studies focusing on regional competitiveness support this view that availability of highly skilled labor is the most important factor in determining a region's competitiveness and prosperity (Koellreuter, 1997).

"Knowledge" based production and services demand higher percentage of knowledge based jobs and a higher share of utilizing technology for innovation; both points to greater investment in human capital development through effective training. Lifelong learning is therefore not just "slogan" for the developed economy, but a must for all countries wish to move forward in terms of their economic development.

To keep pace with these changing market conditions and workplace practices, companies must continuously increase their re-investment in the upgrading of the competence of their human resources. Yet while most managers recognize the need to attract, develop and retain a highly skilled and innovative workforce, few feel comfortable with the idea of investing in people, especially with profit margins under pressure. Instead, reducing expenditure occupies top management thinking, and training budgets are cut without considering the effect on competitive advantage in the future and on the company's innovation capital (Edvinsson & Malone, 1997). Should training managers be able to provide documented evidence that training do contribute to business results, such occurrence would sure be dramatically reduced, if not avoided.

Most managers do not know how to assess the return on investment in training (Phillips, 2002), nor are they equipped with the necessary management tools to monitor the decision-making process of such investment and the quality of its implementation (Yiu & Saner, 2005).

So, how does one know if investment in staff training will return in the form of better performance, higher productivity, or new and more competitive goods or services? How can one measure the benefits of training and amortize investments in human capital? How can an organization be sure that recently trained employees will not simply walk away with their newly acquired knowledge and skills? Indeed the persisting question regarding training management has long been—*how can an organization ensure the quality of its training investments so that optimal return is guaranteed?*

Integrating the ICT as part of the delivery modality does not change the validity of this question. Instead it adds more urgency to it by the fact that technology-based learning requires substantial upfront investment and less amenable to customization and change.

This article examines the necessity of investing in training and of adopting technology based learning modality for upscaling of training coverage. It also highlights benefits of implementing the International Standard ISO 10015: 1999 *Quality management—Guidelines for training* within companies. While ISO 10015 may have been a relatively new and lesser known standard of the successful ISO 9001:2000 family, it is proving to be a highly effective tool for solving the problem of measuring the effectiveness of training thereby helping organizations to justify investment in training and in maximizing technology-based learning infrastructure.

INVESTMENT OR EXPENDITURE?

There is a discrepancy between what organizations may say—"people are our most valued asset"—and what they actually do. This gap is often self-evident when one scrutinizes the human resource management policies and practices of a company. One reason why few companies report on their training is because

organizations are not required to report on its human capital in general and training investments in specific to shareholders, nor to society in general. Therefore, there is no external accountability regarding managerial responsibility for safeguarding the organization's human and intellectual capital.

According to the American Society for Training Development (ASTD) *2006 State of the Industry Report*, many major companies in North America and Western Europe spend up to 2%-3% of total payroll on training, amounting to tens and billions of U.S. dollars in expenditure. ASTD estimates that,

U.S. organizations spend $109.25 billion on employee learning and development annually, with nearly three quarters ($79.75 billion) spent on the internal learning function, and the remainder ($29.50 billion) spent on external services. (2006 State of Industry Report, p.4)

However, the big corporations do not scrutinize such training investment as thoroughly as they do with other investments (Durfee, 2003). This is because training continues to be treated as an expense, rather than as an investment in an organization's capacity to compete and innovate (Yiu et al., 2005). This is also because the companies lack the tools in measuring the effects of training on business results (Phillips, 2003).

WHY INVESTMENT IN TRAINING IS A MUST?

Managers are understandably concerned about justifying and protecting their investments. However, since mobility of labor is part of the market economy, employees can leave without the organization recuperating an adequate return on its training investment. On the other hand, when downturn happens managers tend to seek short-term solution to the economic hardship by cutting the head counts as the first intervention in reviving the company's fortune. Therefore, a vicious cycle starts to perpetuate itself whereby companies are reluctant to invest in people for fear of employee turnover.

To be successful, companies must nonetheless manage this dilemma and invest in people, or lose ground as competitors abroad continue to do so. For example, U.S. employers spent an average of USD 677 per employee in 2000 and increased the spending to USD 1,424 per employee in 2005, representing about 2.2% of payroll, in spite of seemingly relentless price competition and a significantly more mobile labor market than Europe (*2006 State of the Industry Report* , p. 3). Continued investment in skill development and human capital in the U.S. coupled with the application of ICT (information and communication technology) and continued drive toward innovation help explain the economic dynamisms and sustained productivity gains in the U.S. (OECD, 2007).

However, similar examples *can* be found in Europe. A recent survey of 1,200 companies in Ireland showed that training averaged 3.01% of payroll in 2001(Training Survey 2001). This is probably one reason why Ireland has become one of the most dynamic European economies. As OECD (1998) indicated in its international comparative studies that,

Human capital thus constitutes an intangible asset with the capacity to enhance or support productivity, innovation, and employability. It may be augmented, or may decline or become redundant. It is formed through different influences and sources including organized learning activity in the form of education and training. (p. 9)

MEASURING RETURN ON INVESTMENT

Measuring return on investment (ROI) from training is difficult—but not impossible. Since 1997, ASTD has been collecting data on company training investment in order to answer the question: *does it pay to train?*

Data collected from over 2,500 companies, measured against TSR (total stockholder return), indicated that organizations making higher training investments in 1996, 1997, and 1998 yielded higher TSR the following year (Bassi, Ludwig, McMurrer, & VanBuren, 2000). The sample included some European companies with similar links between higher training investment and TSR. These pioneering findings help confirm that training does pay off in terms of organizational performance. It supports the argument that investment in people *can* impact the bottom line. However, as with all investment portfolios, investment in training does not automatically result in performance improvement without smart strategy and competent management. Training management requires vision, strategy, expertise, *and* management tools.

ISO 10015: THE SOLUTION TO QUALITY IN TRAINING

Different quality management tools are available, such as TQM (total quality management), EFQM (European Foundation for Quality Management), EduQua (Education Quality Standard). However, they are either too cumbersome or too general; none address the decision making aspect of the training investment which affects the outcome of training.

International Standard ISO 10015: 1999 *Quality management—Guidelines for training* is something of an undiscovered gem in the ISO 9000 family of standards. It provides guidelines to assist organizations and their managers when addressing issues related to training. ISO 10015 offers three key benefits:

Benefit 1: It offers a clear road map in terms of making training decision.

Benefit 2: It makes explicit at the training design stage the measurements to be used in assessing training results.

Benefit 3: It offers guidance focused on training technology and organizational learning, since it is designed specifically to meet training needs.

In addition, ISO 10015: 1999 has two crucially important features which provide management with a scientific base in managing people and performance related challenges. It provides the "soft" discipline with hard facts in taking strategic decision. These features are:

Feature 1: ISO 10015 links training investment to organizational performance.

Testing the professional competence of trainers and verifying the pedagogical concepts of training programmes are vital. But the key to assessing return on training investment is its link to organizational performance and business results. When asked, "Why do you pay for training?", an organization should be able to track the decision process back to its defined performance objectives. In other words, the key "customer" is the organization itself, even more than the individuals being trained.

An organization must first recognize the performance challenge it faces and the causes (see the "decision tree" in Figure 1). For example, if sales have slumped, the obvious starting point is to find out why. Are the wrong products being produced, or are the right products being targeted to the wrong markets? Is product quality deficient because of old and unreliable production machinery? Is service quality poor because employees are not equipped to deal with customer requirements and complaints?

Following the decision tree exercise, if the performance gap is linked to under-performing human resources, then the organization should again ask itself why. Are employees demotivated by poor pay levels, or by lack of leadership? Is it because their competencies do not fit the job requirements, or because of a differential between the skill levels of established and new employees? If either of the last two factors exists, then training could well be the solution (Figure 2*)*.

ISO 10015: 1999 offers a clear road map towards sound training investment decisions by requiring top management to connect training to performance goals, and use it as a strategic vehicle for individual and collective performance improvement. As a result, training effectiveness is not only measured by improvement in individual professional competence, but also by the extent to which individuals have contributed to the organization's performance.Feature 2: ISO 10015 requires training to be based on pedagogical and organizational learning principles**.**

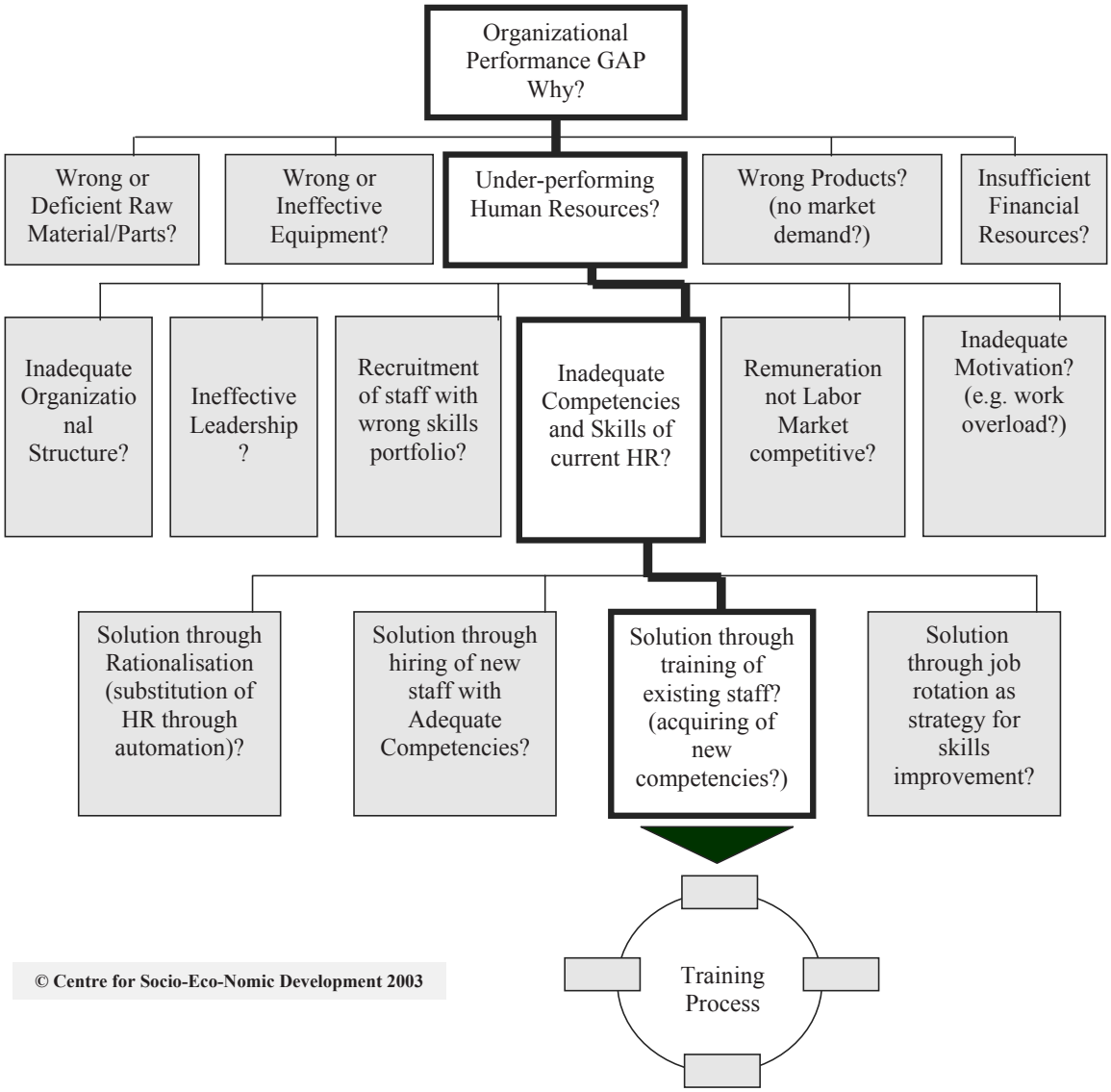
Staff training should be implemented as an intervention strategy once an organization has identified it as the optimal approach to closing the performance gap. Consequently, the next critical phase of investing in people is to establish appropriate training design and learning processes. This is where ISO 10015 can be a valuable management tool by helping to ensure that training is organized

- *Efficiently* in the use of finances, time, and energy, and
- *Effectively* in enhancing performance.

Quality principles of the ISO 10015 ensures that knowledge, skills, competences, and other attributes are combined in different ways according to the individual and the *context of use.* It is in this design imperative resting the power of this training management tool.

ISO 10015 defines training as a four-stage process (see Figure 3):

Figure 1. "Why training?" decision tree

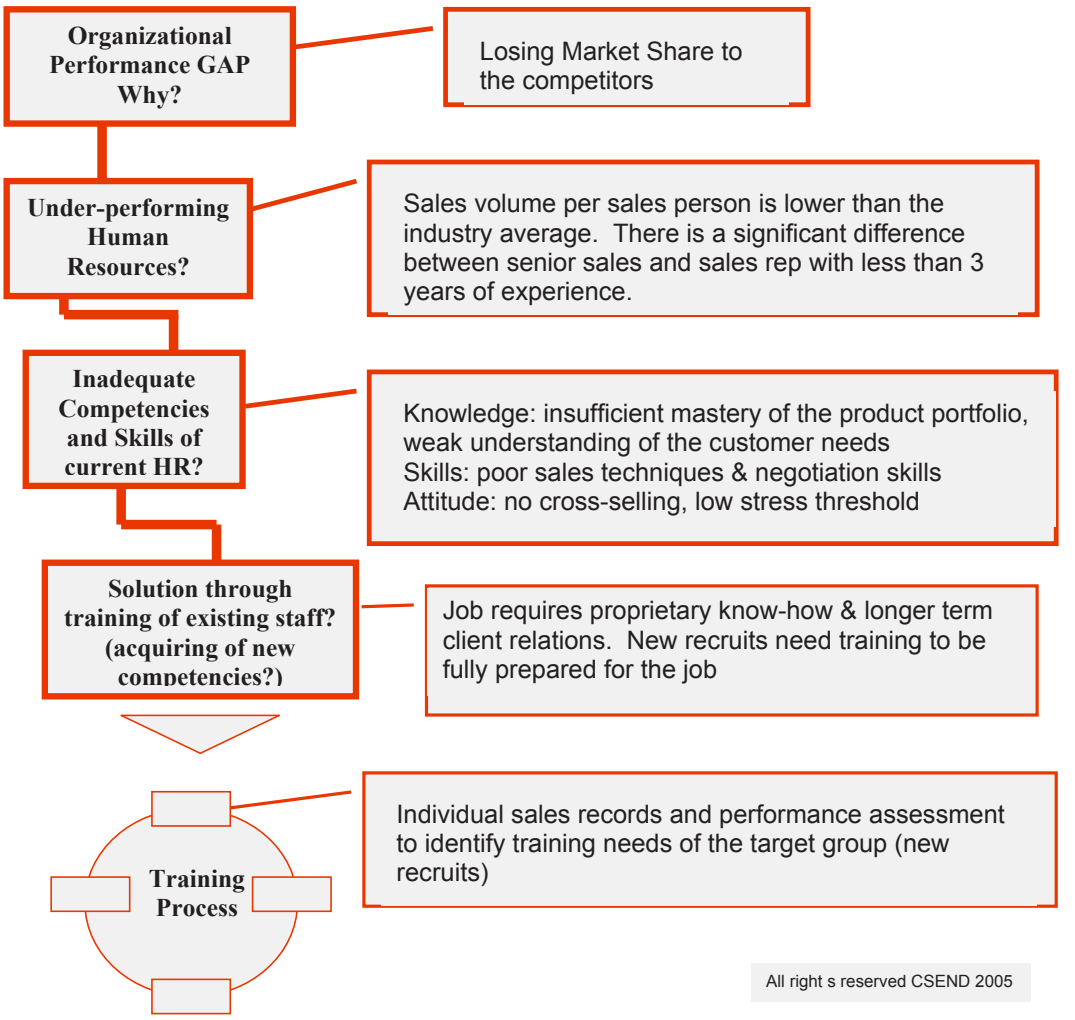


1. defining training needs,
2. designing and planning training,
3. providing the training (including e-learning), and
4. evaluating the outcome of training.

Each stage is connected to the next in an input and output relationship (see Figure 3). As a quality management tool, ISO 10015 helps to specify the operational requirements for each stage and establishes procedures to monitor the process. Such a transparent approach enables training managers to focus more on the substance of each training investment, rather than merely on controlling expenditure.

Unlike other quality management tools, ISO 10015 helps an organization to link training pedagogy and evaluation to performance objectives. This approach provides an organization with constant feedback regarding its investment in human competencies. The International Standard also encourages companies to examine their training models, and validate their training approaches and premises via comprehensive data and documentation.

Figure 2. The performance diagnosis and training decision



This data based approach to training management provides a unique opportunity for continuous improvement of training operation. Most importantly, it provides evidence based feedback to the training solutions adopted in solving performance issues at the workplace. Data concerning individual learning, opportunities to apply on the job, impact on productivity are collected to corroborate with the initial performance diagnosis thereby closing the loop of training intervention. Thus making it possible to actually measure the impact and contribution of training to business operation.

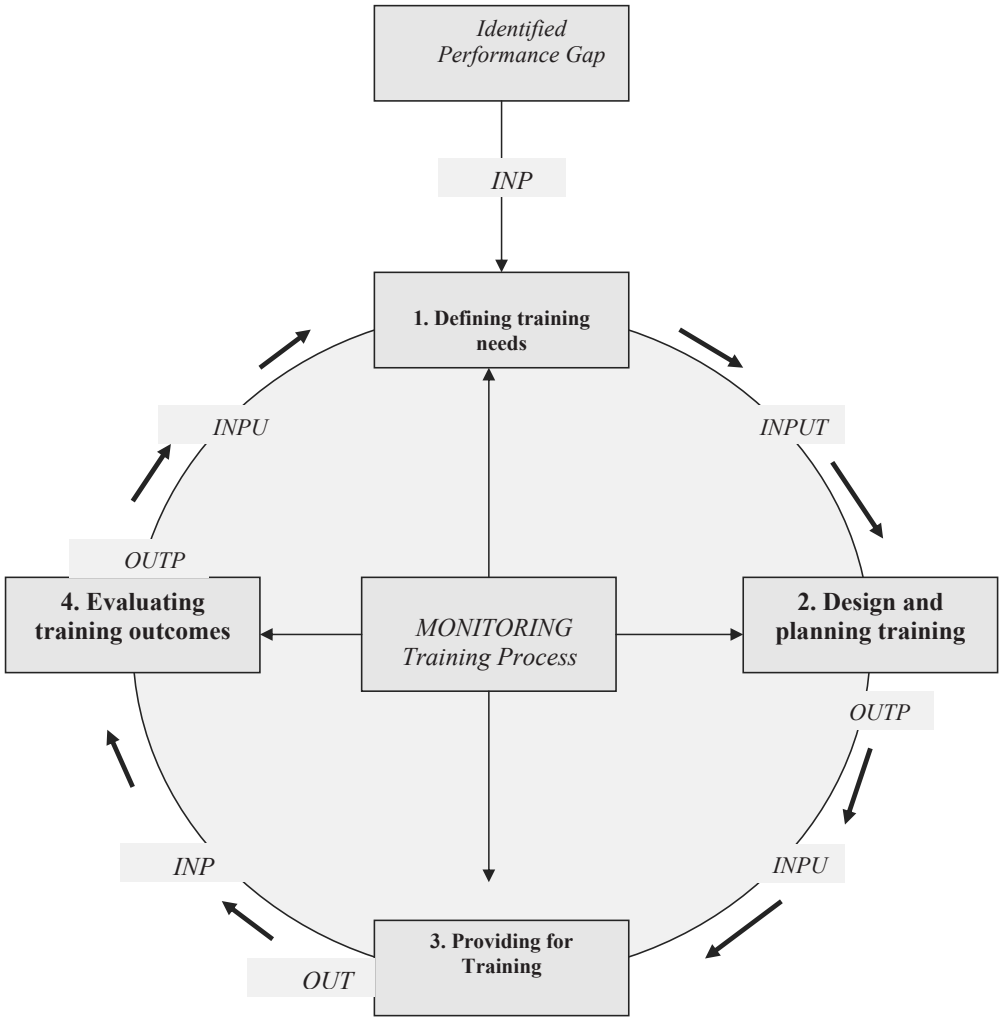
CONCLUSION

To sustain business development, companies need to invest in people more urgently than ever. Training is "mission critical" in a knowledge-based economy and should not be considered dispensable at times of economic difficulty. Only by raising the quality of its human capital can an organization ensure long-term competitive advantage.

In view of the fast changing customer requirements and continued product and service innovation, employees need to be trained more frequently on diverse topics. Learning will continue expanding its presence on-line in synchronous and asynchronous modes. How to avoid the quality deficit of traditional training in e-training processes is a concern needs to be addressed in order to avoid ineffective use of the technology and potential loss of investment.

Like any other major investment, (e)Training must be managed carefully. ISO 10015 offers a transparent, logical and easy to follow four-stage process which

Figure 3. The input-output process of training (Copyright. Centre for Socio-Eco-Nomic Development, 2003)



can benefit any training programme. Above all, ISO 10015 is a training-specific quality management tool to strengthen the link between e-training and the organization's performance requirements and objectives. ISO 10015 based training management system provides a sound structure to carry out training that is critical to the long-term financial success of the company. It ensures that training will deliver results in improving the productivity of the company.

"What can't be measured can't be managed! What can't be measured and managed can't be improved" as the saying goes. Companies that act early in identifying and measuring the salient factors affecting their human capital development and (e)Training investments shall be able to leverage more effectively their human capital in achieving organizational objectives. To create value from (e)Training, managers must start viewing "(e)Training" not as expenditures but investments, and devising ways to bring such a process approach to training management. While recognizing that human capital is an intangible asset and its development might need time to bring to fruition in terms of productivity gains and innovation, a management system that links business objective and training intervention, regardless whether it is done through classroom teaching or online, must be the first step.

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KEY TERMS

E-Learning: Learning activities conducted through Internet or Web-based course materials or activities. Learners engage in this activities alone or in groups. These learning groups could be geographically dispersed.

E-Training: Training delivered through the electronic means, which could be Web-based training programmes and activities.

ISO 10015 Qualiy Management (1999): It is an international standard provides guidelines to assist organisations and their personnel to address issues related to training. It is applicable to all types of education and training.

Quality Management System: It is management system to ensure quality of performance and consists of quality policy, work processes, procedures, quality measures, and documentation system.

Regional Competitiveness: Competitiveness is seen as the economic capability to generate higher productivity and monitised values. The factors underlying regional competitiveness include human talent, innovation capacities, connectivity of the region and entrepreneurship.

Training: Process to provide and develop knowledge, skills, and behaviors to meet performance or task requirements.