



Human resource development in the knowledge based and services driven economy

An introduction

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Abstract

Purpose – In July 2009 the Universidade Lusíada de Famalicão organized the International Conference on Managing Services in the Knowledge Economy 2009 (MSKE 2009). <http://clegi.fam.ulusiada.pt/MSKE2009/>. MSKE 2009 was an interesting forum which gathered 60 specialists from 20 countries in different areas such as knowledge management, intellectual capital, human resource development, social policy, law and international economics. In the human resource development field, five relevant contributions were selected to compose the current issue. The purpose of this introductory paper is to review the literature on the role of human resource development (HRD) in the current knowledge based and services driven economy.

Design/methodology/approach – The paper reviews the importance of knowledge as a crucial economic factor and the importance of services as the main area of economic business. It shows how HRD relates to services and knowledge.

Findings – Starting at the time of the Agricultural Revolution when human resources (HR) were marginally considered, the paper ends in the globalized and technologic advanced world of 2010 in which HR are a decisive production factor and are analyzed by different very important scientific perspectives. Crucially, in the present new order of the world, services are the main economic sector in advanced countries. The important role of HRD as a factor of success in a world dominated by services and knowledge is explained. The major open questions and controversies related to HRD are enumerated.

Research limitations/implications – Quite a number of open questions remain in the HRD field. Those questions relate to individuals, educational system, organizations, and to society as a whole. Those questions are analyzed in detail in this introduction. The current special issue includes papers dealing with five separate topics related to the open questions: academic curricula needed for the service sector; role of universities and workplace work-related arrangements of the educational system; intellectual capital management; career advancement; career aspirations.

Originality/value – The paper introduces the special issue of the *Journal of European Industrial Training* on “HRD in the knowledge based and services driven economy”.

Keywords Knowledge, Human resource development, Services, Evaluation

Paper type Conceptual paper



Introduction

In July 2009 the Universidade Lusíada de Famalicão organized the International Conference on Managing Services in the Knowledge Economy 2009 (MSKE 2009) (<http://clegi.fam.ulusiada.pt/MSKE2009/>). MSKE 2009 was a multidisciplinary forum, which gathered 60 participants, from 20 countries, specialized in different areas, such as knowledge management, intellectual capital, human resource development (HRD),

international economics and social policy. In the HRD field, several relevant studies were presented and five of them were selected to be included in the current issue of the *Journal of European Industrial Training*.

This introduction aims to underline the social context and the theoretical concepts that could contribute to the understanding the role of HRD in a knowledge driven and service based economy. Accordingly, the paper begins with the definition of the main concepts used in it, namely, HRD, HR, knowledge and services are described. After, the existence of several scientific approaches to analyze HR is explained. Furthermore, the emergency of the knowledge economy in which services are the main economic activity is discussed, and a parallel is drawn with the evolution of the theoretical analysis on HR. Following which, we indicate the main controversies, and the open questions than in our opinion are still to be solved in the HRD field. Then, a summary of the papers selected for the present issue is given. Finally, we conclude by emphasizing how this issue contributes to the understanding of the role of HRD in a knowledge driven and services based economy.

Conceptual issues

Human Resources (HR) are usually described as all the characteristics of Humans that may generate an economic return. Those characteristics relate to formal aspects (like formal education, training, age), but also, to less formal elements (like competences, skills, experience, career, talent, motivation, persistence, health, or even beauty). Today few will put in doubt the importance of HR as an important economic factor.

Human resource development (HRD) is the activity by which HR are improved. HRD has been analyzed as having the following four interrelated functions:

- (1) Organization development (OD).
- (2) Career development (CD).
- (3) Training and development (T&D).
- (4) Performance improvement (PI) (McGuire and Cseh, 2006; Wang and McLean, 2007; Abdullah, 2009).

Knowledge is defined as “understood information”, information being “organized facts”. It is assumed that knowledge workers and organizations are those, which use knowledge intensively.

In basic economics, services tend to be differentiated from goods, as being essentially acts. Therefore, a teacher may use slides (which is a good) to give a lecture (which is a service). Also, services “are a diverse group of economic activities not directly associated with the manufacture of goods, mining, or agriculture” (OECD, 2000, p. 7). Therefore, as Dickson *et al.* say in their paper in this special issue: “Services typically involve the provision of human value-add in the form of advice, managerial skill, training, intermediation, and the like. Employees in service sector enterprises depend on their knowledge and social networks, as well as tools, to be productive and to continually generate value (Maglio *et al.*, 2006). This creates a distinguishing feature of service sector enterprises – the relatively high emphasis placed on intellectual capital, or ‘intangibles,’ in many business activities. While difficult to measure, intangibles often hold the key to value creation in service sector businesses” (OECD, 2000, p. 11).

Approaches to human resources in a knowledge based and services driven economy

Quite crucially, nowadays, the investments in intangible assets are analyzed in the scientific world by at least six very different and important perspectives. These perspectives are:

- (1) Social policy.
- (2) HR economics.
- (3) Management and accountability.
- (4) HRD science.
- (5) Intellectual capital.
- (6) Knowledge management.

These six perspectives are summarized in Table I. The important message to extract from the Table I is that in today's knowledge based and services driven economy, a considerable amount of work exists on the main production factor, that is intangibles. Furthermore, HRD is only one of the several existing and possible approaches. Given that, each approach in fact complements the other, and the multiplicity of perspectives is the main cause behind the existence of a forum, like MSKE.

The emergence of a knowledge based and services driven economy and HRD

When Adam Smith wrote *The Wealth of Nations* (1776), agriculture was the main economic sector, industry was marginal and the services sector was virtually non-existent in the economy. Smith mentioned skills and training as a factor of economic prosperity and growth, but its application was essentially perceived in industry, as a factor of productivity (Paul, 1989). When 100 years later Karl Marx wrote *The Capital*, industry was already an important economic sector; in fact, in last decades of the nineteenth century the industrial sector was the driving force of the most developed countries. Marx thought that skills would liberate the workers from capitalist slavery, and defended the importance of HR and HRD in companies and countries. Other Classical economists, including Marshall (Paul, 1989), Stuart Mill (Shackleton, 1995) and Pigou (Stevens, 1996), also emphasized the importance of qualifications in the economic life. When, in the beginning of the twentieth century, Frederick Taylor defined the "scientific rules" of organizing work (Taylor, 1911) those rules were meant to be applied to the industrial sector; the Fordism that followed, as an application of Taylor's ideas, was essentially focused in the secondary sector. Even in such a "mechanic" setting, the "human face" of organizations was also underlined, mostly by the Human Relations School (Mayo, 1933).

Nowadays it is well known that the increase in gross domestic product (GDP) per head in countries implies the substitution of agriculture by industry and later of industry by services as the main economic driver (World Bank, 2000, p. 52). Significantly, until the seventies of last century, the seminal writings that were made on the field of Sociology of Labor (Joan Woodward, the Socio Technical School) were mostly based in the secondary sector. Even if some authors perceived in very early stages the change that was about to happen (Drucker, 1967; Trist, 1972) the reality was still dominated by industries, and services were not the main cause of concern in the field of HRD.

The Human Capital Theory (HCT) explained the evolution of wages and employment as a function of competences and skills, and could be applied to any

Perspective	User	Problem	Variables	Assessment methods	References
Social policy	Public administrator	Public good	Expenses, number of supported persons	Progress reports	European Commission, 2010
HR Economics	Human resource economist (micro or macro)	Impacts on individuals, organizations and in the society	Wages, employment, productivity. Exports. Income	Micro: control group Input output methods Macro: supply and demand methods. Input Output	Becker, 1993; Ashton and Green, 1996. Snower, 1996. Heckman <i>et al.</i> , 1999
Management/ accountability	Private manager Traditional accountant	Impact on the organization	Profits	Return on investment (ROI)	Fitz-enz, 2000
HRD science	HRD expert	Impact for the agents involved	Reaction competences/ learning behaviour, company outcomes	Interviews, questionnaire, participant – observer	Kirkpatrick, 1959
Intellectual Capital	New accountants, new managers	Impacts on the organization. Extended to countries	Asset Return of the asset: market value minus book value	Balanced scorecard; Skandia Navigator; Tobin Q; Pulic VAIC	Kaplan and Norton, 1994; Edvinsson and Malone, 1997; Tobin, 1969; Pulic, 2000
Knowledge Management	Knowledge manager	Impacts on the organization. Extended to countries	Knowledge, and the knowledge cycle Knowledge economy Indicator for countries	Knowledge sharing, transfer, creation, renewal dynamics, learning and unlearning	Nonaka and Takeuchi, 1995 Andriessen, 2008 Kianto, 2007

Table I.
Approaches to HR in the
knowledge based and
services driven economy

economic sector (Becker, 1993; Schultz, 1961). But, for its success, a stable economic setting, was preferable. Therefore, the HCT worked better, as a success predictor, in the stable third quarter of the twentieth century than in the turbulent first decade of the twenty-first century.

When, in the 1980s and the 1990s of last century the organizations were confronted with the “third industrial revolution”, several drastic and fundamental changes occurred (Toffler, 1980; Richonier, 1985). Suddenly, the economic world was in a new and different “Information Age” in which knowledge became to be considered the main production factor. The optimal scale of production decreased, as services replaced industry as the main sector of activity and the main employer. The economy became more and more diverse, and differentiation became to be the basic characteristic of the demand of goods and of the supply of labor. New goods and new production processes demand new competences, and more competences. With the advent of internet “Think global act local” became the key for the successful businesses. The power shifted in the organizations, as pyramids became more and more inverted. Not only bottom up approaches became common and were considered as fundamental, but the need to use and benefit from an increasing number of competent workers generated new management approaches, like communities of practices and quality circles.

This societal change brought about very significant changes in the HRD scene. Those changes were linked with upgrading competences, managing change, the definition of core competences, the importance of knowledge, and the consideration of risk and uncertainty. Competences had to be upgraded; more and more qualified workers were needed in different areas of specialization. Competences demanded intensively by the market changed and are still changing; this permanent change raised very problematic employability issues (Tomé, 2007). Competences were not anymore defined in technical terms, but, in a world dominated by services, relational and social issues became progressively more important. Knowledge, acquired scientific status, and its organizational value began to be defined in static and dynamic terms (Kianto, 2007); therefore, the possession, use, creation, sharing, and transfer of knowledge became also an important competence, and a decisive HRD question. All the previous questions were to be addressed in a context of uncertainty and risk: it is impossible to predict what will be the competences needed in ten years time, and economic winners will have to take risks.

Controversies and open questions

In the context just described, some crucial questions remain open; they are linked with:

- (1) Career aspiration and progress.
- (2) Universities and transition from school to work.
- (3) Certification and intellectual capital.
- (4) Migrations, demographic change, and sustainability.

Individual questions: career aspirations and progress

The easiest way to understand investments in HR is to see them as efforts made by the individuals in their own careers. But, individuals are not equal. Career aspirations may differ by a number of factors, and the investment one is ready to make differs on cognitive factors behavior, and, also on environmental factors (see the paper of Ismail

and Ramly in this issue). Furthermore, progress in careers may also be explained by factors such as person inputs, and, also organizational factors (as discussed in the paper of Arokiasamy *et al.* in this issue).

Educational questions: role of universities and work related arrangements

Even if the excess of skills and qualifications is certainly a problem for some workers, the fact that the services economy implies an increase in competences needed for the majority of the population, means that, in the future and worldwide, the number of students attending universities will grow. Therefore, the role of universities as providers of workers for the services sector is already significant, but will eventually increase. To understand what are the competences for the services sector that professionals should acquire in the university and how should HR be included in the training of those professionals are two very specific, but important social questions studied by Dickson *et al.* in one of the papers included in this special issue. Furthermore, work related arrangements are needed in higher education to promote the school to work transition; those arrangements should themselves train students in the ability to transfer knowledge using social interaction and cognitive integration processes; Lappia analyses this important question in another paper of this special issue.

Organizational questions: certification and IC reporting

Tacit knowledge, informal competences tend to exist when the formal system of education is weak, this being usually the case of the less developed world countries. However, the internet increases the possibilities of efficient self training. Therefore, when hiring formerly educated or non-educated employees companies face the problem of defining the worker's competences. State organized certification processes are a way of solving this problem. But the central question is to define "social competences" as a reducer of uncertainty and a guarantee of rights. Competence certification is a problem when the economy changes, and the demand for labor also changes. And competence certification, is a facet of the increased importance of intangibles, in the economy (Barbosa, 2009). Intellectual Capital reporting supports organizational management and also a way of defining strategies that might help HRD management. In fact, IC and HRD studies are two complementary perspectives of examining and understanding the intangible investment by organizations (see the paper by Pook in this special issue).

Macroeconomic questions: migrations and sustainability

Human migrations are as old as mankind, but in the globalized world migrations tend to be more important. Quite crucially, migration has deep personal, economic and social or even political consequences for the mover, the region of departure and the region of destination. HRD may help understanding the process of transfer, and the process of adaptation that migrants incur. The analysis relate to the social presence of migrants, but also to the case of multinational workers and to the organization of multinationals. As a consequence international HRD is nowadays an undisputed academic field. The problem of migrations has important consequences for the service field, from both a demand and a supply point of view. Migrants demand services, and understanding migrants is a way of improving services; but migrants are also suppliers of labor force to the service sector, and understanding the movement of the migrant is in itself a way of helping the economy (Cardona-Rivera, 2009).

Finally, sustainability emerged as a major scientific field since the Meadows report (Meadows *et al.*, 1972). Human resources are viewed as a factor that might potentiate sustainability not only because people may be educated to oblige to sustainability, but also because humans are ultimately the fundamental production factor, and therefore to improve human skills is the best way to defend sustainability (Gollan, 2005). In services, the sustainability question is more complex than in industry or agriculture because the production process has in principle a smaller optimal scale that calls for a more detailed process of monitoring of sustainability. Also, the relationship between sustainability and human resources is more complex in services than in industry, because services business face a more instable and local specific demand and because specific human resource investment is the key to match that demand (Sarmento and Durão, 2009).

The contributions of the five papers included in the special issue

The special issue contains five papers that form a mosaic of the problems facing the HRD discipline in relation to the services sector. These problems are:

- the format of the university curricula and competences of service sector workers;
- the relation between intellectual capital management and the management of services;
- the building of work related arrangements for the service sector;
- the career advancement of academics; and finally
- career aspirations.

University curricula and HRD (paper of Dickson et al.)

Dickson *et al.* intend to identify critical components for service science curricula that address the unique competency needs of the service sector. The expansion of the services sector globally has been unprecedented. "Some analysts predict that by 2020, services will account for 50 percent of world trade" (Downe *et al.*, 2008, p. 1). Furthermore, while the service sector accounts for most of the world's economic activity "it is the least studied and least understood part of the economy" (Spohrer and Maglio, 2009 p. 2).

In this context, service science as an academic discipline or field of research is aimed at increasing the productivity of the service sector, improving innovation in this sector, and devising methods to assessing the value of investments in services or improving them. The distinctive feature of the service sector (intellectual capital as a driver of value) is recognized worldwide. Accordingly, Dickson *et al.* put forward two research questions serving as the basis for their paper:

- (1) Is an inter-disciplinary approach to service science-related education valuable in today's service economy?
- (2) What role does HRD-focused content have in service science-related education?

Bitner and Brown (2008) emphasized that successful service sector employees must be "T-shaped" in that they possess a depth of understanding in a particular field like culinary arts or accounting (the vertical part of the T) and also have a fundamental understanding of the other disciplines with which they must collaborate to successfully perform complex interactions (the horizontal part of the T). In addition to this "T-shaped" knowledge base, employees in the service economy need "stronger

communication and teamwork abilities than ever before in order to succeed in complex, global organizations and network” (Bitner and Brown, 2008, p. 44).

In order to answer the first question, Dickson, Noveski and Hamidi suggest that the design and delivery of services is a system of interrelated and interdependent parts that includes people, business and technology (Street, 2007). Therefore, professionals in service sector enterprises must have knowledge and skill in all these three areas. The emerging service science discipline should bring together these three different perspectives in order to span the boundaries between them (Glushko, 2008, p. 25). In other words, “T-shaped” professionals are required to meet the distinctive demands of new jobs in the service sector, so academic programs must focus on helping students to build technical competence in their discipline (vertical part of the T) as well as business and people skills (horizontal part of the T) (Poole, 2007). Research undertaken by a variety of academic institutions and service sector businesses has pointed out to the need for the three elements of curricular content: people, business, and technology. While the names of these three elements vary slightly, the essence is the same. Four examples of this research are indicated in the paper.

In relation to the second question, Dickson, Noveski and Hamidi consider that people-related knowledge and skills are vital for professionals in the service sector. In fact, according to these authors, proponents of the “T-shaped” model for service sector education, including Bitner and Brown (2008), have pointed out that in addition to the “T-shaped” knowledge base, employees in the service economy need people-related skills. This importance of people-related skills in the service sector is based on three factors:

- (1) the need to improve employee productivity and innovation;
- (2) the unique nature of work which has complex interactions; and
- (3) the role of human/intellectual capital as a competitive differentiator.

More precisely, these authors consider that HRD-focused content in a service science curriculum can address all the people-related needs and issues. In particular, HRD improves skills, when it is known that a lack of skills is a major impediment for productivity and innovation. HRD should be used to develop “complex interaction” skills that are a feature of most service jobs. Service companies compete through the creation of a service culture that differentiates skills ((Bitner and Brown, 2008); this means that to become an “employer of choice” or a “provider of choice” it is required an improvement in the capabilities related to HRD.

Dickson, Noveski and Hamidi conclude that HRD that practitioners must view organizational issues and opportunities from people, must use business and technology lenses, and must apply an interdisciplinary approach to generating innovative solutions appropriate for the service sector.

Intellectual capital management and HRD (paper of Pook)

In the context of the growing importance of Intangibles, Pook analyses the benefit of intellectual capital management (ICM) for addressing HR challenges suggesting participatory and ongoing ICM practices as helpers to HRD. Pook claims that the literature on ICM and Strategic HR work has not been linked so far. The originality and value of her paper is therefore to merge two distant academic worlds.

According to Pook, the current economic situation implies that HRD faces several challenges: empowering employees by involving them in strategic issues; making use of

people's knowledge and experience; managing demographic change; making the organisation attractive for (future) employees (employer branding); managing change; intertwining organisational development and HR work; integrating HR in organisational measurement systems and, thus, becoming an information base for decision-making.

Pook claims that ICM unlocks individual knowledge and experience for the organisation, contributes to make the organisation more attractive as an employer ICM supports strategic thinking as an important part of leadership and valuable employees as relevant knowledge holders. It also delivers feasible indicators for intangible success factors, and fosters organisational effectiveness and efficiency by aligning mental models and individual action. It is well known that the benefits of using an ICR fall into two categories (Elena *et al.*, 2008):

- (1) A management tool to help to develop and to allocate resources – to create strategy, prioritize challenges to the firm's development, monitor the development of the firm's results, and thus facilitate decision-making (internal reporting function).
- (2) A communication device linking the institution to the world as a way to attract resources – financial, human and technological (external reporting function) and to foment relationships with partners and customers.

But Pook advocates the extension of the existing ICR models to an ongoing cycle of continuous development that would be extremely beneficial to HRD. The participatory approach for ICM implies:

- creating a space for open communication;
- fostering open and multi-disciplinary debate in the environment of an organization with uneven power distribution;
- building a knowledge-sharing culture, thus opening individual knowledge for the organization and strategic decision making; and
- using diversity as an asset.

Even if Pook considers her contribution a starting point that triggers deeper analysis of specific questions and possibly empirical studies, we think that it is a very valuable contribution to the debate about the multiplicity of approaches on HR in a knowledge and services-driven economy.

Guidelines for work related arrangements (paper of Lappia)

Lappia studies design guidelines for work related learning arrangements. Lappia aims at producing guidelines based on insights from both practice and theory that will enable teachers and educational developers to execute the design, implementation and evaluation of their work-related learning arrangements with stakeholders involved.

A work related learning arrangement is defined as an "arranged" learning process initiated by a practice driven assignment within an authentic work environment in which a group of students is performing job tasks that are relevant for their future jobs. In this context, the group accepts the responsibility to perform the tasks adequately, the company is responsible for the quality of work assignments and the expert-novice support, and the university takes the responsibility for the quality of the training taking part at the workplace and at the university. Learning is defined as the conscious

and unconscious (mental) activities by individuals, groups or organisations that result in more or less permanent changes in knowledge, skills and perceptions, and in changes in work processes, structures and cultures of groups and organisations. Learning can be triggered in four separate forms:

- (1) By experience.
- (2) By social interaction.
- (3) By theory.
- (4) By reflection.

Because universities are not able to teach students everything they will need to know for the rest of their lives, work related learning arrangements try to equip students with the ability to transfer, to use what they have learned to solve new problems successfully or to learn quickly in new situations (Tuomi-Gröhn and Engeström, 2007).

But according to Lappia, one problem exists: How can the quality of work related to learning be enhanced within work related to learning arrangements in order to form future knowledge workers that will have the ability to transfer? To investigate this problem three research questions are explored in Lappia's paper:

- (1) Which factors do influence the quality of work related learning arrangements and how do these factors influence work related learning by students?
- (2) How to design guidelines to influence the quality of work related learning by students?
- (3) How to measure the impact of work related learning of students in work related learning arrangements?

In her paper, Lappia reports one explanatory design study for the first research question and one design-oriented research study for the second and third questions. Both case studies showed that to realize work related learning arrangements mutual understanding between stakeholders is needed to decide what has to be learned by the students and to create learning situations that have a high similarity with real working situations. The framework has similarities with the work of Kessels (1993) when dividing the quality of training in internal consistency and external consistency. Internal consistency means work related training arrangements facilitating the accumulation of knowledge acquisition; also, the learning environment, the learning activities, the teacher roles and the expert-novice support facilitate to obtain the necessary ability to transfer. External consistency means that work related arrangements should ensure that what an individual student learns in his or her learning group is consistent with the ideas that the participating learning organization holds on the central thematic of the mentioned learning process.

Lappia concludes that as an answer to the first research question, the components of the spider web model (van den Akker, 2005) are important factors that influence the quality of a work related learning arrangement, as an intervention. These factors are the following: aims and objectives, content, learning activities, teacher role, materials and resources, grouping, time, location and assessment. Therefore, Lappia agrees with van der Klink (1999) "Despite all optimism, there is no strong evidence for the supremacy of the workplace as a learning environment".

As an answer to the second question Lappia finds six major guidelines to influence the quality of work related learning by students:

- (1) Work related learning arrangements are context specific solutions.
- (2) Curricular components of spider web model are generalizable components of work related learning arrangements.
- (3) Comparing design as intended and design as perceived.
- (4) Measuring attained level of work related learning requires more levels of learning.
- (5) Different outcomes on different forms of learning require different teaching instruction.
- (6) Different added value of teacher roles as role models for students.

In relation to the third question, Lappia considers that when students are involved in work related learning arrangements in higher education, social interaction learning processes and cognitive integration learning processes have to be arranged, in order to facilitate students to learn constructively and to progressively re-contextualize knowledge, skills and attitudes. To measure the impact of work related learning of students it is important to distinguish between the process of consequential transition of internal acquisition learning processes (which involves changes in the identity of the individual) and the expended learning between different levels (activity systems) of the social interaction learning processes. Lappia presents a dynamic framework, which forms a basis for an assessment tool in which both learning process are combined into a dynamic whole.

To sum up Lappia concludes that work related learning arrangements are still rare in higher education, and practical experience is generally only gained during short periods of internships. Therefore, even if Lappia finds that learning by experience and social interaction, and learning by theory and reflection should be combined in joint work related learning arrangements to obtain the bigger impact on the ability to transfer, that transfer will not immediately become common.

Career advancement for academics (paper of Arokiasamy et al.)

Arokiasamy, Ismail, Hamad and Othman examine the influence of individual and organizational variables on career advancement of academics in Malaysian private universities. The World Bank (2008) refers to "education and training" as one of the four parameters in the knowledge economy index. In the context of globalization universities are considered to be a decisive investment in emerging countries like Malaysia. The country needs to achieve 40 percent population with tertiary education by the year 2020. Furthermore, career advancement is believed to be one of the dominant factors for the growth of the academic profession and the universities (Altbach, 2004; Altbach and Knight, 2007). Arokiasamy and co-authors consider that HRD is important specifically to create better awareness amongst academics about their career planning and aspiration, and is also important for the role that organizational related factors have in their careers and how they should response to the services given by the institutions.

From that notion, Arokiasamy and co-authors derive the basic departure question of their paper, that is: How do individual and organizational factors contribute to career advancement of academics? The research is based on social cognitive career theory

(SCCT) (Lent *et al.*, 1994) which is derived from Bandura's (1986) general social cognitive theory to further understand individuals' career interest, goals, and performance. Arokiasamy and co-authors extend the existing knowledge of career advancement with specific reference to the SCCT considering, as explanatory factors, the person inputs, the contextual influences, the outcome expectation or the performance. In their study, person inputs are represented by individual variables; contextual influences are represented by organizational factors and outcome expectation. Career advancement was the dependent variable and is referred to the status that an academic achieves as a result of the activities to improve one's own career; it is conceptualized to include objectives and a more comprehensive measure of subjective career advancement, as suggested by Heslin (2003).

A correlative study was conducted in 2008 in six private universities. Data were collected using a structured self-administered questionnaire. Using stratified random sampling, a total of 105 full-time academics were chosen as the study respondents. They represented sampling criteria such as pure science and social science disciplines, job positions and academic qualifications. Regression analysis showed that organizational variables specifically mentoring, social network and organizational support were the significant contributors of career advancement of the academics with 56.1 percent explanatory power.

These results are useful to human resource development (HRD); the personnel of the universities can use them as guides to plan and implement HRD initiatives.

Career aspirations for R&D professionals (paper of Ismail and Ramly)

Ismail and Ramly compare the influence of self-efficacy, organizational socialization and continuous improvement (CI) practices on career aspirations of research and development (R&D) professionals in government research institutes (GRIs) and multinational corporations (MNCs) in Malaysia. R&D professionals in this study refer to a specific group of knowledge workers. As many emerging countries, Malaysia is trying to change from a resource led economy, in which infrastructures were made to support companies using cheap labour, to a knowledge based economy, in which technology and communication and knowledge are the main assets. In the context of the country's change, it is foreseen that R&D will become an increasingly important sector in Malaysia.

The career aspirations of Malaysian R&D professionals are still under-research phenomena that Ismail and Ramly reported in their paper. Specifically, the paper addresses three research questions:

- (1) Is there any difference between career aspirations of R&D professionals in GRIs and MNCs?
- (2) What is the relationship between self-efficacy, organizational socialization and continuous improvement practices for career aspirations of R&D professionals in both types of organizations?
- (3) What factors contribute to the explanation of the variations of career aspirations of professionals in the two types of R&D organizations?

Their study is relevant because, according to the authors, HRD professionals are one of the most important groups developing the k-economy.

The social cognitive career theory (SCCT) was used as this paper's theoretical framework (Bandura, 1978, Rasheed and McWhirter, 2006). An empirical study was developed involving 164 respondents from GRIs and 120 respondents from MNCs in Malaysia. The descriptive statistics and inferential multiple linear regressions were used to analyse the data. Self-efficacy, organizational socialization and continuous improvement practices were the independent variables while career aspiration of R&D professionals was the dependent variable.

Continuous improvement practices were found to have the strongest predictor values in both types of R&D organization with the value for multinationals being higher than the value for government research institutes. Self-efficacy was found to be the next important predictor of the respondents' career aspirations. But organizational socialization was not a good predictor of career aspirations. Self-efficacy and organizational socialization were found to differ significantly in terms of their levels, and CI practices and career aspirations were not found significantly different among the two groups of respondents. Regression results showed MNCs reported higher explanatory power compared to that of the GRIs, in terms of the variance in career aspirations.

Cognitive factors and behaviour were found to have more influence than environmental factors in the career aspirations of HR professionals in Malaysia. In consequence, the authors suggest that Continuous Improvement practices should be included in the existing model of social cognitive career theory (Lent *et al.*, 1994).

The study has several consequences for HRD: First, HRD practitioners need to organize the work practices of R&D professionals by strengthening the quality improvement as a work procedure. Second, HRD practitioners must understand why self-efficacy plays such an important role in the career decision of R&D professionals; this would help companies and public bodies to formulate new career development programs. Third, future study is necessary to deal with the influence of other variables, which account for the remaining 70 percent of the variance on career aspirations. Fourth and finally, the authors consider that career adjustment issues exist in relation to the phase of the careers, such as growth, stabilization and maintenance, that can be incorporated in future research.

Conclusion

HRD is a very important branch of science, and its evolution has accompanied the evolution of human society in the last three centuries. Nowadays HRD faces the challenge of understanding and explaining HR investment in a knowledge economy in a globalized world, in which new powers emerge (namely the BRICs) and in which services are the driving force. Open questions and controversies exist, at micro, mezzo and macro levels. In this context, the five papers include in this special issue represent a mosaic of the problems that HRD faces when studying the services sector. These problems are related to certification of competences, work related environments, intellectual capital, universities, career aspirations, career advancement, migrations, and sustainability. Even if these problems seem to be very dissimilar from one from another, they all have two significant characteristics in common: they are related to the situation of humans as scientific subjects in organizational studies, they exist by need of improving the situation of humans in the organizations. Therefore, we believe that the present issue could represent an important contribution to the understanding of the economy in 2011.

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