

E-LEARNING AND HUMAN CAPITAL DEVELOPMENT IN ORGANIZATIONS

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Abstract: *In 2000 the European Union founded knowledge economy setting the goal of making Europe the most competitive and dynamic knowledge based economy in the world. The development of a modern knowledge economy reflects a larger transition from an economy based on land, labour and capital to one in which the main components of production are information and knowledge. Because of that, the most effective modern economies will be those that produce the most information and knowledge and make that information and knowledge easily accessible to the greatest number of individuals and enterprises.*

Key-word: *human capital development; general training and specialised training; E-learning; employment.*

The potential for individuals, organizations and countries to benefit from this emerging knowledge economy depends largely on their education, skills, talents and abilities, that is, their human capital. As a result, governments are increasingly concerned with raising levels of human capital, chiefly through education and training, which today are seen as ever more critical to fuelling economic growth.

However, formal education is only one part of forming human capital. In many ways it is more useful to think of human capital formation as a life long learning process rather than as education.

From an economic and employment perspective, this human potential for life long learning is assuming ever greater importance. Meanwhile, fast changing technologies are creating new jobs unheard of only recently or radically altering what workers need to know to perform their existing jobs. Consequently, people now need to continue developing their skills and abilities throughout their working lives.

This policy looks at the concept of human capital, its increasing importance to economic growth, and how governments and societies can work to develop it during early childhood, the years of formal education and adulthood.

The idea of human capital can be traced back at least as far as the work of the 18th century economist Adam Smith, but it was only in the late 1950s and 1960s that it began to emerge as an important economic concept. At that time, economists such as Theodore Schultz and Gary Becker began using the “capital”, a economic concept, to explain the role of education and expertise in generating prosperity and economic growth. (BECKER G., 1962, 1964; SCHULTZ T.W. 1960, 1961).

They argued that people invest in their education and training to build up a stock of skills and abilities, a capital that can bring a long-term return. This investment can also benefit the companies were they work and the national economies and help fuel economic growth.

Typically, then, human capital is broadly defined as a combination of individuals’ own innate talents and abilities and the skills and learning they acquire through education and training. It is worth noting that the business world, which has eagerly embraced the concept of human capital, tends to define it more narrowly as workforce skills and talents directly relevant to the success of a company or specific industry.

In the last years human capital is associated with a wide range of both economic and non-economic benefits; these include improved health, longer life spans and a greater likelihood of involvement in community life.

Economically, the returns to human capital can be understood in terms of the prosperity of the individual’s, the organizations and of the national economy. At the individual level, earnings tend to increase quite sharply as an individual’s level of education rises. In some OECD countries

earnings for workers with a university education are about 25% higher than for those who only finished secondary school. In others, this differential is even more noticeable, and rises to as much as 120%.

1. The benefits of the investments in human capital on the organization

The economy knowledge has changed the world of work over the past couple of decades. The knowledge workers are increasingly pivotal to economic success in developed countries. The benefits on organizations gains by using an effective training strategy to develop the human capital need to analyze both in terms of the importance of the level of training of the employees at the point in which they join the organisation and the level they reach once they are already within the organisation.

1.1. The benefits of general training and specialised training

A. Barrett (2001) by means of certain empirical studies undertaken on various countries has examined the links existing between the benefits obtained both by the workers and by the companies in which they work through either general or specialised training. General training, which may be adopted by all companies, has positive, but not outstanding, effects, both on productivity and on the salaries of the workers, but has a smaller impact on company performance. It can, then, create significant advantages for the individual and society in general. On the other hand, specialised training has a greater impact on the company, as it increases the productivity of the worker within the company investing in human resource training through training activities which are specific to their own particular needs. In all cases, there remain significant differences in the perception of the value of training between the individual, the firm investing in the training and society as a whole (HASSON B., JOHANSON U., LETNER K.H., 2004).

Generally speaking, there are no studies available which link the remuneration rates for workers directly with company performance. The most widely-shared hypothesis is the one assumed by the classic theory of human capital, and subsequent interpretations, which maintains that at greater levels of education, a higher productivity is achieved by the worker concerned, which will be reflected in economic growth or in other forms of improved results for the individual company or organisation.

In addition to the main, purely economic literature, there are studies on the management of human resources which show the results of the impact of human resource training on the performance of organisations. These essentially redress the divide between the analyses of workers' remuneration rates and the studies on a macroeconomic level. These studies confirm that companies which employ managers, professionals and other highly qualified personnel generally achieve better market results.

That the employee is a fundamental element of an organisation's competitive advantage now seems to be a conviction which is shared by all scholars (PFEFFER J, 1994; WRIGHT P.M., MCMAHAN G.C., MCWILLIAMS A. 1996). It then follows, furthermore, that the quality of human resource management can be considered as a determining factor in the performance of an organisation, recognising the differentiated value to the role performed by the managers and various other human resources.

1.2. The central nature of the managers' role

In the literature mainly produced in English, an argument emerges which is of great importance for the management of human resources and organisations, the central nature of the managers' role. It is generally accepted that the management capacity of the administrative bodies within an organisation represents a fundamental element in determining the sustainable growth rate, to the same degree as the organisation's size and market power. Consequently, the consideration scholars give to the level and nature of qualifications held by employees is important, particularly in relation to higher positions (BROADBERRY S.N., WAGNER K, 2006)

Empirical models generally relate the performance of the organisation directly to the qualifications held by the employees belonging to that organisation, with their skills and abilities and other variables which may influence a company's results.

Of significant importance is the issue relating to the use of qualifications as indicators of the quality of employees or of managers in so far as it is acknowledged by scholars that education and training provide individuals with the necessary knowledge and skills for them to improve their productivity in their position of employment. It can therefore be deduced that it is certainly possible to assume, and only in certain empirically verifiable cases, the existence of a direct relationship between the result of an organisation in economic terms and the qualifications of its employees, even if it must be taken into account that the actual abilities or quality of skills possessed by an employee do not always correspond to the qualifications held.

A further issue involves the relationship between leadership and the results of an organisation. There are various stances on the impact of leadership on organisations. Some maintain that the growth of formal and informal organisational structures in large organisations occurs by itself, thus limiting the influence of single individuals, including that of the chief executive, and that, in fact, situational and organisational factors are what are important in leadership. Others, however, maintain that leadership is a determining factor in times of growth and development and crisis, but that it is negligible when the organisation more or less maintains its status quo. Others in turn emphasise the fact that, whilst the leader figure is nonetheless essential, the person effectively selected for that role can be entirely secondary

1.3 Development and training strategies within the company

For some years, in issues relating to the training of human resources and organisations, particularly those with a commercial purpose, the focus has been placed on the relationships between strategies and performance (CEDEFOP, 1998; TESSARING M., 2001).

Within this field of research emerges the relationship between the culture of research and development at management level and the organisation's ability and willingness to innovate. From a study undertaken in the United Kingdom on several hundred manufacturing organisations (BOSWORTH D.L., WILSON R., TAYLOR P., 1992), direct and indirect links, through innovation, are evident between qualifications and the company's market results. In fact, in spite of the levels of education of the managers, the ability to innovate proves to be relatively low, redirecting the phenomenon to the typology of the studies of the resources themselves. The research, based on the amount of new technology introduced into companies, has shown a positive correlation between the likelihood of innovation and the existence of graduates within the workforce. In general, organisations which adopt advanced technologies perform better than other, more conventional organisations. In particular, they know how to optimise their potential and show a higher increase in production and in market shares. Nevertheless, a consequence of their ability to operate to their maximum potential and to be more dynamic is the tendency of organisations to turn their attention towards the limited number of qualified employees.

The conclusion of the research has highlighted the positive relationship between the presence of graduates and the economic performance of the organisation as well as the existence of a more direct relationship between graduates generally and company performance with respect to the results which can be obtained by making use of a specific type of degree.

Other studies have shown a link between the level of performance, in terms of profit, and the qualifications of the management staff. Of particular interest is the connection found between the manufacturing companies managed by chief executives with a degree and/or higher education qualifications, and a more frequent achievement of higher levels of profitability (WOOD W.J. 1992). These studies focus on the management staff, making the distinction between executive and non-executive; others, however, simply refer to management in general (BARRY R., LEE J.W., 2001).

Whilst there seems to be no theoretical stance capable of demonstrating that a specific level of education for management can make a great difference to the organisation's level of results, it is possible to acknowledge the essential role of qualifications with regard to the results of organisations, taking into account the fact that organisations run by qualified managers tend to perform better than those with less qualified managers.

Consequently, a significant outcome of the research concerns the contribution of the cultural training of management, in that organisations run by managers with a non-technical background, achieve better results.

A fundamental issue is the definition of an indicator for measuring the organisation's performance. Some of the literature mentions the belief that growth may be a reliable indicator; this stance does not, however, seem to be confirmed by empirical proof. Moreover, it seems that the traditional theoretical models do not retain the human resource training variable capable of influencing the growth of an organisation.

Other theoretical stances focus on the organisation's profits, although the theory of private remuneration rates does not seem appropriate, considering that it is founded on the principle that individuals are rewarded on the basis of their marginal productivity. Whatever the case, the logical grounds seem to respect the current trend in the employment market, according to which the more qualified workers receive more attractive offers of employment as they are capable of producing an extremely high profitability for the benefit of the organisation in terms of profits, and of the workers in terms of remuneration.

1.4 Investments in training and company performance: analysis

Analysis of relationships between investments in training and company performance has been produced over the last twenty years. Of significant importance is the methodology applied in the research, which consists of drawing international empirical comparisons of productivity and of the relevant investments made in education and training by several European countries: Germany, France, Netherlands, United Kingdom and others.

The importance of this research lies in the fact that it uses data relating to professional training, together with the more commonly adopted measures relating to the years of education. The focus is not so much on the statistical impact of one additional year of education and training on productivity, but rather on the results of investments made in human resources of varying type and quality.

Of interest in this regard is the work undertaken by the English academic S. J. Prais, who in 1995 compared the national statistics on the workforce of several EU countries between 1988 and 1991 (PRAIS S.J., 1995). From the data analysed, marked differences emerge in the professional qualifications at an intermediate level between the EU countries taken into consideration. By way of example it must be remembered that during those years in the United Kingdom only 25% of the entire economically active population gained professional qualifications, in France 40% and in Germany 63%. The greatest divide has been identified in the training for small businesses with respect to that for the technical area: around 64% of the workforce in the United Kingdom achieved no professional training qualification, in France 53% and in Germany only 26%. From his analysis Prais concludes that the United Kingdom was anomalous in the relatively low proportion of the workforce who had benefited from formal professional training and who had gained professional qualifications as a result of examinations.

Although in the years following the period studied the investments in professional training in all of the Member States have experienced variations, the differences between the Countries continue to create differences in the productivity of resources and thus in the results of the organisations.

There have been many studies carried out by researchers at NIESR (National Institute of Economic and Social Research) in the UK. With a view to identifying a model to demonstrate the link between a more educated and better trained workforce and the increase in production achieved per worker. These studies do not relate exclusively to British organisations but also to those of other EU countries, although the sectors concerned are identified as those relating to the metal, textile and food industries, as well as certain organisations in the service sector in general. These have been able to maintain that acquiring skills in the workforce is a fundamental factor for increasing productivity, measured in terms of production per individual worker.

Studies have been undertaken in various sectors, including banking (MASON G., KELTNER B., WAGNER K., 1999) and ceramic tableware industries (JARVIS V., O'MAHONY M., WESSELS H.

2002), from which it can be deduced that in Germany, France and the Netherlands, where the percentage of professional training qualifications was higher, the productivity of the worker was higher in comparison with workers in the same sectors in the United Kingdom.

Even more recent is the comparison between the apprenticeship training systems in various European countries produced by H. Steedman, from which he has identified connections in the productivity of the individual. The study (STEEDMAN H., 2001) has shown significant shortcomings in the British approach, and these have led to an inferior quality of professional training for young workers.

Another study (O'MAHONY M., DE BOER W., 2002) in this regard confirms that the United Kingdom continues to remain behind in comparison with Germany and France in terms of work productivity, and this divide can be mainly explained by the different levels of investment, particularly in training. This study, predominantly statistical, compares work productivity not only with respect to the economy as a whole, but also in relation to around 10 general industrial sectors. It uses education and training statistics, divided into different levels, in order to quantify the relative abilities of the workforce in the different countries. The study has, furthermore, identified a significant relationship between work productivity and the measured abilities of the workers in the various industrial sectors of the countries concerned.

2. The contribute of e-learning on the human capital development of the small and medium sized-companies

Over the past year, e-learning has been variously described as the solution for all corporate learning problems or as a vast disappointment. With the human capital as the organization's renewable resource, the primary goal for all learning within an organization is the development of all its human capital. The fundamental element in this investment and nurturing process is making sure that employees' personal goals are aligned with the organization's goals; no organization will realize its full potential if employee goals and corporate goals are misaligned.

Research carried out in different European and national studies and in projects shows that e-learning is used mainly in big companies and less in small and medium sized-companies. The main reason is the lack of resources and time to develop training by e-learning and the new goal of the research is to help small and medium sized-companies to build participative suitable models of training based on e-learning. Some years ago, the introduction and use of e-learning in small and medium sized companies has been seen as unproblematic and, in fact, as a royal path to answering training needs in help small and medium sized-companies. It was assumed that managers of small and medium sized-companies would recognize the problem of meeting adequately the continuous training needs of their staff for innovation and that the updating of professional knowledge and skills could be supported by e-learning, as cheap, just in time training taking place on-line and/or at the working place.

Research carried out in different European and national studies (ATTWELL ET AL., 2003) and in projects (BEER ET AL., 2006) show that e-learning is used ever since mainly in big companies and that help small and medium sized-companies use internet and e-learning predominantly for product advertising, particularly through web sites, and only 7% for human resources training.

Training culture within small and medium sized-companies which is often dependent on trainer and conventional training methods; skills needed for a more independent approach and the use of new media for learning are missing. There is a lack of long-term vocational strategies for the staff based on deep analysis of their qualification needs, one of this is the "learning by doing".

Often the managers have not enough knowledge or are not convinced of the effectiveness of e-learning and the staff has a lack of time and motivation to test new learning methods.

Appropriate software and contents for small and medium sized-companies are missing. The major part of commercial e-learning software is modelled on the requirements of big enterprises or higher education and small and medium sized-companies can not afford to pay tailor-made ones. The existing training offers in supporting specific business needs of small and medium sized-companies are often inadequate and/or unattractive. A continuous cooperation between e-learning

developers, providers and small and medium sized-companies which could improve this situation is missing.

For future development it is necessary to strengthen cooperation with other small and medium sized-companies, with large enterprises, with training providers and public institutions like for example Chambers of Commerce or University centres. One suitable solution for small and medium sized-companies is to build communities of practice (PALLOFF ET AL., 1999; JOHNSON 2001; WENGER ET AL., 2002) to share knowledge, to apply best practices in technology-enhanced learning and to develop business-oriented models of e-learning for them. Such forms of cooperation could stimulate new experiments, new actions and new directions for learning.

The European Commission and almost all European Member States provide support in some form or other to the fostering of e-learning in small and medium sized-companies, but in many countries education and training are fragmented with responsibilities in different policy areas and agencies. As a result there is a lack of integrated support services for small and medium sized-companies in which learning, and in particular e-learning, is a key component in the portfolio.

European small and medium sized-companies in partnership started projects with the aim to improve the e-learning use as training strategy by participative development of sustainable e-learning based training strategies and models for introducing e-learning to be followed by the companies introducing new media and training concepts to involve only minimal changes in the structures and processes of the company for the acceptance by trainers and the staff of the new tools and learning methods.

Usually a strategy of cultural change includes a review of the organisation, its infrastructure, learning culture and business strategy as appropriate to the new learning objectives, concepts and methods. The advantages of e-learning should be known by managers and staff and evaluation procedures should be carried up regularly for the e-learning programmes. The introduction of e-learning should be integrated into the whole qualification programme of the company and supported by technical and organisational measures and knowledge about e-learning market and cooperation with an e-learning provider to develop a community of practice (HARGADON, S., 2006; BUSSE ET AL., 2007).

3. Conclusions

E-learning should be approached via a new paradigm, one where instruction and information are involved in a recursive process, an approach which counters the concept of linearity. New ways of thinking about how people and organizations learn and new technologies favour the emergence of principles of e-learning that deliver both business and individual opportunities.

Faced with the growing demand for life-long learning, whether in business or in formal education, it is becoming imperative to revalue the educational environment and to propose resources and tools which respect the diversity in learning styles to define the link between e-learning and knowledge management. However, e-learning is not just online training. The new approaches to e-learning include not only the instructional strategy but also the informational strategy, because people learn in many different ways so that access to information is as essential for learning as is instruction. He recognizes that, because the online information is not always well structured, it is necessary to work in an area that has come to be known as knowledge management. Like e-learning, knowledge management is facilitated by technology, but it is primarily about people, working together and about communication. This is what the new approaches confirm in relation to the applications of knowledge management in the organizations and companies. It is not only a means to resolve technology and information management problems, but also a socio-organizational and cultural process allowing the promotion of learning, creation and innovation. Thus, we can argue that the knowledge management can be understood as an information system which codifies the knowledge, but also as a dynamic process in which knowledge capital is created through learning. It does not mean that the initial function of the knowledge management should be

abandoned, but that the human element with own capital and its cognitive properties has to be integrated (ALLIX 2003).

Just like knowledge management, e-learning originates from a strategy that is both informative, informational strategy, and instructional, learning, but also from cognition. In addition the human element enters on the scene and interacts with all other elements in a complex process. The challenge is to propose a new way of thinking, to propose a paradigm, on which any scientific method is based, which has the principle of recognizing the interactions that our minds should distinguish, but not consider in isolation (MORIN, 1990).

In order to work efficiently in new upcoming contexts to develop the human capital of their organization the small-medium size companies are required to improve their learning strategies and e-learning can contribute to the achievement of needed knowledge, competences and abilities. It is important, to help small-medium size companies to design, implement and evaluate suitable models of training for them based on e-learning, within communities of practice because many companies have not always the resources and knowledge to do this alone.

The last important aspects to be considered are re-examination of small-medium size companies current position and business goals, development of solutions to improve their situation, a professional establishment of vocational training needs of the staff in this context and to include e-learning as a part of the company training plan that addresses and resources infrastructure, development, media and a didactic approach. Assess the benefits gained for organisations through the utilisation of an effective training strategy.

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