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Managerial Competencies in Knowledge Context: Comparative Analysis of Poland and United Kingdom

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The present study aims at defining the importance of the managerial competencies, taking particular interest in knowledge, in students' prospective professional career and the level in which these competencies were gained in the course of their studies. The empirical material was collected on the basis of a diagnostic survey carried out from 2009 to 2010 in Lublin, Poland and Huddersfield, Great Britain. The group of respondents consisted of the final year university students of economics and management. The research results revealed that, among both respondent groups, the importance of evaluated competencies exceeded the level of competencies gained during their studies.

Keywords: managers' education, knowledge, competencies

Introduction

Globalisation and internationalisation processes pose particular challenges for the universities. Modern universities should implement such educational process that would supply the students with comprehensive knowledge thus enabling them to solve socio-economic problems. This is especially important for the universities that provide education for potential managers – courses in the field of economy and management.

In the process of globalisation and European integration, the free movement of EU nationals, services, and capital seems fundamental for the development of a single market. Furthermore, intellectual, educational, cultural and social domains are no less important for the integration. These domains are defined as 'Europe of Knowledge' and university studies constitute its vital element.

The present study aims at defining the importance of the managerial competencies, taking particular interest in knowledge, in students' prospective professional career and the level in which these competencies were gained in the course of their studies. On the basis of these stipulations, an

attempt was made to define the competence gap (perceived as the difference in the level of competencies required vs. competencies gained).

The empirical material was collected on the basis of studies conducted from 2009 to 2010 with the use of a diagnostic survey. The study included final year students of management and economics from three state universities of Lublin, namely John Paul II Catholic University, Maria Curie-Sklodowska University, and Lublin University of Technology, and also Business School University of Huddersfield.

The Issue and Literature

In the modern global world of profound and rapid socio-economic and technological changes, the issue of competencies is frequently discussed in the literature. Due to the fact that managerial competencies are considered by researchers as complex, they are most frequently analysed among all the competence types. However, acquiring the managerial competencies does not ensure the competency of a manager, since they ought to also possess other characteristics allowing them to put their skills and knowledge into practice.

D. C. McClelland (1973, pp. 9–13) was the forerunner of research in competencies. In the 1970s he put forward a statement that graduates' professional success cannot be associated with university grades. In order to diagnose the professional predispositions, he developed a test of competencies. In the following years, the research in the field of competencies was taken up by C. J. Constable who claimed that competencies constitute the ability to implement knowledge and skills, thus helping the manager to effectively fulfil their role. Therefore, all managerial skills could be regarded as competencies when used effectively (Constable, 1988). L. and S. Spencer presented a similar point of view. They assumed that competencies encompass the knowledge, skills, values, standards, motives, work ethics, enthusiasm, and self-image (Spencer & Spencer, 1993, p. 388).

Modern authors emphasise the fact that, currently, knowledge and information have become a key factor in the success of an organisation. Namely, modern organisations can swiftly react to changes in unsteady environments and use them to solve problems with the help of all employees. It is possible that, due to considerable effort and streaming of resources into the selection of appropriate talents as human resources, the competencies of talented leaders of change seem to be the fundamental success factor (Prahalad & Krishnan, 2010, pp. 160–180).

The researchers studying the current issues of human resources are unanimous in their claim that human resources ought to be developed and perfected. Additionally, the organisational culture and effective training systems ought to be devised, which may benefit the employee development (Sitko-Lutek, 2005, pp. 262–263; McCallum & O'Connell, 2009, pp. 152–

166; Allio, 2009, pp. 4–12). In order to dominate the market, modern companies attempt to gain competitive edge by developing their key competencies (Prahalad & Hamel, 2000, pp. 3–22).

At present, the researchers studying the issue of human resources are unanimous in their claim that the employee competencies' development and perfection, and consequently fostering culture together with efficient training system advantageous to the development of employees in organizations, seem fundamental. It is estimated that, in the coming years, the rise of competitiveness among organisations on the global market will lead to the necessity of modifying the strategies regarding this issue. As a consequence, the requirements for competencies of a leader will change. The ability to adapt to rapidly changing situations and environment will become the focus of this change fostering the ability among the employee groups.

Therefore, considerable employees' competence flexibility and becoming a learning organisation are required from a modern enterprise. The essence of a knowledge-based organisation is constant change, brought about as a result of continuous learning mainly via challenging the common thinking patterns, acting upon, and considering numerous possible scenarios of own functioning (Chuen Huang & Shih, 2011, pp. 623–644). Such organizations value knowledge, support competencies, and invest in employees' perfecting.

In order to meet the requirements of the global knowledge-based economy (Drucker, 1993, pp. 6–20), companies implement modern methods of knowledge management, competencies, and organisation's perfecting. This entails greater efficiency and effectiveness of the company's operations and translates directly into an improvement of its financial gains (Ubeda Garcia & Liopis Vano, 2002, pp. 169–181). In the knowledge-based economy, the employees' qualifications and competencies provide value for the company. These valuable resources ought to be constantly supplemented and developed in order to provide a means for creative and efficient problem solving (Kambil, 2010, pp. 43–45; Chadam & Pastuszak, 2005, pp. 459–475). Globalisation and internationalisation processes pose particular challenges for the universities. The modern universities ought to implement such educational process that would supply comprehensive knowledge and consequently enable the students to solve socio-economic problems.

As a result of Poland's accession to the European Union and ensuing idea of creating the European Higher Education Area, the issue of graduates' competencies gained particular importance. One of the main stipulations of the Bologna process is the necessity of reforming the university curricula in order to unify the competencies gained as a result of studying a particular subject in individual EU member states. Changes in this regard are to facilitate the occupational mobility among individual EU member states (and consequently contribute to the opening of the labour market)

and promote life-long learning. The process was initiated by the emergence of the Framework for European Higher Education Area (QF for EHEA), which led to the development of the National Qualifications Framework (NQF) in the signatory countries.

NQF is to become the reference point for individual university studies' majors based upon the effects of education and competencies. In this case, the competencies are understood as the combination of knowledge and its understanding, occupational, interpersonal, intellectual, and practical skills, as well as ethical values (Gonzalez & Wagenaar, 2003, pp. 4–5). Such definition of competencies was applied in the methodology of the present paper.

Currently, particular importance is attached to the development of management in organizations. In literature, the improvement of managers is presented as the process of constant learning and regarded as the key success factor, and also competitiveness tool (Sitko-Lutek, 2004, p. 76). The process of managers' shaping begins during the formal education stage, namely in the course of university studies. Studies with particular influence on the process of managers' shaping are studies in the field of economics and management. Therefore, for the purpose of the present paper, the research was performed among the students of these majors. In Poland, the studies in these fields became popular only recently – in 1990. The interest was sparked off by economic changes (political transformation) and the perception of economist's profession – more of a manager than an office worker. At present, the studies of economics are offered by more than 300 public and private universities and higher education schools.

A special term pertaining to the issue of competencies is the competence gap. It may be perceived as a certain lack or deficiency of skills. The term may also be understood as 'a difference between the required and real competencies, the structure and level of management's competencies, and desired and required competencies' (Loboda & Sitko-Lutek, 2007, p. 23). Such an understanding of the competence gap was applied in this article.

The present study aims at defining the importance of the managerial competencies, taking particular interest in knowledge, in students' prospective professional career and the level in which these competencies were gained in the course of their studies. On the basis of these stipulations, an attempt was made to define the competence gap (perceived as the difference in the level of competencies required vs. competencies gained).

The Role of Knowledge in the Bologna Process

In the process of globalisation and European integration, the free movement of EU nationals, services, and capital seems fundamental for the development of a single market. Furthermore, intellectual, educational, cultural and

social domains are no less important for the integration. These domains are defined as the 'Europe of Knowledge' with university studies constituting its vital element. Economists are unanimous in the opinion that, in order to establish a European global knowledge-based economy, a well-organised and competitive educational system, providing an opportunity for solving economic and social problems, is crucial (Teaching and Learning Research Programme 2008).

As early as the second half of the 20th century, the Council of Europe developed a series of regulations enabling education and research in various EU countries. However, the issues concerning the recognition of diplomas and the heterogeneous character of educational systems in individual countries still existed. Projects and programmes such as ERASMUS , Tempus or ECTS system seem vital for the development of the European Higher Education Area. These programmes aim at harmonisation of higher education systems and uniformisation of education in individual countries.

The Bologna Declaration, signed on the 19th of June 1999 by the ministers of education representing 29 European countries, greatly contributed to harmonisation of higher education systems and uniformisation of education in individual countries. The document defines the activities necessary for the establishment of the European Higher Education Area (EHEA) up to 2010 (Bologna Working Group on Qualifications Frameworks, 2004, pp. 8).

Activities undertaken in the framework of the Bologna Declaration initiated the so-called Bologna Process, which represents the basis for the undertakings aimed at the regulation of the higher education system (carried out with the establishment of common values, rules concerning the educational process, and development of common guidelines) while, at the same time, maintaining systemic and cultural independence of regions and countries participating in the process, as well as the autonomy and academic traditions of individual universities (Cardoso, Portelay, Sà, & Alexandre, 2008, pp. 231–234).

The implementation of the Bologna Process is to facilitate the students' and researchers' mobility among the countries and universities, and boost the flexibility of the system, especially in regard to its adaptation to the changing requirements of the global labour market. Initiators of the process also aim at attracting the students from outside Europe to undertake studies at the universities belonging to the EHEA, which would improve the European universities' competitiveness (Mechtenberg & Strausz, 2008, pp. 109–130).

The stipulations of the process also emphasise the necessity of close cooperation between the universities and the employers in order to facilitate a swift transfer from education to employment and maintain life-long learning ability, which provides the capacity to fulfil the economy's requirements for

new qualifications. The graduates' mobility on the European labour market is to be ensured with the ability to compare and recognise the qualifications and degrees obtained during their studies in various EHEA countries (Bologna Process, 2007).

Currently, the European universities face a new challenge – the introduction of the National Qualifications Framework (NQF) for higher education system. These are to constitute a part of a comprehensive NQF system. The NQF for higher education system is a presentation of an individual country's higher education system, which is understandable in an international context, and defines the results of the studies in a way which enables their comparison among various countries. In accordance with the European Qualifications Framework, the NQF descriptors for the results of the studies are divided into the following three categories:

1. Knowledge (theoretical or factographic) as a result of the acquisition of information by learning and a collection of facts, regulations, theories, and practices connected with a particular science.

2. Skills, divided into intellectual (logical thinking, intuition, and creativity) and practical (utilisation of methods and tools), denote the ability to use knowledge to solve problems and undertake activities.

3. Competencies (responsibility and autonomy), which denote a proven ability to use knowledge, skills, personal, social, and methodological competencies at work, education or personal and professional development.

The literature of the subject devotes much attention to the necessity of improving the practical aspect of education, which ought to be pursued regardless of the field of study. Currently, universities are encouraged to establish more favourable conditions for the cooperation with the surrounding socio-economic elements. By including the employers in the process of education, enabling students' participation in trainings and internships, the universities can considerably improve the results of studies and consequently positively influence the students' preparedness when entering the labour market.

Actually, in the 21st Century, which is called 'the age of the knowledge-based economy' (Besenyei, 2010, pp. 3–9), there are many debates about the role and the future of the European higher education system. Nowadays, the perceptions of the role of universities and their expectations have been modified due to the fact the learning process often takes place outside of them. That is why higher education institutions will be facing functioning problems in the future. The answer could be in Life Long Learning (LLL), which is becoming more meaningful and important for the universities. The

higher education sector may play a special role in this process, progressively increasing its provision of LLL. The universities should, therefore, commit to promoting LLL (Bikfalvi, Rafart, & Mancebo, 2013, p. 8), which is formalized in the document of the European Association of Universities (2008). The document emphasizes the role of universities as model institutions of LLL.

Research Methodology

The empirical analyses presented in this article were conducted on the basis of authors' own questionnaire.

The respondents were asked to assess ten managerial competencies, such as:

1. Managing change
2. Specialist knowledge
3. Knowledge concerning management
4. Knowledge of strategic management
5. Knowledge of HRM
6. Knowledge of law
7. Knowledge of financial issues
8. Knowledge of marketing
9. Global thinking and action
10. Professional experience

The competencies were evaluated based on the following two aspects:

• their role in the respondents' future professional career,
• the level of competencies gained by the respondent while at the university.

Cafeteria-style answer evaluation ranging from 1 (none, of low significance) and up to 4 (significant) was proposed.

Empirical material was collected on the basis of studies conducted in 2009–2010 with the use of a diagnostic survey. Studies encompassed two respondent groups. The first group included 278 students of the final, fifth, year at three state universities in Lublin, namely:

• Maria Curie-Sklodowska University (UMCS) – Economics, Management, and Finance and Accounting majors;
• Lublin University of Technology (LUT) – Management and Marketing majors;
• John Paul II Catholic University of Lublin (KUL) – Management majors.

Table 1   The Structure of Respondent Groups

Specification		Polish students ($n = 278$)		British students ($n = 50$)	
		n	%	n	%
Sex	Female	169	61	34	68
	Male	109	39	16	32
Place of residence	Rural area	97	35	11	22
	Urban area	181	65	39	78
Work for money	Yes	82	29	34	68
	No	196	71	16	32
Material status	Good	75	27	7	14
	Average	177	64	35	70
	Low	26	9	8	16

The second group of respondents consisted of 50 students of Business School University of Huddersfield. The collected empirical data provided the opportunity for simultaneous comparative analysis regarding the importance of the evaluated competencies and the level of competencies gained by the two groups of respondents.

Women (61%) and persons residing permanently in cities (approximately 2/3) constituted the majority of researched Polish students. The majority of respondents were unemployed (71%) and defined their economic situation as average (64%).

In the case of the respondents from the British university, women (64%) and persons residing permanently in cities (78%) constituted the majority of respondents as well. As opposed to the respondents from universities in Lublin, their British colleagues were employed (more than 2/3) despite attending a full-time course. This may be due to the fact that British universities charge tuition fees, whereas full-time studies at Polish public universities are free of charge.

Respondents studying in Huddersfield, similarly to their Polish counterparts, defined their economic situation as average (70%). 16% and 14% of respondents defined their economic situation as either poor or good respectively.

Research Outcome

Table 2 presents self-evaluation of managerial competencies as seen by Polish and British students.

Each of the assessed groups of competencies was evaluated much lower in comparison with the opinion expressed in reference to their role at work. This fact seems to confirm the existence of a competence gap related to all evaluated competencies. The most significant differences occurred in relation to a professional experience, which was evaluated as the most vital in

Table 2   Competence Gap As Self-Evaluated by Polish and British University Students

Competencies	Polish students		British students	
	(1)	(2)	(1)	(2)
Managing change	2,76	2,42	2,92	2,23
Specialist knowledge	2,82	2,36	3,49	2,18
Knowledge concerning management	2,96	2,50	3,23	2,80
Knowledge of strategic management	2,74	2,34	3,09	2,59
Knowledge of the HRM	2,60	2,06	3,09	2,65
Knowledge of the law	2,52	1,98	2,86	2,30
Knowledge of financial issues	2,92	2,44	3,21	2,61
Knowledge of marketing	2,92	2,44	3,21	2,86
Global thinking and action	2,70	2,34	2,97	2,28
Professional experience	3,52	2,10	3,66	1,65

Notes   Column headings are as follows: (1) role in professional career, (2) Level reached at university.

a professional career with the average of 3.66 on a 4 point scale; however, this competence was at the same time acquired the least in the course of studies (1.65 points). In addition, significant differences pertained to specialist knowledge, whose importance in professional career scored 3.49 points, but its realization in the course of studies received only 2.18 points. In the case of the remaining competencies connected with knowledge, the differences were not as considerable; however, they were statistically significant.

Similar to the case of the Polish students, statistically significant differences were also found in the competencies related to the professional career and their level exhibited by the British students. Professional experience was evaluated as the most significant for prospective employment (average 3.52), but at the same time achieved the least in the course of studies (2.10 points). In the case of the remaining competencies, the differences in ranking were slightly lower and amounted to 0.5 percentage points. Unlike the Polish students' rankings, the individual competencies received similar scores in both rankings. The following areas scored the lowest in both classifications: law (averages respectively 2.52 and 1.98) and human resources management (average 2.60 and 2.06).

From the perspective of the present paper, the comparison of competencies evaluated by both the British and the Polish final year students seemed interesting. The results of the comparative analyses are displayed in Table 3.

The analysis of the significance of competencies in regard to the professional career indicated that the greatest convergence applied to professional experience (1st place in both rankings), global thinking and action

Table 3   A Comparison of the Managerial Competencies As Assessed
by Both Groups of Students

Competencies	Role in professional career			Level reached at university		
	PL	UK	Diff.	PL	UK	Diff.
Managing change	9.0	6.0	3.0	8.0	4.0	4.0
Specialist knowledge	2.0	5.0	–3.0	9.0	5.0	4.0
Knowledge concerning manag.	3.0	2.0	1.0	2.0	1.0	1.0
Knowledge of strategic manag.	6.5	7.0	–0.5	5.0	6.0	–1.0
Knowledge of the HRM	6.5	9.0	–2.5	3.0	9.0	–6.0
Knowledge of the law	10.0	10.0	0.0	6.0	10.0	–4.0
Knowledge of financial issues	4.5	3.5	1.0	4.0	2.5	1.5
Knowledge of marketing	4.5	3.5	1.0	1.0	2.5	–1.5
Global thinking and action	8.0	8.0	0.0	7.0	7.0	0.0
Professional experience	1.0	1.0	0.0	10.0	8.0	2.0

Notes   Column headings are as follows: PL – Polish students, UK – British students.

(8th place), and knowledge of law, which was evaluated as the lowest by both respondent groups (10th place). Slight differences pertained to the knowledge of strategic management, knowledge concerning management, knowledge of financial issues, and knowledge of marketing.

A comparative analysis regarding the knowledge gained in the course of the studies indicated greater disparities. Only global thinking and action was evaluated in the same way (7th place among both respondent groups). The least significant differences pertained to the knowledge concerning management, strategic management and financial issues, and marketing.

Conclusions

As discussed in the course of this study, globalisation and internationalisation processes pose particular challenges for the universities all over the world. This is a particularly important challenge for the higher education institutions in the European countries, due to the Bologna Process and the formation of the European Higher Education Area.

Improving the practical aspect of education, which ought to be pursued regardless of the field of study, has become crucial for the universities. In the 21st century, the universities are encouraged to establish more favourable conditions for the cooperation with the surrounding socio-economic elements. By including the employers in the process of education, and enabling students' participation in trainings and internships, the universities can considerably improve the results of their studies and positively influence the students' preparedness when entering the labour market.

The authors of the present work conducted a diagnostic survey among the final year students of economics and management university courses

in Lublin, Poland and Huddersfield, Great Britain. The research results revealed that, among both respondent groups, the importance of evaluated competencies exceeded the level of competencies gained in the course of studies. The level of declared managerial competencies gained in the course of studies differs in a statistically significant manner in favour of the students from Polish universities.

The research results in both respondent groups revealed the existence of a competence gap in relation to all evaluated competencies associated with knowledge. In the light of this research, undertaking corrective measures in order to fill the gap between the significance of individual competencies in professional career (in students' opinion) and the level of these competencies exhibited by graduating students seems vital. For that reason, greater students' involvement in the process of gaining knowledge, skills, and social competencies is crucial.

Due to the fact that a diagnosis of the predispositions and skills of an individual takes place in the course of their studies, students ought to make greater use of the available forms of professional development support offered by the universities via the university career services (i.e. professional counselling, workshops, trainings). Furthermore, the students ought to be made aware of the necessity of greater activity during the course of their studies, involvement in social and scientific activities, student exchange, and university life.

The empirical data revealed the greatest gap, in regard to professional experience, which implicates the necessity of a greater involvement of students in acquiring such experience during the course of their studies. The time of their studies should be used in order to attempt cooperation with various organizations not only in the form of full or part-time work, but mainly in the framework of internships or voluntary work.

Filling the competence gap is not possible without the involvement of universities, who are responsible for the education of the students of economics and management, as well as potential employers employing their graduates. For that reason, the universities ought to devote more attention to cultivating not only the theoretical knowledge, but also providing the ability of implementing knowledge in practice, as well as emphasize problem solving. In response to the European Commission's guidelines presented in 'The European Qualifications Framework for Lifelong Learning' (EQF), the youth ought to be supported in gaining the competencies that are fundamental when entering the labour market. The last three levels of the competencies defined in the guidelines are concerned with the effects of the studies in the higher education level. The following items belong to these levels: knowledge, personal, and professional skills (Bohlinger, 2007, pp. 96–118).

In order to support the development of the students' competencies in regard to knowledge and practical experiences, the involvement of the universities in establishing the cooperation with businesses or employers' organizations seems advisable, especially in terms of reinforcement of practical aspects of education by:

- introducing more practical classes performed not only at the university, but also in companies;
- organizing student and graduate internships in cooperation with businesses;
- inviting experienced entrepreneurs to conduct classes for students;
- emphasising the practical character and applicability of diploma theses, which should address the possible solutions of the real problems of businesses;
- joint organization of conferences, job fairs, panel meetings, competitions, study visits to inspect production lines, etc.

Conducting supportive activities for young people, assisting them in the development of their talents by organizing additional activities, enabling participation in science clubs, etc. is worthwhile. A vital role is also played by supportive activities assisting students in making decisions regarding their career and developing their competencies (including social competencies) e.g. personal support services, group workshops or professional trainings.

It is obvious that the present study and the authors' analysis have limitations that require further research, particularly in the area of the preparation of the graduates for the requirements of the global labour market. Thus, both the content of the study and the survey results represent a contribution to the discussion on the importance of knowledge in the graduates' professional career.

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The Impact of the Implementation of a Learning Organization on the Formation of a Positive Organizational Identity

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This paper examines the results of a broader research of the impact of the implementation of a learning organization on the formation of a positive organizational identity in the Slovenian entrepreneurial practice. On the basis of an analysis carried out in 2012 on a sample of 132 enterprises in Slovenia, the authors derived their own definition of organizational learning. With the aid of factor analysis and a regression model, we established that each factor defined in this paper independently affects the formation of a positive organizational identity. However, in the event of joint factors of the learning organization, only the factor empowerment and organization have a statistically significant impact on the formation of a positive organizational identity. The findings from our research are applicable in almost every company in Slovenia, where the management can use them to form the company's organizational identity with the aim of increasing the competitiveness of the company's business.

Keywords: learning organization, positive organizational identity, organizational learning, factor analysis

Introduction

Welcome to the world of the new economy and new technologies. Recently there have been many changes in the global economy. It is rather obvious that organizations will have to adapt to the changes in business in the future. The changed working and business conditions demand organizational skills that will ensure the enterprise's further survival (Cascio & Shurygailo, 2003). The change has become a constant of daily life and cannot be avoided in any way. The continuous and rapid change of competing organizations together with new and quickly changing demands and wishes of the customers represent the two main reasons for continuous monitoring

of and adapting to the situation in the market. During the recent years, the authors of this paper have been engaged in intensive teamwork to develop new models for the needs of management, which are all based on modern, fast, and unclear changing terms of business, which are the result of the global financial crisis.

This paper presents the results of an analysis of the formation of a positive identity, which affects the increasing competitiveness of the enterprises' business (Peršič, Uršič, & Veselinovič, 2012). The research model has been designed to demonstrate the impact of the participation of a learning organization on the formation of a positive organizational identity. By means of factor analysis, we demonstrated the connection between certain dimensions and the constructs in question. The goal of the research is to develop a model that will be useful in various corporations and will combine theoretical backgrounds and verification in corporate practice. The results of the analysis of 132 organizations in Slovenia displayed that the participation of a learning organization has a strong impact on the formation of a positive organizational identity.

Modern learning organizations introduce new approaches in the field of planning, management, organizing, and controlling business, while at the same time supporting and developing the flow of information up and down the entire hierarchy pyramid (cf. Daft & Marcic, 2004; Rifkin & Fulop, 1997). With learning organizations, it is often demonstrated that the hierarchic authority (structure) is often inappropriate for the changes, which require imagination, creativity, persistence, dialogue, and the desire of all employees for change. These organizations set up suitable conditions for the development of employees in the beginning, so they enable all employees to develop their own competencies and skills. The role of leaders is especially emphasized in such circumstances within an organization.

Consequently, we can state that a learning organization is a situation underlined by perfect communication among employees, where there are minimal two-way information flows and where innovation and creativity prevail over the limitation of individuals' perspectives and the internal rules of an organization. People are used to stability, since it ensures and provides us with a feeling of safety. As a result, the human factor is usually the biggest obstacle in such changes. During the development of our models, we thus devoted our full attention to the relevant field and consistently examined the co-dependence with other factors that affect the increase of competitiveness today.

Alvesson (2004) claims that in modern organizations it is about the question of forming an organizational identity and warns that organizational identity can be either negatively or positively shaped. In the event of a positive form of identity, we mean an organization's positive social identity, which stipulates that all employees, including all leadership structures, simply

know what and how it is done in an organization. Alvesson (2004) finds that in the majority of modern organizations employees do not have a clear image regarding the formation of a positive organizational identity. Therefore, it is necessary to develop and design suitable algorithms of business reality, which are of key importance for the employees and the organization from the aspect of implementation of the competition potential.

The contents of the article are divided into seven parts. After a short introduction, we first define the concept of a learning organization and its characteristics. Then, we define a positive organization identity and its specifics. Further on, we describe the research methodology and also its results, beginning with the factor analysis of the learning organization and then also the factor analysis of a positive organization identity. We also provide the results of the regression analysis and round the article up with the final findings, as well as a list of the limitations during the drafting of the article and the possibilities of further research.

Learning Organization

A learning organization is an organization with the capacity to quickly and efficiently adapt to the changing circumstances. It has the ability to always stay ahead of the competition. Its employees are the fundamental components and the company derives the best of ideas, as well as individual and group knowledge, from them (Pratt, 2001).

Garvin (1998) defined the learning organization as an organization, which is capable of creating, acquiring and transferring knowledge, and changing its conduct to reflect new knowledge and understanding. The authors claim that we do not need a consensus between different definitions, but clarity of definitions. We need to clearly specify the systematic classification of ideas about the learning organization. In this way, we could capture different meanings of the learning organization. Every typification until now has been deductive; i.e. the authors were deriving from the term 'learning organization.' We would like to emphasize that the typification of the idea of a learning organization comprises four different dimensions that are not mutually exclusive. However, we can only discuss the different aspects of the concept of a learning organization.

The concept of a learning organization is thus becoming an increasingly popular philosophy in modern organizations. The reason for the special emphasizing of the learning organization lies with organizational learning, since it will be required to find the right answers to the increasingly fast and more common changes in business. An organization with the ability to learn fast and accentuate innovation is better prepared for the challenges of the modern business environment.

We definitely believe that the creation and development of a learning organization is a very good response to the circumstances in the turbu-

lent world of global business. The development of a learning organization dictates different changes in the field of management and organizational structure, the process of communication, the process of empowerment, management and the formation of an organizational structure. The development of a learning organization in the future and the significance of leadership within it will be the key elements of the successful implementation and/or competitiveness of the organization on the market. Moreover, a very important role in the concept of a learning organization is also played by the organizational culture, information technology, organizational learning and knowledge.

Organizations learn and/or progress from experience with the coding array to the organizational routine, which is a standard operative procedure. Managers in organizations attempt to improve the abilities of employees through organizational learning. Thus, empowerment is of key importance, since it helps employees to improve efficiency (Jones, 2003). Organizational learning also introduces the processes (within an organization), which provide for a higher level of flexibility in the employment of existing resources within an organization (Scarbrough, 2008). Therefore, the senior management is responsible for the introduction of organizational learning in an organization and effective knowledge management. When building organizational learning, the emotions of the employees also play a significant role (Bontis & Serenko, 2009). Consequently, Bushe (2009) defined organizational learning as the research of organizational patterns among several persons within an organization, which lead to new knowledge. Employees become familiar with their own experience and the experience of others and they can use their emotions to repair specific 'negative' organizational patterns.

In practice, the transfer of knowledge to co-workers most often faces different problems, whereby the most common problems are the lack of time, communication skills, motivation, hiding of knowledge (knowledge represents a foundation of power of employees, which they use to increase their competitive advantage within an organization). Definitions of organizational learning are collected in Table 1 (Peršič et al., 2012).

In accordance with the above-specified theoretic basic definitions of organizational learning and the results of the research herein, the authors find that organizational learning is a series of interconnected processes in which the inventions at the social, organizational, and business level change into innovation, which interactively affects the assessment of competitiveness in the environment (Peršič et al., 2012). The conclusions of the research in the broader entrepreneurial practice in Slovenia definitely confirm the theoretical definition of organizational learning, as well as its empiric verification.

Table 1 Definitions of Organizational Learning

Imants (2003)	Organizational learning ensures the development of theory in schools within the professional communities of teachers.
Jones (2003)	Through organizational learning, managers attempt to improve the abilities of the members of the company, so they would understand the company better, treat it better, and adopt better decisions.
Common (2004)	This addresses organizational learning in the political environment, to improve the design of the public policy.
Scarbrough (2008)	Organizational learning introduces the processes, which will enable flexible employment of resources available to the company.
Bontis and Serenko (2009)	Top management represents the key to organizational learning, where the emotions of employees and knowledge management are very important.
Bushe (2009)	Organizational learning is the exploring of organizational patterns among several persons, which leads to new knowledge.
Peršič, Uršič, and Veselinovič (2012)	Organizational learning is a series of inter-linked processes in which the inventions at the organizational and business level within an organization change into innovations, which interactively impact the assessment of competitiveness in the environment.

Notes Adapted from Peršič et al. (2012).

It is important to emphasize that all employees in the organization must be responsible. Employees will share their honest opinion about the organization only if their interests are true and serious. The leader, who will discover what the employees wish to change and will try to consider their proposals, will gradually remove all excuses for inefficiency. The responsibilities for the achievements of the organization are thus transferred to all employees (Larson & Haegglund, 2005). People usually learn in two ways: from other people or autonomously. Learning from others includes the forms of learning, such as attendance of workshops, internships, watching videos, listening to multi-media presentations, reading manuals and reports. All these methods are managed by the organization. Consequently, the organization decides who will attend which seminar, receive the information, etc. This is a somewhat formal form for the communication of knowledge and experience. Such mechanisms are usually effective; however, only while the subject of transfer is explicit knowledge (i.e. knowledge, which can be written and stored). It is a lot harder to acquire knowledge, which the people have acquired through posing informal questions, watching others during their work, and through discussion about their work with colleagues (Tobin, 1998).

Positive Organizational Identity

A positive organizational identity means the highest development stage of an organization, which is developed with the aim of achieving sustainable,

true success, and efficiency on a dynamic market (Dhalla, 2007; Melewar & Karaosmanoglu, 2006).

Modern authors of the theory of organizational identity (Dhalla, 2007; Melewar & Karaosmanoglu, 2006) explicitly define that the uniqueness of organizational identity lies with the 'umbrella' concept; i.e. its development and research summarize and integrate all partial organizational concepts about the processes and the culture of the transfer of quiet knowledge among individuals, teams and the organization, as well as external organizations.

For the purpose of identification, management, and formation of the organizational identity, it must be examined whether it is a process or a factor of the organization. Ravasi and Rekom (2003) define organizational identity as something that the organization owns/has – as an element or as a source; i.e. a continuous process or something that happens or is performed within an organization and something that is in continuous development process. The Elsbach-Kramer model of organizational cultural management thus includes and links the theory of the social identity with the theory of organizational impression management. The research of organizational identity and identification has been going on for a good decade; however, explicit patterns and methods of measurement have not yet been developed. Therefore a lot of research and studying is still required in this field.

The forming of a positive organizational identity is based on a permanent commitment of all members of the learning organization to permanent learning, so as to develop the model of a learning organization to the largest possible extent. Learning organizations continuously adapt to the environment and strive for improvements in all fields of their operation. Consequently, they deepen their relationships with all target groups, consider social capital as significant, develop organizational symbols, good leadership practices, and customer satisfaction, while at the same time following the culture of continuous change, innovation, and continuous learning (Leonard & Sensiper, 2002).

The advocates of organizational identity, Oliver and Roos (2003, in Penger, 2006), define it as a junction of three aspects. The first aspect is the organizational identity, which is a stable and slowly changing dimension of the organization that can always be felt, regardless of who and when is observing it. The second aspect examines the organizational identity as a continuous work process and the activities of individuals and groups. In order for all members of the organization to share the same perception and values, they must negotiate among themselves and continuously exchange the filed tacit knowledge. The third aspect covers the identity of specific groups within an organization, which don't have much rhythm and

many causes. We discover its strength when intentional changes of conduct occur within the teams.

Research Design and Methodology

We prepared a questionnaire for a quantitative research regarding the broader entrepreneurial practice. The questionnaire was drafted on the basis of theoretical background, as well as the contents of the learning organization (LO) and positive organizational identity (POI). The objective of the research is to demonstrate the impact of the LO on the development of a POI. Based on the questionnaire analysis results, we created statistically characteristic dimensions (factors) for LO and POI. The research included 132 organizations in Slovenia, which also represents the research sample. As the research pattern, we randomly selected organizations from the database of the Agency of the Republic of Slovenia for public legal records and related services (AJPES). All the organizations were of various sizes and from various industries.

The analysis was performed with the help of the SPSS (Statistical Package for the Social Sciences) programme. The sample (shown in Table 2) is composed of 31.8% men and 68.2% women. Their average age is 41.2, while the number of their years of service on average amounts to 16.87. The sample includes 13.6% of respondents who completed a 4-year secondary school or gymnasium education, 28.8% completed a short-cycle higher education programme or a professional higher education programme, while the largest share of respondents completed a university programme (40.2%), and 17.4% of he respondents completed master's or doctoral studies. The acquired representative sample demonstrates a very realistic situation in the Slovenian entrepreneurial practice. In no segment does it derogate from the expected values.

Most respondents answered that they occupy a position in medium management, while 25.8% of the respondents hold a basic position and 28.0% hold a senior management position. Geographically, the most respondents came from the central Slovenian region, followed by the Savinjska Region. The least responses were received from the Koroška Region and the Goriška Region. Most respondents were working in the field of sales, followed by the respondents working in the financial sector, and respondents working in marketing.

We will use quantitative research methods (esp. factor analysis) to analyze the research results. Factor analysis attempts to simplify the complexity of the links among a set of observed variables by showing joint dimensions or factors, which enable an insight into the basic structure of the data. In marketing research, there is often a situation when we cannot directly measure the specific key terms (e.g. trust within an organization, develop-

Table 2 Description of the Quantitative Research Sample in the Broader Entrepreneurial Practice

Variable	N	Min	Max	SD	M
Age	132	23	61	8.82548	41.20
Years of service		1.0	36.1	9.4489	16.87
Gender					%
Male					31.8
Female					68.2
Education					%
4-year secondary school or gymnasium					13.6
Short cycle higher or professional higher education					28.8
University education					40.2
Master's or doctoral studies					17.4
Job/position					%
Senior management					28.0
Medium management					43.9
Basic position					25.8

Field of employment	%	Field of employment	%
Sales	14.4	Legal department	1.5
Finance	11.4	Production	1.5
Marketing	9.1	Leadership	1.5
Human res. and general dep.	7.6	Administration	2.0
Management	7.6	Pharmacy	0.8
Commerce	4.5	Catering	0.8
Purchasing	4.5	Export	0.8
IT	3.8	Laboratory	0.8
Logistics	3.8	ONZ	0.8
Communication	3.0	Plant engineering	0.8
Accounting	3.0	Service	0.8
Development	2.3	Quality Service	0.8
Advertising	2.3	Standardization headquarters	0.8
Banking	1.5	Head of dep., project manager	2.3

ment of an organizational culture, etc.). We usually measure them indirectly through indicators of what we should be measuring. The dimensions resulting from the questionnaire/factor analysis were revealed in the research, named and demonstrated with regard to their mutual impact.

Research Results

Factor Analysis (Learning Organization)

We verified whether the studied organizations satisfy the requirements of a learning organization on the basis of the following four factors: empow-

Table 3 LO – Factor Weights (Factor Analysis)

Rotated Factor Matrix	Factor			
	1	2	3	4
a1 EM: Our organization has a strategy which I am familiar with and which I co-create.	.673	.247	.085	.196
a2 EM: The decision-making policy is decentralized and we all participate in the decision-making.	.553	.302	-.014	.337
a3 EM: I am familiar with and understand the mission and vision of the organization.	.516	.104	.428	.271
a4 EM: The organizational structure follows the strategy.	.629	.146	-.028	.175
a5 EM: The objectives of the sector where I work are clear and comprehensible.	.452	.031	.215	.382
a6 TW: I feel good during my work. The organizational culture is good.	.577	.294	.315	.377
a7 TW: The organization is characterized by team-work. We are all connected.	.332	.720	.171	.166
a8 TW: I am motivated; also for tasks outside working hours.	.313	.419	.158	.401
a9 TW: I am engaged in project groups within the organization.	.389	.381	.016	.390
a10 TW: The level of mutual trust among my co-workers is high.	.258	.672	.140	.142
a11 TW: All employees in our organization supplement each other and collaborate.	.516	.598	.190	.025
a12 TW: I am far more motivated to work in project groups than my 'basic' work.	.015	.398	-.122	.161
a13 TW: I am always prepared to make uncompromising sacrifices for my co-workers.	.050	.483	.201	-.006
a14 LR: I use IT every day and I am satisfied with it.	.198	.041	.573	.285
a15 LR: The work processes are clearly specified.	.615	.090	.292	.043

Continued on the next page

erment and organization, team-work, learning and leadership. We used the factor analysis to verify whether – on the basis of theory – specific dimensions actually correlate or form suitable factors between them. We used the principal axis factoring method. First, we verified the co-dependence between the variables, which is one of the key requirements for the implementation of a factor analysis.

With the help of the correlation matrix, we established that the data satisfied the above-specified requirement. The variables correlate among themselves. With the help of the Kaiser-Meyer-Olkin (KMO) measure and the Bartlett's test of sphericity, we checked whether the data was suitable for the implementation of a factor analysis. The value of the KMO must thus exceed 0.7. In the event that the result is lower than 0.5, the data is not suitable for the implementation of a factor analysis. The Bartlerr's test of sphericity must be significant (i.e. the variables must sufficiently

Table 3   *Continued from the previous page*

Rotated Factor Matrix	Factor			
	1	2	3	4
a16 LR: All employees are included in the continuous learning process.	.497	.147	.467	.072
a17 LR: The organization's employees are aware that innovation contributes to increased competitiveness.	.235	.097	.608	.203
a18 LR: Employees always learn something from their own mistakes.	-.077	.149	.762	.089
a19 LR: I regularly educate myself and attend seminars, courses, etc.	.409	.051	.454	.215
a20 LR: The transfer of knowledge among employees is encouraged within the organization.	.576	.298	.208	.267
a21 LS: I communicate directly with my superiors without any problems.	.263	.111	.243	.745
a22 LS: The organization's leadership supports innovation within the company and implements it.	.642	.207	.189	.210
a23 LS: My workplace colleagues and I understand each other and communicate well.	.145	.232	.352	.414
a24 LS: The organization encourages and rewards good work.	.402	.352	.250	.387
a25 LS: I would be prepared to work even more hours for a higher reward.	.064	.055	.124	.324
a26 LS: I think I have a chance of promotion.	.423	.173	.019	.464
a27 LS: Our leader sets an example for the employees and I respect him/her.	.412	.113	.331	.412
a28 LS: I like attending informal meetings and parties.	.183	.303	.277	.356

Notes   Extraction method: Principal Axis Factoring. Rotation method: Varimax with Kaiser Normalization.

correlate), which is the basis for the implementation of a factor analysis. Since both measures are suitable, we can continue with the factor analysis.

In Table 3 the factor weights are presented. During the factor analysis, we applied the orthogonal rotation of the Varimax method, with which we ensured that the rotated factors remain uncorrelated and every variable has only one high-value statistical weight.

Table 4 presents all four factors of the learning organization, the variables which comprise each factor and the value of Cronbach's Alpha.

Factor Analysis (Positive Organizational Identity)

When analyzing the partial model of positive organizational identity, we established that the data was suitable for a factor analysis. The value of the KMO is very high (0.909), whereby the value of the Bartlett's test is statistically significant ($p = 0.000$).

Table 4   LO – Calculation of Determined Factors (Factor Analysis)

Name	Variables that comprise the factor	Cronbach's Alpha
Organization and empowerment	(a1 + a2 + a3 + a4 + a5 + a6 + a15 + a20 + a22 + a24)/10	0.898
Learning	(a16 + a18 + a17 + a14 + a19)/5	0.750
Team-work	(a7 + a11 + a10 + a13 + a8 + a9 + a12)/7	0.796
Leadership	(a21 + a26 + a23 + a27 + a24 + a28)/6	0.805

Table 5   POI – Factor Weights

Rotated Factor Matrix	Factor		
	1	2	3
c7 PI: Identification of employees with the superiors.	.794	.028	.130
c12 PI: Awareness of employees that they are an important component of the organization.	.594	.312	.423
c17 OP: The focus of the employees is directed mostly towards the future.	.563	.442	.107
c11 PI: Support from the senior management.	.549	.336	.453
c14 OP: The focusing of the employees on finding the best possible solutions for the organization.	.515	.346	.438
c10 PI: Personal and organizational objectives are coherent.	.484	.293	.291
c9 PI: Experience of employees.	.443	.212	.219
c8 PI: The development of a social network and links among employees.	.434	.237	.334
c6 CV: Trust among employees.	.096	.768	.359
c4 CV: Seeking positive values.	.252	.753	.311
c3 CV: Self-esteem of employees.	.242	.630	.163
c2 CV: Investments in social capital.	.403	.555	.196
c1 CV: Formal education.	.174	.463	.082
c13 OP: A positive attitude among co-workers.	.213	.213	.763
c15 OP: Optimistic co-workers are an inspiration for the organization.	.288	.190	.688
c18 OP: A positive attitude towards work.	.413	.237	.665
c5 CV: Flexibility of employees.	.057	.449	.466
c16 OP: Satisfaction and happiness spread among the employees in the organization.	.431	.263	.434

Notes   Extraction method: Principal Axis Factoring. Rotation method: Varimax with Kaiser Normalization. Rotation converged in 7 iterations.

The variables of the partial model of positive organizational identity are arranged according to the three following factors: personal identification of employees (factor 1), common values (factor 2), and optimism (factor 3). The weights and/or factor variables are presented in Table 5.

Table 6 shows all three factors of the positive organizational identity, their variables, and the value of Chronbach's alpha.

Table 6   POI – Calculation of Determined Factors (Factor Analysis)

Name	Variables that comprise the factor	Cronbach's Alpha
Personal identification	$(c_7 + c_8 + c_9 + c_{10} + c_{11} + c_{12} + c_{14} + c_{17})/8$	0.873
Common values	$(c_1 + c_2 + c_3 + c_4 + c_6)/5$	0.834
Optimism	$(c_{13} + c_{15} + c_{16} + c_{18})/4$	0.863

Table 7   Regression Coefficient: The Impact of the Partial LO Model on the Partial POI Model

Model	Unstd. Coeff.		Std. Coeff.	t	Sig.
	β	Std. error	β		
(Constant)	1.245	.396		3.142	.002
Learning organization	.592	.093	.524	6.365	.000

Regression Analysis

We used factors constructed with the factor analysis in order to verify whether the implementation model of a learning organization significantly impacted the formation of a positive organizational identity. As we have already explained, we formed the dimensions in accordance with the questionnaire and applied the variables to them. Independent variables were calculated on the basis of mean research result values. With regard to the factor weights, we classified them into content-wise and statistically suitable dimensions that we named ourselves.

In order to calculate the impact, we used regression analysis. With the help of regression analysis, we assessed the parameters of the regression model and the statistical significance of this model. We could use the adopted model with the assessed parameters to predict the value of the dependent variable with the help of independent variables. A dependent variable encompasses the parameters of a positive organization identity, whereas an independent variable encompasses the parameters of a learning organization.

First, we verified how a common factor, which measures the learning organization dimension, affects the positive organizational identity dimension. The regression model is statistically significant: $p = 0.000$ (Table 7).

First, we performed a simple regression analysis of individual LO dimensions on POI, and then we performed a multi-variant regression analysis with all four LO dimensions included in the model, whereas POI served as the dependent variable in the model.

We examined the key factors within the partial model of the learning organization that impact the implementation of a positive organizational identity. With the application of the factor analysis, we first constructed the factors that are sufficiently reliable and measured the stable fields within the

learning organization dimension. Four important fields were thus formed: empowerment and organization; team-work, learning, and leadership. The regression analysis shows that the learning organization dimension has a medium positive impact on the positive organizational identity (0.524).

Furthermore, all other factors, which form the learning organization dimension, have a medium impact on the positive organizational identity. The strongest impact is attributed to the empowerment and organization factor (0.522) followed by team-work (0.439), leadership (0.380), and learning (0.366). When we verified the joint impact of all four factors (i.e. in the regression model), we established that a significant impact on the positive organizational identity can only be attributed to the 'organization and empowerment' factor ($p = 0.010$), which is of medium strength (0.394). We hereby conclude that all of the specified factors impact the positive organizational identity when measured separately. However, when we examine all four factors together, the most significant factor is the empowerment and organization factor, which also has the greatest impact when examined separately.

Conclusion

Difficult conditions in the global markets demand that organizations adopt innovative approaches towards business. Organizations have never been under this much pressure. The adaptation to the new conditions will be of key importance for the survival and/or success in the global market. Moreover, organizations must focus on their main competitive advantages and conduct internal reforms. This means that now is the time to think, but actions must be taken quickly and immediately. Learning organizations can be the right answer to the current difficult conditions in the turbulent business environment. When researching the relevant field of learning organizations, we discovered that the model for the implementation of a LE is not possible without the maximum support of the management and its leadership skills.

The results presented in this paper indicate that the implementation of a learning organization has a strong impact on the formation of a positive organizational identity. The research itself was carried out in broad entrepreneurial practice; therefore, we can claim that it is also applicable within specific organizations. We established that the empowerment and organization factor is of key importance for the formation of a positive organizational identity. Organization management can expect less trouble with the implementation of our model, since we pointed out the most critical dimensions in the realization of a positive organizational identity.

The factor analysis displayed where the specified element (factor) had by far the largest impact on the formation of a positive organizational identity. The empirical research's factor analysis shows that a series of linked

processes transforms inventions at different levels of the organization into innovation with an interactive impact on the assessment of competitiveness in the environment. It is important that the management of an organization is aware of the impact of the implementation of a learning organization when forming a positive organizational identity.

Limitations and Future Research

The research limitations refer to the sample, since only organizations in Slovenia were included in the research. For further research purposes, the research could be expanded to organizations that are active in the European Union. Additional limitation could also be the fact that we were only focusing on the factors that impact a learning organization as well as the formation of a positive organizational identity.

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Motivation to Improve Work through Learning: A Conceptual Model

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This study aims to enhance our current understanding of the transfer of training by proposing a conceptual model that supports the mediating role of motivation to improve work through learning about the relationship between social support and the transfer of training. The examination of motivation to improve work through motivation to improve work through a learning construct offers a holistic view pertaining to a learner's profile in a workplace setting, which emphasizes learning for the improvement of work performance. The proposed conceptual model is expected to benefit human resource development theory building, as well as field practitioners by emphasizing the motivational aspects crucial for successful transfer of training.

Keywords: Motivation, situated learning, organizational support, supervision, peer support, transfer of training, knowledge transfer, professional development

Introduction

Since performance improvement is the ultimate goal of all training programs (Baldwin, Ford & Blume, 2009; Kontoghiorghes, 2004; Lancester, Di Milia & Cameron, 2013), it is critical for a trainee to possess the ability to apply knowledge, skills, and attitudes (KSA) learned from a training in his or her job environment. Unfortunately, even when training is carefully planned and implemented, it is considered as a failure if trainees are incapable of transferring new KSA to their job (Cheng & Hampson, 2007). In fact, training is only successful when trainees effectively transfer what they have learned from training to their job (Baldwin & Ford, 1988). In basic terms, the transfer of training is regarded as a trainee's ability to transfer what he or she has learned during his or her training back to the workplace (Baldwin et al., 2009; Holton, 2005; Switzer, Nagy & Mullins, 2005).

While performance improvement is sought after by every organization, most of the training and development programs failed to produce and sustain the trainee intention to learn and the ability to transfer KSA to the workplace (Baldwin & Ford, 1988; Ford & Weissbein, 1997; Grossman & Salas, 2011; Subedi, 2004). It is estimated that only 62 percent of the

trainees transfer what they have learned immediately after a training, 44 percent after six months, and 34 percent after one year (Saks, 2002; Saks & Belcourt, 2006). Clearly, a large amount of training expenditure is wasted due to the meager transfer of training (Cheng & Hampson, 2007). Hence, for decades, researchers and practitioners have been attempting to identify the significant factors that could facilitate or inhibit the transfer of training.

Traditionally, the majority of studies paid sole attention on the design and the delivery of the training programs (Baldwin et al., 2009). However, growing research has shown that individual and situational factors play salient roles in predicting the transfer of training (Baldwin & Ford, 1988; Chiaburu, 2010; Colquitt, LePine & Noe, 2000; Festner & Gruber, 2008; Seyler, Holton, Bates, Burnett & Carvalho 1998). Situational factors, such as social support emanating from the management, supervisor, and peers, are capable to facilitate a successful transfer of new KSA to the daily job tasks (Chiaburu, 2010; Chiaburu & Tekleab, 2005; Merriam & Leahy, 2005; Pham, Segers & Gijselaers, 2013). Despite the fact that social support has been recognized as an important factor that may enhance motivation and transfer of training, research in this area is characterized by inconsistent findings (Blume, Ford, Baldwin & Huang, 2010; Cheng & Hampson, 2007; Chiaburu & Marinova, 2005), lack of empirical studies, and insufficient understanding of the constructs (Bates, Holton, Seyler & Carvalho, 2000; Chiaburu, 2010; Van den Bossche, Segers & Jansen, 2010).

The effort to improve the understanding of the transfer of training reveals that motivation to learn (Ismail, Bongogoh & Segaran, 2008; Switzer et al., 2005) and/or motivation to transfer (Nijman, Nijhof, Wognum & Veldkamp, 2006) play significant roles in linking the relationship between social support and the transfer of training. Motivation to learn is described as a trainee's enthusiasm to learn the contents of the training programs (Ayres, 2005; Colquitt et al., 2000; Noe, 1986), whereas motivation to transfer refers to their enthusiasm to use what has been learned in their job environment (Holton, 2005; Seyler et al., 1998).

These findings significantly advance our understanding of the fact that trainee motivation has a profound role in cultivating the transfer of training. However, extant meta-analytic work and integrative reviews (e.g. Baldwin et al., 2009; Blume et al., 2010; Cheng & Hampson, 2007; Cheng & Ho, 2001; Grossman & Salas, 2011; Subedi, 2004) asserted that more work is needed to advance our current knowledge about the transfer of training.

In literature, there is an issue on how the motivational construct has been traditionally conceptualized in the context of training. In the context of human resource development (HRD), many researchers have the tendency to conceptualize motivation solely as a learner's motivation to learn the training contents (e.g. Chiaburu & Tekleab, 2005; Colquitt et al., 2000). The

traditional concept is somewhat narrow, because it does not acknowledge the fact that motivation in HRD involves the motivation to transfer new KSA to their job environment (Holton & Baldwin, 2003; Holton, 2005; Naquin & Holton, 2002). In other words, a successful transfer of training is not only concerned about the trainees' motivation to learn in training, but also involves their motivation to improve their job in a workplace context.

Although researchers have now acknowledged the importance of motivation to transfer, in addition to motivation to learn, the majority of studies have failed to investigate both types of motivation as an integrated construct (Battistelli, 2008; Holton, 2005; Machin & Fogarty, 2004; Naquin & Holton, 2002). The exploration of motivation to learn and motivation to transfer as separate constructs is undeniably important. However, some researchers have raised the question, whether examining the motivation to learn and the motivation to transfer as separate constructs reflects the reality of a trainee motivation to attend training in a workplace setting. This is due to the fact that in the workplace, the majority, if not all, trainees attend training with the focal aim to improve their work performance. To achieve improved work performance, trainees must have the tendency to feel motivated to learn the training materials and to perform what has been learned during the training in daily job tasks. Hence, the integration of both the motivation to learn and the motivation to transfer, namely the motivation to improve work through learning (MTIWL) (Holton, 2005) is more accurate in reflecting the profile of learners in the context of a workplace than simple motivation to learn and/or motivation to transfer constructs.

This paper, therefore, attempts to explore MTIWL as a mediating mechanism that links social support and the transfer of training. Holton and Baldwin (2003) maintained that '[MTIWL] construct is potentially a more powerful motivational construct, because it incorporates both dimensions of motivation critical to achieving transfer outcomes.' (p. 20). MTIWL is a better construct to explain the transfer of training mainly due to its recognition of complex human motivation in training and work situations. Due to the incorporation of MTIWL construct that reflects the nature of trainee motivation in both learning, as well as in the implementation of training to improve work performance, it may advance our current understanding of the learner's motivation that significantly facilitates the effects of social support on the transfer of training.

Literature Review

The Concept of MTIWL

Generally, in the transfer of training studies, motivation has been measured in terms of trainee motivation to acquire new KSA from training programs (Baldwin et al., 2009; Holton, 2005). In order to ensure positive transfer

of training, it is crucial for a trainee to possess the motivation to learn the training contents and also possess the motivation to apply new learning in the job environment (Axtell, Maitlis & Yearta, 1997; Chiaburu & Lindsay, 2008; Kontoghiorghes, 2001, 2002, 2004; Pham et al., 2010).

MTIWL incorporates the elements of two basic motivational constructs in HRD with a necessity to facilitate the transfer of training, namely motivation to learn and motivation to transfer. Acknowledging the importance of both motivation to learn and motivation to transfer in the framework of the transfer of training, Naquin and Holton (2002, p. 358) argue that 'it is the combined motivational influences that will influence desired training outcomes.' The notion of MTIWL is robust because it completely captures the key elements of motivation that are important for the transfer of training; therefore, this view is generally well agreed upon by researchers. For example, Nikandrou, Brinia and Bereri (2009, p. 267) argue that 'in cases where there was great motivation to learn, but lack of motivation to transfer, no training transfer at work took place.' Their statement indicates that motivation in both training and work situations are equally useful to invoke the trainee desires in the learning and transfer processes.

Despite the facade that MTIWL merely combines two dimensions of motivation (i.e. motivation to learn and motivation to transfer) in an additive method (Holton, 2005; Naquin & Holton, 2002), it is a more holistic approach towards measuring learner motivation and it is likely that this higher-order construct has more significant effect on the transfer of training than a single motivation to learn or motivation to transfer construct. This is because 'persons entering a learning situation with high levels of MTIWL are likely to have greater motivation to engage in work relevant learning experiences offered with strong transfer designs that emphasize practice and job application than persons with high levels of simple [motivation to learn]' (Holton, 2005, p. 48).

As previously mentioned, research on MTIWL is relatively scant due to the lack of attention to this construct. Indeed, many empirical studies continue to divide the motivation construct in terms of trainee motivation to learn in the context of training and motivation to transfer training to their job. Naquin and Holton's (2002) study was the first to examine MTIWL and its antecedents. Extroversion, positive affectivity, and work commitment directly affected MTIWL, whereas conscientiousness and agreeableness influenced MTIWL via work commitment. Nonetheless, their study focused on determining the dispositional factors affecting MTIWL without attempting to examine MTIWL as a valid mediator that links social support and the transfer of training.

In recent years, the burgeoning literature supports the importance of work environment factors in cultivating motivation to learn, motivation to

transfer, and transfer of training (Chiaburu, 2010; Grossman & Salas, 2011; Lancester et al., 2013; Lim & Morris, 2006; Switzer et al., 2005). Also, studies of best practices in the transfer of training suggest that support originating from the organization, supervisor, and peers emerged as the central practice that encouraged positive transfer of training (Burke & Hutchins, 2008; Hutchins, 2009). Such findings reasoned the need to explore the role of MTIWL in the relationship between social support and the transfer of training.

The Mediating Role of MTIWL and the Relationship between Perceived Organizational Support (POS) and the Transfer of Training

POS, as the term suggests, is closely associated with a person's general view regarding the degree to which an organization supports his or her welfare as an employee (Chen, Eisenberger, Johnson, Sucharski & Aselage, 2009). Employees also perceive organizational support as a form of their organization's commitment to them (Eisenberger, Huntington, Hutchinson & Sowa, 1986). Drawing on the notion of organizational support theory, an employee forms a general belief of the extent to which an organization appreciates his or her contributions and concerns about his or her well-being. This belief is formed in order to meet the socio-emotional needs and to evaluate the benefits of elevated work effort (Rhoades & Eisenberger, 2002). Based upon the assumption of social reciprocity, employees tend to develop an obligation in the form of concern about their organization's welfare when they perceived support from their organization (Rhoades & Eisenberger, 2002). Employees' concern about the welfare could manifest itself in terms of loyalty and assistance to aid the organization in reaching its goals.

The assumptions of social exchange theory may hold true in the context of training. When sufficient support is provided by an organization, a trainee is likely to feel motivated to get involved in acquiring new KSA and later transfer them to the workplace. This might result in better performance and, as a consequence, helps the organization to reach its goals (Battistelli, 2008; Chiaburu, Van Dam & Hutchins, 2010). As noted earlier, this is based upon the principle that employees tend to reciprocate with positive attitudes if they perceive that their organization values their well-being.

There are a few empirical studies that directly examine the construct of MTIWL in the past. For example, Veeraya and Sasi (2011) found social exchange process to be a valid predictor of MTIWL. Using structural equation modeling analysis, they found perceived justice and POS significantly affected work-related attitude, which in turn led to the enhancement of MTIWL among private hospital employees. Ascher's (2012) quantitative study found that transfer of training was a valid outcome of MTIWL.

Most of the previous empirical studies, however, separately examined the concept of motivation in the form of motivation to learn and/or motivation to transfer. Recently, a study by Lee, Lee, Lee and Park (2014) found that the motivation to transfer was a significant mediator that linked the effects of POS on the transfer of training. Trainees in a low performer group had a higher motivation to integrate new KSA in their job environment than the high performer group when they perceived their organization supported their learning. Such perception was due to the trainees' assumption that their organization valued the process and responsibility of employee development.

Empirical work by Battistelli (2008) examined three aspects of motivation as the outcomes of POS, namely (1) motivation to obtain professional skills; (2) motivation to apply new knowledge acquired from training in the job environment; and (3) motivation to undergo training for the purpose of increasing social status and company standing. The extent to which an organization provided support in the context of training resulted in the motivation of trainees to implement new KSA from training and boosted their motivation to apply the KSA when they returned to work. The conclusion of the study was that trainee motivation in learning training materials and motivation to apply training significantly contributed to the perception of the transfer of training.

In a longitudinal analysis by Chiaburu et al. (2010), they revealed that motivation to transfer was predicted by social support originating from the organization. The study discovered that POS served as a predictor of motivation to transfer and the actual transfer of training. In other words, when trainees perceived their organization as caring, they had greater motivation to use what they have learned from the training in their job environment. Further analysis revealed that motivation to transfer acted as the mediating variable that linked POS and supervisor support to the transfer of training. Similar findings were argued by Chiaburu (2010).

Nikandrou et al.'s (2009) qualitative study, which used in-depth interviews to uncover the underlying processes of the transfer of training, found evidence of the effects of organizational climate on the transfer of training, by means of both motivation to learn training materials and motivation to apply training in their job. The results of the study found discouraging transfer among the participants. Participants commented that, for example, their organization did not care about their ability to apply training in order to achieve performance improvement. Thus, the lack of caring from the organization affected the trainees' motivation to learn, as well as their motivation to apply their training in their job environment. Towards the end, the majority of participants stated that there was no performance improvement following the training. The essence of the findings demonstrated the

pressing necessity of perceived support from the organization, as well as high motivation to learn and motivation to transfer among the trainees if transfer of training is anticipated.

Based upon the theory of organizational support and previous empirical studies, the authors formulate the following proposition:

P1 *MTIWL will significantly mediate the relationship between POS and the transfer of training.*

The Mediating Role of MTIWL in the Relationship between Supervisor Support and the Transfer of Training

Supervisor support has been widely regarded as a key work environmental variable affecting the transfer of training (Baldwin & Ford, 1988; Elangovan & Karakowsky, 1999; Lancester et al., 2013; Nijman et al., 2006) and it is critical in creating a transfer friendly climate (Axtell et al., 1997). Since supervisor support is a multi-dimensional construct (Baldwin & Ford, 1988; Ford & Weissbein, 1997; Grossman & Salas, 2011), examining it would generate a significantly differing conceptualization (Nijman, 2004). For instance, support originating from a supervisor is often regarded as the reinforcement of training in the workplace (Holton, Bates & Ruona, 2000), whereas others defined it as supervisory behavior congruent to the objective of the training program (Xiao, 1996).

The notion of motivational theory that acknowledges the importance of cognitive process of motivation can be used to describe the association between supervisor support and transfer of training. In essence, Vroom's expectancy theory argues that a person is motivated to perform a task if he or she believes that a specific action will generate good performance and, in return, lead to desired outcomes (Yamnill & McLean, 2001). Based upon the assumption of this theory, a trainee will be motivated to learn the training contents and apply the learned materials when he or she recognizes that such action might bring positive performance outcomes (Noe, 1986). Encouragement from the supervisor in terms of clarification of the benefits and advantages of attending a particular training may motivate the trainees to learn new KSA from training and consequently motivate them to apply what they have learned from the training in their job environment (Chiaburu & Tekleab, 2005; Nijman et al., 2006; Switzer et al., 2005).

Bandura's social learning theory offers some insights into trainee motivation in training programs. The core of social learning theory lies in the notion of self-efficacy and outcome expectations (Zimmerman, 2000). The term self-efficacy is defined as a person's belief about his or her ability to successfully perform a task (Burke & Hutchins, 2008), while outcome expectations refer to the desired outcomes as a result of performance (Ban-

dura, 1993). To strengthen self-efficacy, a person needs to attain success (enactive mastery), while training programs must be designed to assist him or her to overcome failure (vicarious experience) (Tucker & McCarthy, 2001). It is also vital for the person to observe others that have mastered the KSA (modeling); furthermore, the person should be verbally encouraged to let him or her exert more effort in training programs (verbal persuasion) (Tucker & McCarthy, 2001).

In this instance, the extent to which supervisors support subordinates through rewards, encouragement to attend and apply training, provision of guidance to apply training and knowledge-sharing on how to apply training is likely to increase their subordinates' self-efficacy (Chiaburu & Tekleab, 2005; Facteau, Dobbins, Russell, Ladd & Kudisch, 1995). In turn, employees with high self-efficacy in acquiring new KSA are motivated to be trained and incorporate what has been learned in their daily work routines (Lee et al., 2014).

The transfer of training literature dominantly suggests that supervisor support is one of the most important stakeholders in an organization that affects trainee motivation and the transfer of training (Blume et al., 2010; Colquitt et al., 2000; Ford & Weissbein, 1997; Foxon, 1993). Nonetheless, certain studies (e.g. Chiaburu & Marinova, 2005; Velada, Caetano, Michel, Lyons & Kavanagh, 2007) found no significant relationship between the supervisor support and the transfer of training. The mixed findings are the result of diversity in the conceptualization of supervisor support in the literature (Baldwin & Ford, 1988; Blume et al., 2010; Cheng & Ho, 2001). It is worth noting, from a practical standpoint, that supervisor support has an irregular and interspersed character with active discussions only before and after training and periodic checks of progress (Chiaburu, 2010; Chiaburu et al., 2010). Consequently, the nature of these practices may weaken the effects of the supervisor support on the transfer of training.

Also, the way in which the supervisor support influences the transfer of training is unclear (Nijman, 2004). That is, despite the fact that most of the previous studies examined the direct effects of supervisor support on the transfer of training (e.g. Cromwell & Kolb, 2004; Lim & Morris, 2006), a substantial number of studies posited that the relationship between supervisor support and the transfer of training is mediated by the motivation to learn and/or the motivation to transfer training to the job environment. The inclusion of motivation construct as a mediator linking supervisor support and transfer of training has produced significant and positive results. Employing social exchange theory, Scaduto, Lindsay and Chiaburu (2008) found that supervisor support was critical for skills transfer, maintenance and generalization of training. Motivation to learn, along with outcome expectancy, mediated such relationships.

A number of studies found supervisor support, in terms of encourage-ment to attend training and to apply new learning in the job environment, significantly promotes motivation in training, leading to the transfer of train-ing. In studies conducted by Chiaburu and Tekleab (2005) and Switzer et al. (2005), the extent to which supervisors encouraged trainees to attend training programs, aided the trainees to apply the training in their job en-vironment, gave sufficient time to the trainees to apply KSA in their job, and invoked their motivation to learn led to the trainees' ability to apply, adapt, and reproduce what they have learned during training in their daily work tasks. Adequate opportunities to apply training in terms of the pro-vision of materials and opportunity to practice new learning in their work assignments had been proven to exert strong effects on the motivation and transfer of training (Nijman et al., 2006; Pham et al., 2013).

Longitudinal studies suggest that supervisor support is not only a strong predictor of trainee motivation and transfer of training immediately after training, but across different points in time. Axtell et al. (1997) examined long-term transfer of training based on non-managerial, technical employees from a multi-national organization who attended one of six training courses targeted at developing workplace interpersonal skills. In relation to their work environment, supervisor support and motivation to transfer were pos-itively correlated with the transfer of training one month and a year after the training. It was concluded that support from the managers enhanced trainees' motivation to transfer training to their job environment. In turn, motivation to transfer acted as the main predictor of short and long-term transfer of training.

Kontoghiorghes (2004) expanded the traditional transfer of training model by postulating that, aside from an immediate learning environment, non-training work environment factors (e.g. socio-technical system design, job design, quality management, and continuous learning environment) had significant effects on motivation to learn and motivation to transfer training. Positive learning transfer climate (e.g. supervisor and peer support) was the strongest predictor of transfer of training and job performance through motivation to learn and motivation to transfer training to the job.

Qualitative studies generally support the findings that derived from the quantitative studies described above. Lancester et al. (2013), Nikandrou et al. (2009), Lim and Johnson (2002), and Lim (2000) measured the effects of supervisor support on trainee motivation and the transfer of training by employing a series of interviews to gain a better comprehension on these relationships. The results advocated that the most significant predictor that influenced the transfer of training was the provision of support from the supervisor before, during, and after training. They maintained that most trainees had a greater motivation to learn and motivation to transfer, as well

as positive transfer of training only when they reported having supervisors who openly discussed the training and provided sufficient training feedback.

Since many of the previous studies found significant correlation between supervisor support and transfer of training via motivation to learn and/or motivation to transfer, it is possible that the findings will also hold true for MTIWL construct. Considering satisfactory support from the literature, the authors propose the following proposition:

P2 *MTIWL will significantly mediate the relationship between supervisor support and the transfer of training.*

The Mediating Role of MTIWL on the Relationship between Peer Support and the Transfer of Training

Another stakeholder in an organization that can influence transfer of training is a person's peer. In most cases, peer, or often called co-worker, suggests any person who works along with an employee in an organization. It includes superiors and subordinates. Nonetheless, the term co-worker is more often associated with the person who has an identical rank with an employee in an organization. An individual has peers who are associates in social and job interactions (Chiaburu & Harrison, 2008). Flatter organizational structure and the increase in the practices of team-based work dramatically elevated the importance and frequencies of lateral interactions between employees and their peers (Cromwell & Kolb, 2004). In this situation, employees are encouraged to work collaboratively and to network with peers (Cromwell & Kolb, 2004).

Not surprisingly, peer relationships are usually overlooked due to the nature of most early management theories that dismissed the elements of lateral relationships in management practices (Chiaburu & Harrison, 2008). Weber's bureaucratic theory and Fayol's administrative theory emphasized the fundamentals of hierarchical and authoritarian qualities in management and, at the same time, proposed that effective communication can only be achieved with downward and formal practices through supervisors. The Hawthorne studies marked the shift of perception towards the importance of peers in the workplace. The Hawthorne studies showed that peers played a major role in impacting employee's intrinsic motivation and job performance.

Unlike an organization or a supervisor that has authority and serves as a superior, an employee has an equal status with his or her co-workers. Also, because of the constant and greater presence of peers as opposed to management and supervisors in almost every organization, an employee is likely to interact more frequently with his or her co-workers (Chiaburu & Harrison, 2008). The nature of this status makes the relationship between

an employee and his or her peers more proximal than the relationship with the management and supervisors (Chiaburu, 2010; Chiaburu et al., 2010). Due to a more proximal relationship than the management and supervisors, peers provide critical functions for an employee in mentoring, information exchange, and social support (Bates et al., 2000; Facteau et al., 1995). First, in mentoring programs, peers act as mentors that could provide valuable work advices and information in order to accomplish necessary tasks. Second, the function of peers in information exchange is largely related to the discussion of work-related information or personal problems. Third, support from peers is a powerful source to reduce uncertainty and stress, which can improve employee and organizational well-being (Chiaburu & Harrison, 2008).

In the domain of training, a trainee can benefit from having supportive peers. In order to ensure the transfer of training, it is important for a trainee to receive encouragement, opportunities, and endorsement from peers in his or her implementation of training in their job environment. Further, peer networking and information sharing about training contents greatly enhances the transfer of training (Hawley & Barnard, 2005). Because of the continuous flow of information and encouragement, support originating from peers has been postulated to exert stronger influence on the training outcomes than the one coming from the organization or supervisors (Chiaburu, 2010).

As noted earlier, the concept of social learning theory argues that self-efficacy and outcome expectations play important roles in cultivating a person's motivation to perform a task. In a training situation, a trainee, who observes his or her peers performing a task, is likely to believe that he or she is capable of performing a similar task. This belief can be reinforced when the trainee notices that his or her peers successfully perform the task. Positive feedback acquired from the peers can also enhance self-efficacy. High self-efficacy may increase trainee's effort and persistence, which cultivates the motivation for KSA acquisition and the motivation to apply training in their job environment (Colquitt et al., 2000; Lee et al., 2014).

Although Van den Bossche et al.'s (2010) study of 35 academic employees in the Netherlands failed to confirm the hypothesis that argued peer feedback to have a stronger effect on the transfer of training than supervisor feedback; further analysis found that the frequency and helpfulness of feedback emanating from peers was associated with greater motivation to transfer and transfer of training than that coming from supervisors. A similar study by Hawley and Barnard (2005) found that peer networking and information sharing about training contents greatly enhanced the transfer of training.

Furthermore, a study by Chiaburu and Marinova (2005) confirmed that

the extent of peer support was indeed a stronger predictor of the transfer of training than supervisor support. Peer support, in the form of encouragement to apply training to their job, is significantly related to both motivation to learn and skill transfer. Such findings were attributed to trainee reliance on team-level support from co-workers for training outcomes. The outcome of the study provided strong grounds to Bates et al.'s (2000) argument that peer support is more important to invoke training motivation and transfer of training in certain work situations.

Other empirical studies showed that peers acted as important source of support to trainees, similar to that coming from supervisors. Ayres' (2005) study suggested significant effect of peer support on trainee motivation to attend and learn from training, which in turn led to positive transfer of training. Trainees, who perceived that their peers were helpful in the application of new learning, encouraged them to apply the training, appreciated their effort to transfer new learning, and understood they need more time to apply training in their job were reported having greater motivation to learn in training programs than those who did not receive such support. As a result, the trainees believed that they had the ability to practice what they have learned from training back in the workplace.

Comparable findings were established by Facteau et al. (1995). Trainees who reported having ample support from their peers had high levels of motivation to attend and learn from training programs, which in turn led to an elevated transfer of training. Hence, the conclusion was that the relationship between peer support and transfer of training was indirectly influenced by the motivation to learn KSA from training programs.

From a practitioner's perspective, there is growing recognition that peer support has important impact on the level of training outcomes. Studies of best practices related to the transfer of training (e.g. Burke & Hutchins, 2008; Hutchins, 2009) appeared to endorse the contributions of peer support in successful transfer of training. In this sense, practitioners commented that peer support, particularly the reinforcement of the implementation of training in the job environment and the ability of the trainees to learn effectively from peers through a variety of means contributed to positive transfer of training.

Based on the literature, the authors propose the following proposition:

P3 *MTIWL will significantly mediate the relationship between peer support and the transfer of training.*

Conceptual Model

The following conceptual model is built based on relevant theories and empirical evidence that supported the notion that MTIWL may mediate the
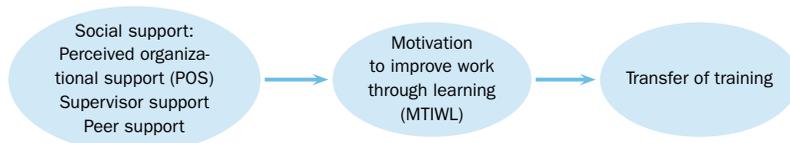
Figure 1 Conceptual Model

relationship between social support and transfer of training. Social support, in terms of POS, supervisor support, and peer support may increase trainee motivation to learn training contents and motivation to perform in the job environment what has been learned during the training. As a result, it might lead to successful integration of KSA learned during training in the job environment.

Discussion

This conceptual paper examines the mediating role of MTIWL on the relationship between social support and transfer of training. It attempts to fill the gaps in the literature by examining motivation to learn and motivation to transfer as an integrated construct consistent with the recommendations from several researchers (e.g. Naquin & Holton, 2002; Holton, 2005). This integrated construct of motivation, namely MTIWL (Holton, 2005), is likely to replicate a realistic trainee motivation in workplace situations that is not only concerned about learning, but also about the motivation to improve work performance.

As such, this conceptual paper has several theoretical and practical implications. MTIWL acknowledges two important dimensions of motivation critical for successful transfer of training, namely the motivation to learn from training and the motivation to apply the skills obtained through training in the job environment. Without a doubt, a trainee with strong MTIWL can transfer training much more effectively than those with simple motivation to learn, because the trainee is motivated to engage in learning and enthused to incorporate training in the workplace settings. As a result, the proposed conceptual model contributes to the theory development of HRD by extending the current knowledge on MTIWL as a potential intervening variable that is crucial in linking social support with the transfer of training.

Moreover, by investigating MTIWL as a potential mediator, linking the relationship between social support and transfer of training, it may rectify the inadequacies in the literature pertaining to inconsistent findings. The construct of MTIWL could identify the profile of trainees who possess the necessary motivation for learning and for transfer to occur in the workplace. MTIWL can be enhanced with the use of emotional and instrumental

support emanating from the organization, supervisor, and peers. The conceptual model depicts such interactions, which would assist researchers to acknowledge and comprehend the realistic processes of the transfer of training.

From a practical perspective, human resource managers could benefit from the proposed conceptual model. This paper sends a clear message pertaining to the importance of motivation in learning and application of KSA for performance improvement. Human resource managers should acknowledge the central role of trainee motivation in achieving positive transfer of training. Without motivation to train and motivation to improve work, it is unlikely that training can be transferred to the job environment effectively even though the trainees might have the necessary capabilities.

Trainees who possess strong MTIWL are expected to demand a different type of training experience; consequently, they need different learning support structures (Holton, 2005). Therefore, human resource managers should work together with the supervisors and training managers to identify the training needs of these trainees. Training programs should be designed with clear objectives and emphasize the practicality of learned KSA in the job environment. Subsequently, it would attract trainees with strong motivation to participate and benefit from such training programs.

Also, it is critical for the practitioners to recognize that the support from the organization, supervisor, and peers has differential effects on the trainee motivation and the transfer of training. Since MTIWL is important, careful intervention should be tailored for each level of support to ensure the trainees are motivated in learning and performing trained KSA in the workplace. The core intervention that can be performed is by improving the ability of the stakeholders (i.e. organization, supervisors, and peers) in the provision of encouragement for the trainees to participate in the learning process, as well as guidance on how to incorporate new learning to improve work performance.

Limitations and Future Research

The conceptual model has some limitations. The conceptual model focuses on work environmental factors and the elements of motivation important for successful transfer of training. However, other factors, such as training design, individual characteristics, and workplace dynamics are not included as part of the transfer of training system. Research is warranted to develop a systemic transfer of training model that accurately reflects the dynamics of the actual workplace settings.

Although research instruments measuring motivation to learn and motivation to transfer have been established by previous researchers, the validity of the instrument specifically designed to measure MTIWL is yet to

be fully established. The only known validity test of MTIWL was conducted by Naquin and Holton (2002), who found that the construct has initial content, criterion, and construct validity. It is unknown, however, whether such validity of the research instrument can be achieved in differential research settings. Hence, more studies on MTIWL are required to address the issue by developing either new or by refining existing research instrument specifically to measure MTIWL construct.

Conclusion

This conceptual paper advocates the need to examine motivation in terms of trainee motivation to improve work performance by means of learning in the context of training programs. This is consistent with the view of many influential scholars (e.g. Holton, 2005; Holton & Baldwin, 2003; Naquin & Holton, 2002) that advocate the critical value of motivation to enhance work performance via learning. Based on the review of previous empirical work, it is more than likely that MTIWL will emerge as an important mediator that thoroughly explains the relationship between social support and the transfer of training.

Although MTIWL has been conceptualized more than a decade ago, there is a pressing lack of empirical studies that focus on this construct. As a result, not many empirical findings that can lend full support of MTIWL as a mediator that links the relationship between social support and the transfer of training. Hence, more empirical work should be conducted via future research. This can be performed by identifying possible antecedents and outcomes of MTIWL. This paper intends to spur more research on MTIWL that could significantly contribute to HRD theory building and practice.

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Hi-Tech Skills Anticipation for Sustainable Development in Russia

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It is evident that there is a heightened importance in Russia attributed to ensuring that students develop skills, which will enable them to be more productive and engaged citizens. This article deals with a skills anticipation methodology for seven hi-tech industries in Russia that resulted in the development of models for both soft and hard skills. There is a variety of widely applied methods – qualitative projection of labor market parameters, desk studies, documents analysis, foresight sessions, employers' and experts' surveys. As a result, new skills models are to help the specialists to effectively overcome the challenges, apply innovative decisions, and increase their technological knowledge.

Keywords: skills anticipation methodology, knowledge, hi-tech industries, educational policy, competence-based approach, lifelong learning, sustainable development, Russia

Introduction

The research described in this paper is critical for Russia and countries world-wide that face common challenges, such as labor force shortage, population ageing, and innovative economic development. The present-day global economy is extremely competitive. Only the highest level of competitive advantages will contribute to sustainable growth. A highly-qualified labor force represents one these competitive advantages. In order to sustain a highly-qualified labor force, it is necessary both to forecast the perspective skills, as well as reform Vocational Education and Training based on competence approach.

Persistent sustainable development in the framework of innovative economy implementation and a highly competitive labor market is problematic. Such economy development is possible only in terms of both, labor force and human capital development. Consequently, it is necessary to develop as well as improve human capital with the on 'lifelong learning.' The mechanism for 'lifelong learning' implementation is in the competence-based

approach development and implementation, which was proven by the conceptual documents of the European Union (EU) and Russia (European Union Strategy 2020, see http://ec.europa.eu/europe2020/index_en.htm). Thus, the Russian Innovative Strategy 2020 mentions innovative skills, such as 'lifelong learning,' 'constant self-improvement,' 'professional mobility,' 'critical thinking,' 'teambuilding,' 'ability to communicate in everyday, business, professional English' etc.

Currently, the Ministry of education and science in Russia is contracting a number of research projects including a project on skills anticipation. The budget monitoring center at Petrozavodsk State University is implementing one of these projects titled 'Hi-tech skills anticipation.' Nowadays, skills anticipation is possible to perceive by means of combining both qualitative and quantitative methods. The budget monitoring center has elaborated its own skills methodology based upon quantitative methods as well as best foreign practice in qualitative projection.

Human Capital Development

The Northern Europe experience is especially unique in terms of labor force and human capital development. It should be noted that 'lifelong learning' doesn't necessarily end with tertiary education graduation in these countries. Graduates proceed with further vocational training or further vocational education. In accordance with the OECD *Education at a Glance 2011* report, more than 60% of the Swedish and Finnish population (OECD, 2011a) run vocational training annually, while in other OECD (Organization for Economic Cooperation and Development) member-states this number amounts to a maximum of 40%, while in Russia this number reaches a mere 15.8% (Federal'naya sluzhba gosudarstvennoi statistiki, 2009, p. 252). Moreover, the educational process in Sweden lasts 7.7 years, 8.4 years in Finland, 8.4 in Denmark (8 years on average) (OECD, 2010). In the OECD member-states the length of the educational process varies from 6 to 8 years, while in Russia it lasts a maximum 6 years. All these factors contribute to the unemployment duration of less than 6 months in Northern Europe (OECD, 2011b) and about 7.2 months in Russia (Federal'naya sluzhba gosudarstvennoi statistiki, 2010, pp. 252–288). At the same time, the employment rates for the active working age in Norway amount to 90.2%, 84.4% in Finland, and 88.1% in Sweden.

Both perspective skills anticipation and qualification frameworks development are widely carried out all over the Northern Europe. It is widely perceived that the qualification frameworks are to be upgraded with the necessary skills, first of all, in hi-tech industries. For example, investments in hi-tech field in Finland amount to 3.5% of GDP, while in Russia to 1.04% of GDP (see http://raexpert.org). Information communication technologies

Table 1   Natives Redistribution by Vocational Education in Russia, 2011

Vocational education	Russian natives
Tertiary vocational education	55.5%
Secondary vocational education	24,0%
Primary vocational education	20.5%

Notes   Adapted from Federal'naya sluzhba gosudarstvennoi statistiki (2010).

index (ICT) of Finland is the fifth in the world, while Russian is the 47th (International Telecommunication Union, 2011). Currently, the Finnish economy is addressing both the eco-friendly technologies and renewable energy resources. It is clear that hi-tech Finnish economy is highly interested in employees possessing high-level skills and a high educational level.

Thus, vocational training programmes are the fundamental instrument for constant improvement of staff skills (i.e. 'lifelong learning' quintessence). It is a pity to claim that further vocational education is unpopular in Russia and involves only 15.8% of the population (Federal'naya sluzhba gosudarstvennoi statistiki, 2009, p. 252), while skills development in the framework of vocational education (Table 1) is embracing 55.5% of Russian natives.

It is necessary to highlight that the percent of the population with tertiary vocational education exceeds the same percent in many countries of the European Union. Thus, compared to Russian 55.5%, Finland possess only 37% of tertiary vocational education graduates, Denmark – 34%, Norway – 37%, Sweden – 33%, Austria – 19%, etc. (European Union Strategy 2020, see http://ec.europa.eu/europe2020/index_en.htm). Nowadays, knowledge is increasingly changing. Education, if non-updated, isn't in demand. The solution could be found in life-long learning development, further vocational education, and perspective skills anticipation.

Labor Market Parameters Projection in Russia

The necessity to implement a competence-based approach is conditioned by the VET and labor market mismatch. As a result of this misbalance, both employees and state suffer huge losses. For employees such misbalance signifies lower salary and lower productivity, while for a state this would symbolize unemployment rate plummeting, unemployment compensations rocketing, inefficient public finances redistribution for VET. As a result, labor market misbalance can be resolved by both qualitative and quantitative projection methods.

When the USSR planning economy collapsed causing the chaos on the labor market, a new projection system for labor market parameters started developing. Today, the main focus is on the parameters of the overall economic development, as well as labor market and vocational education. The

Table 2 Graduates Demand in Elementary, Secondary, Tertiary Vocational Education by 2015 (in thousands)

Level of Education	Total amount of graduates in 2015	Full-time graduates in 2015	Demand in 2015
Tertiary	1215.6	595.4	891.1
Secondary	434.2	357.2	887.6
Elementary	265.3	265.3	972.6

principal Russian actors engaged in quantitative projection today are: the Institute of macroeconomic projection (Moscow), Higher School of Economics (Moscow), and the Budget Monitoring Center at Petrozavodsk State University (Petrozavodsk). One of the principal methods widely applied by these actors is qualitative macroeconomic projection for both, economy sectors and the country as a whole (Gurtov, Pitukhin, & Serova, 2007; Gurtov, Pitukhin, Serova, & Sigova, 2010; Piutkhin & Semenov 2012).

These forecasts are widely implemented by both, the Ministry of Education and the Science of the Russian Federation with regional authorities for human resources development calculating the key enrollment figures for all levels of vocational education. Despite these efforts, there is a misbalance in VET; thus, it is highly crucial to satisfy the demand and perspective graduation figures for three levels of vocational education. It is obvious that the demand in both elementary and secondary vocational education will be increasingly growing in Russia by 2015 compared to the demand for tertiary vocational education (Table 2).

At the same time, it is obvious that this increasing demand for both elementary and secondary vocational education won't be satisfied with graduates. Thus, we observe a serious misbalance on the Russian labor market.

As a result, the quantitative methods, even if highly detailed, are not enough. Nowadays, skills anticipation is possible to solve by means of combining both qualitative and quantitative methods. Hence, a brand new skills anticipating methodology based on quantitative methods, as well as best foreign practice in qualitative projection was elaborated in Russia. Much attention is paid to the OECD experience.

Skills Anticipation in the OECD Member-States

Skills anticipation started its development consecutively both in the EU and the OECD member-states in the early 2000s. Nowadays, this issue is playing a highly crucial role in shaping the European future society.

On the 12th of November 2002, the Council for Education, Youth and Culture of the EU adopted the 'Copenhagen Declaration' on enhanced cooperation in VET. This enhanced cooperation, known as the Copenhagen process, includes both employees' and graduates' perspective skills antic-

ipation. Crucial skills and qualifications development involving actors such as state, educational institutions, and employers became the core of the ongoing Copenhagen process. Furthermore, in 2009, the EU mid-term forecast for anticipating occupational skills titled *Skills for Europe's Future: Anticipating Occupational Skill Needs* was successfully developed (CEDEFOP, 2013). This forecast is still widely used by the politicians, employers, VET, and other actors involved in the perspective educational trajectories development.

VET development also became one of the priorities in the education policy at the Meeting of Ministers of Education of the OECD member-states in Copenhagen on September 22–23, 2005. The meeting resulted in a program adoption aimed at the interaction development between VET and labor market. In two years, the OECD implemented a research project titled 'Vocational Education and Training' that focused on skills/competencies definition and skills development, which might be further applied on the labor market. The VET research project included education and training programs developed for a particular type of work (OECD, 2005, p. 52).

In 2010, the 'OECD Skills Strategy' was finally adopted. At that time, it was also recognized by the European Union. In accordance with this Strategy, 'skill' and 'competence' are perceived interchangeably. By skill (or competence) the OECD implies 'the bundle of knowledge, attributes and capacities that enables an individual to successfully and consistently perform an activity or task, whether broadly or narrowly conceived, and can be built upon and extended through learning' (OECD, 2011b, p. 35). There are *general cultural competences,* such as the ability to own a foreign language at a level no lower than conversational and *professional skills* such as: the ability to apply modern mathematical tools, the ability to collect, process, and interpret data of modern sciences etc.

Thus, the necessity to develop the crucial occupational skills in Europe in line with the employers demand has been developed recently. VET integral part includes three parties' interaction: government, employers, and the educational system. Each level of interaction has its own particular function.

From Table 3, it is obvious that employers' involvement in VET in the OECD member-states is sufficient. Employers' active participation is conditioned by incorporated mechanisms in the educational system, which allows stakeholders active participation in the process. It is highly important to involve the employers in both crucial occupational skills determination and implementation on the labor market.

Competence-Based Approach Implementation in Russia

Nowadays, active work on both skills anticipation and implementation in the educational system and economy is actively performed in Russia. There

Table 3   Employers' Involvement in VET in the OECD Member-States

Field	Tasks and actions	Institutional setting	Country examples
Agenda setting	Analyzing evidence. Recognizing problems. Determining issues for reform.	Collectively through employer organizations, associations, chambers. Individually, using employer surveys and opinion polls.	Advisory Council for Initial Vocational Education and Training, Denmark. Employers' surveys e.g. in United Kingdom and Australia.
Policy formulation	Reforming the regulation, structure, and funding of the VET system. Developing/updating the qualifications framework. Developing curricula, content and duration of VET courses. Determining number of VET places.	Collectively through employer organizations, associations, chambers. School governing bodies, which include employers. Regional or sectoral bodies.	Advisory Council for Initial Vocational Education and Training, Denmark. VET partnership (federal government, cantons and social partners) in Switzerland. Sectoral employer organizations in Australia and United Kingdom. Regional VET centers in the Netherlands, Regional development and training committees in Hungary.
Policy implementation	Promoting VET e.g. by hosting interns. Delivering on-site training. Sponsoring training for employees. Examining student performance.	Individual employers offering workplace training (including sector-wide basic practical training), apprenticeships, or releasing staff to supply VET teachers to providers. Individual or collective financing, under voluntary or mandatory arrangements.	Apprenticeships in dual system countries. Industry courses in Switzerland. Training levies in Hungary. Final examination in the workplace, e.g. in Germany.
Policy evaluation	Assessing the quality of VET outputs. Assessing student outcomes.	National VET institutions. Collective employer bodies. Individual employers (e.g. through surveys).	KRIVET, BIBB, NCVER, etc. Surveys of employer satisfaction in Australia and United Kingdom.

Notes   Adapted from Hoeckel, Cully, Field, Halász, and Kis (2009).

are, however, challenges despite the attained success. In 1993, Bachelor and Master Degree levels were introduced in Russian high schools for the first time. Only starting in 2011, a two-level tertiary vocational education became wide spread. Meanwhile, these degrees are still not well reflected in the Russian labor market: these two educational qualifications do not

correspond to the economic activities and are thus not transparent to the Russian employers.

This situation, facilitated by the Bologna and the Copenhagen processes, both employers' and government initiatives, resulted in some action. Nowadays, a so called national qualifications system is being shaped in Russia. The main elements of such system that would bridge the labor market and VET are both professional and educational standards.

The Russian Ministry of Science and Education has recently announced a new generation of federal state educational standards development. These standards are based on a competence-based approach where skills are subdivided into the following two groups: general skills (soft) and occupational skills (hard).

Additionally, professional standards are actively promoted by the Russian employers (small, medium, big business) who have been supporting a new paradigm of human resources upgrading in accordance with these standards in the past few years. These innovative standards are unique in their description requirements (Leibovich, 2011).

Professional standards:

- Reveal both the spectrum of actions in a technological process (research, engineering, design, manufacturing etc.) as well as tenure of different qualification levels (level of worker, engineer, and manager);
- Apply for a brand new design combining knowledge, skills and competencies, and professional expertise;
- Identify professional activities the employer is especially interested in, as well as independent qualifications certification.

Both professional standards and federal state educational standards are inter-related. Professional standards as a part of a national qualification system aimed at bridging VET and the labor market on different levels (political, organizational, and individual). Consequently, the labor market, which signals its generalized demand for human resources, is a reference to the educational system. In its turn, the education system shall elaborate effective educational trajectories emphasizing the competence-based approach (Kekkonen & Sigova, 2012).

Nowadays, the main national qualification system development challenge is mentioned in the Russian Strategy 2020. In accordance with this strategy, the national qualification system will result in increased competition in the labor force, professional development, bridging VET and labor market, and employees' rights recognition (see http://strategy2020.rian .ru/).

Russia is still lacking high quality human resources. Skilled workers are

in high demand on the Russian labor market, especially in terms of innovative economy implementation.

Skills Anticipation in Russia

To overcome the above-mentioned challenges, the Ministry of Education and Science in Russia has recently announced a large-scale research. The project 'Hi-tech skills anticipation' implemented in Russia lasted for three years: 2011–2013. Elaborated methodology on skills anticipation embraced three strategic foresight-sessions, as well as three huge surveys of experts, employers, and employees who work in seven hi-tech industries in accordance with the President's decree No. 899 dated 7 July 2011 (IT; nano industry and new materials; energy and energy efficiency; transport and space systems; biotechnologies; medicine and healthcare; effective natural resources management).

It is also necessary to highlight that the above-mentioned priorities correlate with a list of 10 emerging technologies settled at the 2012 World Economic Forum meeting in Davos (Quick, 2012):

1. Informatics for adding value to information.
2. Synthetic biology and metabolic engineering.
3. Green Revolution 2.0 – technologies for increased food and biomass.
4. Nanoscale design of materials.
5. Systems biology and computational modelling/simulation of chemical and biological systems.
6. Utilization of carbon dioxide as a resource.
7. Wireless power.
8. High energy density power systems.
9. Personalized medicine, nutrition, and disease prevention.
10. Enhanced education technology.

There is a strong correlation of the Russian priorities with the International Standard Classification of Education (ISCED), a framework which allows for the standardized reporting of a wide range of policy relevant education statistics according to an internationally agreed set of common definitions and concepts, thus ensuring cross-national comparability of the resulting indicators. The International Standard Classification of Education (ISCED) was revised by UNESCO in 2011 (ISCED, 2012). There are 25 fields of education organized in 86 subgroups including:

- 42 Life sciences
- 44 Physical sciences
- 48 Computing
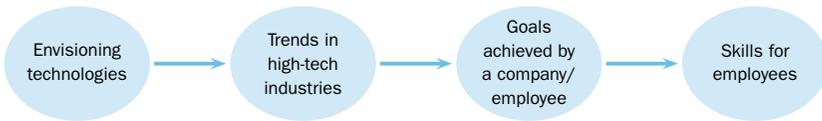
Figure 1 'Envisioning Technologies' is the Core of Skills Anticipation (adapted from Gurtov et al., 2012)
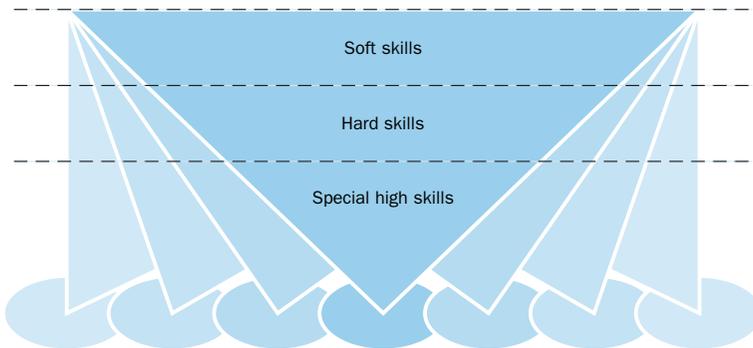
Figure 2 Skills Model Structure for Hi-Tech (adapted from Gurtov et al., 2012)

- 52 Engineering and engineering trades
- 54 Manufacturing and processing
- 62 Agriculture, forestry and fishery
- 72 Health
- 76 Social services
- 84 Transport services
- 85 Environmental protection

The very first fundamental step in skills anticipation includes 'envisioning technologies' determination (Gurtov, Kekkonen, & Sigova, 2012). Such technologies depict the main trends in hi-tech zones. The 'envisioning technologies' imply the fundamental strategic solutions that would influence the whole hi-tech field, as well as define the trends for critical technologies (Figure 1).

The 'envisioning technologies,' thus define the basic trends for hi-tech industries. Based on that, a number of concrete goals, which should be achieved on different levels in the future (company/employee/economy sector), are to be defined easily. This ultimately results in skills development necessary for the achievement of the above-mentioned goals.

This huge project is mutually performed by three actors – Petrozavodsk State University, Moscow Business School Skolkovo, and the Center for

Table 4 Skills Classification in Hi-Tech Industries

Skills	Definition	Modes for skills development
Soft skills	Personal characteristics and values, cultural knowledge linked to effective job functioning.	Social-pedagogic activity, skills development programmes, additional courses, project management, public activity.
Hard skills	Ability to apply knowledge, competences, experience for successful activity in a particular realm.	Elementary, secondary, tertiary vocational education programmes, further vocational education, internships, Master programmes. Ph.D. programmes. Further vocational education programmes (advanced training). Corporate university programmes.
Special high skills	Knowledge and competences for the perspective goals achievement in hi-tech industries.	

Testing and Development under the Moscow State University. As a result, the ideology of skills anticipation is based upon the projection of both soft and hard skills, which result in university curricula (i.e. vocational education) and special high skills for each concrete job placement (corresponds to further vocational education). Figure 2 demonstrates the elaborated skills model structure for each of the seven hi-tech industries (IT; new materials and nano industry; energy and energy efficiency; transport and space systems; biotechnologies; medicine and healthcare; effective natural resources management. This structure includes:

1. soft skills – common for each of the seven hi-tech industries;
2. hard skills – necessary for research, design, engineering and manufacturing and different for each of the seven hi-tech industries;
3. special high skills that correspond to hi-tech zones and link to a concrete job place, also different for each of the seven hi-tech industries.

Table 4 reveals not only a skills model structure, but also skills development modes. This might include social-pedagogic activity, project-management, public activity for soft skills, as well as Master programmes, and further vocational education programmes for the hi-tech zones.

Thus, the first stage of the project 'Hi-tech skills anticipation' defined the content of the model (soft, hard, and special high skills) through the experts' survey in 2011. The second stage verified the model content through foresight-sessions and employers' surveys in 2012. The third stage included the verification results of the foresight-sessions and employees' surveys in 2013. Foresight sessions resulted in defined perspective skills clusters. The qualitative data received during the expanded sample of em-

ployers' survey, thanks to the Jobs & Competence Description method, resulted in *what* goal is to be solved by an employee and *how* an employee would achieve it. This method was elaborated by the Center for Testing and Development under the Moscow State University. It turned out that Russian employees don't possess the skills that employers are anticipating. It became highly necessary to link their skills with the professional goals. Thus, the skills clusters appeared which could bring in new solutions connected to new labor market possibilities and new threats for employers' companies. These skills clusters were defined for each of the seven hi-tech industries for short-term, mid-term, and long-term perspectives. As a result, an integrated skills model structure that would embrace the fundamental, occupational, and innovative skills appeared. These skills are highly linked to both technological and innovative policies of Russia.

The Russian skills model structure is in line with best foreign practice. Thus, the OECD member-states emphasize 'soft skills' much more than 'hard skills' (OECD, 2012). In Russia, soft skills and hard skills are still equally important. First of all, our skills model structure settled one soft skills list for all hi-tech industries:

- personal skills (leadership, administrative);
- communication skills;
- business skills;
- technological and specific occupational skills;
- cognitive skills;
- strategic skills (ability to anticipate and forecast).

The Russian hard skills list was developed taking into account the best foreign practice. For example, the European e-competence Framework, produced by various European IT organizations and commissions, is based upon four descriptors (European e-Competence Framework, 2011). These descriptors reflect various requirements linked to business processes and HR management etc. For example, one descriptor describes five different e-skills connected to 'planning,' 'building,' 'running,' 'enabling,' and 'managing.' As a result, the European e-Competence Framework outlines the principal e-skills.

If we turn to the Occupational Outlook Handbook, provided by the Bureau of Labor Statistics (United States Department of Labor, 2014), we'll find out that it contains a wide range of data on 700 occupations, including working conditions, skills, education and training, wage and perspectives. It is obvious that elaborated skills for the Russian 'IT' industry have a high level of coincidence with the American skills if we compare, for example, skills for the 'software developer' occupation from the Occupational Outlook

Table 5 Skills Model Structure for Hi-Tech Industry 'Transport and Space Systems'

Soft Skills	Hard Skills*	Special High Skills
Conceptual thinking	Development of technical documentation	Automation system development for modeling of aerospace systems
Self-development	Knowledge of technological characteristics widely applied in innovative technological processes of liquids, materials and covers	Hi-test and high-heat resistant constructive materials development for transport and space systems of high velocity
Result-oriented	Knowledge of basic mathematical and physical models	Protective covers development with necessary characteristics
Planning	Knowledge of computer simulation	New composite materials application and their characteristics management for the future transport and space systems
Team-building	Mathematical data processing	Development of unified space platforms for space vehicles
Organization skills	Knowledge of legislation and standards	Complex decisions development aimed at vehicles becoming less noticeable under various waves diapasons'
Knowledge of foreign languages	Knowledge of basic steps in development, registration, agreement and changes of project, design, technological and operational documentation in space sector	Materials development with specific characteristics, their characteristics application
Inter-disciplinary knowledge		Modeling of technological processes for oversized rockets and space vehicles constructions out of composite materials
Knowledge of IT-technologies		
Application of mathematical tools		
Knowledge of basic industry's subjects		

Notes * For critical technology 'Development of aerospace technologies of new generation.'

Handbook. Few distinctions are found and linked to a specific character of the IT industry of the two countries.

Thus, after having elaborated skills models for seven hi-tech industries, VET recommendations were elaborated aimed at skills anticipation and development in Russia. The project results are in high demand by the Ministry of Education and Science of the Russian Federation and aimed at both educational programmes re-design and vocational education updating.

Conclusion

In Russia, innovative economic implementation is impossible without efficient development of hi-tech industries and human resources management.

A labor market which doesn't meet the present-day requirements due to a lack of effective human resources management leads to both modernization and technological renovation slowback.

It is necessary to claim, that research held in Russia and linked to the labor market and VET parameters projection is backed up with the European experience, in particular of Northern Europe where human capital is increasingly developing. The Northern Europe experience is considered to be progressive in terms of a 'lifelong learning' implementation, competence-based approach, and sustainable development. Particularly, in Russia, the combination of qualitative and quantitative projection methods including skills anticipation will lead to flexible steering. This approach will help to bridge the Russian labor market and VET, as well as resolve the challenge of the occupational-qualification structure.

Short-term effect of the presented study implies that skills list shall be implemented in further training and retraining programmes. Also, it can be applied in HR selection. Particularly, the results on the perspective skills for hi-tech industries will help to articulate the requirements for VET taking into account the technological innovations development in hi-tech industries till 2030. Long-term effect of the presented study embraces the changes in Bachelor, Master, and Ph.D. Programmes that corresponds to 6–8 levels of the ISCED (2012).

The results will contribute to the occupational-qualification challenge resolution, graduates' employability guaranties, and vacancies filling. It is highly recommended to include the developed skills lists in both professional and educational standards. As a result, a competence-based approach is considered to be a real tool for sustainable development for society and economic growth on the Russian soil.

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Human Capital as a Challenge for Economics Theory

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The issue of human capital is increasingly attracting the attention of both theorists and practitioners, because at present human resources play a decisive role in the creation of competitive economies and business entities. Human capital and knowledge are becoming key factors in the area of entity competitiveness. Consequently, human capital is currently being analysed in a multi-faceted way in the context of numerous economic theories. The aim of this study is to summarize, analyse, and synthesise the information published on the subject of the theory of human capital and to present new theories and scientific paradigms. The theories presented in this study show that employees constitute the basic capital of modern organizations. One of the contemporary paradigms of modern management is the concept of knowledge-based economy and the paradigm of information technology. This article is based on literature studies and theoretical reflections of the author.

Keywords: human capital, the theory of human capital, intellectual capital, knowledge, information, knowledge management, knowledge-based economy

Introduction

The approach to the issue of skills, education, experience, and human attitude as a form of capital has been evolving over the years, together with the development of economic theories. When analysing the literature on the subject, one can notice two main trends. To summarise the first approach, W. Petty claimed that a human being should be treated as capital, which provides the basis for the estimation of his or her value. The second approach, the pioneers of which were A. Smith, J. S. Mill and J. B. Say, discusses the separation of a human being from his or her capital in the form acquired skills, knowledge and abilities.

Nowadays, the perception of the essence of human capital at a macro level, in relation to an organizational or an individual basis, is complex and diverse, which gives rise to many different concepts. Currently, the rules of human capital development in a modern enterprise are determined by the concept of knowledge management.

The aim of this study is to summarize, analyse, and synthesise the information published on the subject of the theory of human capital and to present new theories and scientific paradigms. Human capital is a constituent of the intellectual capital, thus this study refers to the theory of

intellectual capital and knowledge management. Furthermore, the study emphasizes the increasing role of information in human activities, and the prevalence of new technologies in today's world. In order to portray the complexity of this subject, the study also presents concepts and theories concerning human capital that have been developed so far, as well as the analysis of human capital. The study shows the leading role of the paradigm of knowledge-based management and information technology. Consequently, the author attempts to justify the hypothesis that human capital constitutes the basic source of economic growth in contemporary knowledge-based economies. This article is based on literature studies and theoretical reflections of the author.

Human Capital in Economic Thought

Reference literature on the subject, as well as business practices show a constantly growing interest in the role of knowledge, skills, and qualifications of people in the economic growth and hence the competitiveness of the whole economy and of individual enterprises. The evidence of the evolution of human capital development can be found in many economic trends that have existed over the centuries: at the beginning, in the form of various expressions and unclear views concerning mainly the role of a human being in the economic system of countries, and then in the processes of work. The first mention of this subject dates back to the antiquity – this subject is featured in the views of many thinkers, e.g. Xenophon (430–355 BC), the pioneer in the field of economics, Cato (234–149 BC) and Varro (116–27 BC). They presented a positive attitude to the division of labour and specializations, which are reflected in the quality of products. Apart from the division of labour among masters and slaves, Xenophon considered the division of labour according to professional qualifications, pointing out the correlation between efficiency growth and skills (Stankiewicz, 2007).

The first concepts attributing work with the creation of wealth surfaced in Western Europe at the turn of the 16th and 17th centuries, during the period of growth of economic thought prior to the development of science. One of the first economists in the world who perceived the role of a human being in economic processes was T. Mun (1571–1641), a leading theorist of mercantilism (Spychalski, 1999).

Views of Classical Economists

In the 18th century, as a result of the industrial development, the economic growth of a country was believed to be closely related to the development of production, and consequently, more attention was paid to one of the factors of production, namely labour, which was recognized as the main source of wealth of a country. This, in turn, contributed to a greater interest in the quality of work, and more precisely – qualifications.
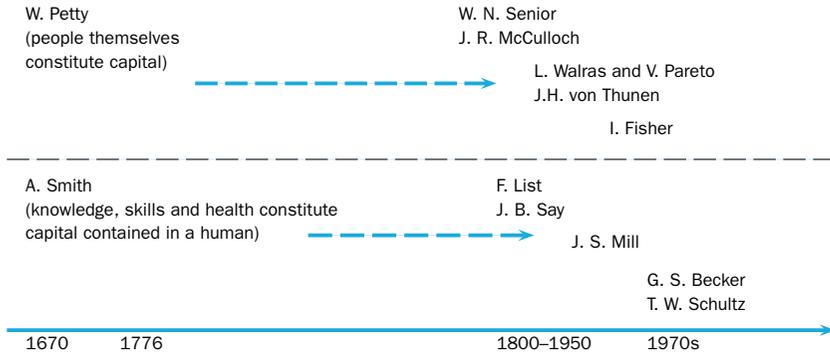
W. Petty
(people themselves
constitute capital)

W. N. Senior
J. R. McCulloch

L. Walras and V. Pareto
J.H. von Thunen

I. Fisher

A. Smith
(knowledge, skills and health constitute
capital contained in a human)

F. List
J. B. Say

J. S. Mill

G. S. Becker
T. W. Schultz

1670   1776   1800–1950   1970s

Figure 1   The Views of Classical Economists on a Human Being in Terms of the Capital
(adapted from Łukasiewicz, 2009)

When analysing the works of economic theorists on the subject of the theory of human capital, one may distinguish two approaches to the analysis of human existence in terms of capital (Figure 1). According to the first approach, an individual is equal to capital, which is reflected in the views of William Petty. Other economists followed him, among others: William Nassau Senior, John Ramsey McCulloch, J. H von Thunen, and mathematicians Leon Walras and Vilfredo Pareto. This view was also shared by many other scholars, who at the turn of the 19th and 20th centuries adopted the assumption that people constitute a special form of capital – they also attempted to prove its value.

The second approach was associated with A. Smith, according to whom the knowledge, skills and health of a human being constitute capital, but people themselves should not be considered as capital. This view was shared by economists such as: F. List, J. S. Mill, and J. B. Say, who were later joined by T. W. Schulz and G. S. Becker. The second approach was strengthened by the development of the concept of human capital in the second half of the 20th century.

Quantitative Approach

W. Petty was one of the first to include a human being in the general category of capital. He is thought to have created one of the main research trends according to which people themselves constitute capital and wealth. Petty attempted to prove that it is not money or things that constitute wealth, but human beings themselves. Capital contained in a human being – including skills and professional qualifications – was, according to Petty, one of the four factors, apart from land, labour, fixed assets, and materials – that create national wealth. Although he still considered land and work as the most essential factors, he stressed that qualifications make work more efficient (Domański, 1993). Petty was involved in population invento-

ries and he perceived human resources as the aspect of work that creates national wealth. He expressed his views in his estimation of the national wealth of England, when he considered 'the value of people' as exceeding the total value of the country's material wealth by 70% (Stankiewicz, 2007). Petty's estimation of the 'value of people' was a convincing evidence that he considered labour and human beings as the main source of national wealth.

Qualitative Approach

A. Smith (1723–1790) had much more developed views on the subject and he presented them in his fundamental work entitled: 'An Inquiry into the Nature and Causes of the Wealth of Nations' published in 1776. He included human skills in the categories of capital. He stressed the similarity between the qualifications of workers and properties of tangible assets.

A. Smith should be considered a pioneer of economic views concerning education. He emphasized the need to spend money on education. Money spent on education should be treated in the same way as, for instance, investment in the purchase of machinery. Smith, contrary to Petty, claimed that a human being and capital contained in a human being in the form of acquired skills should be treated separately. Although skills constitute a part of an individual's wealth, they are, at the same time, an element of the wealth of a given society to which this human being belongs. He assumed that skilled work – the complex one – is more efficient than simple, unskilled work, and costs incurred for education should be reflected in the form of higher remuneration. Therefore, qualifications and the level of difficulty related to the performance of a given task should determine differences in payment. Such differences in remuneration constitute profit on investment (Jarecki, 2007). Furthermore, A. Smith paid attention to the aspect of non-material benefits an individual derived from education. According to A. Smith, one of the ways of improving the skills was the division of labour, namely technical and organizational division. Moreover, he emphasized the risk of dehumanization that may result from monotonous work and performing simple and repeated actions (Czermachowicz & Marek, 2004). In his works, Smith presented issues related to the need for nourishment, periods of rest, occupational diseases, migration etc. in a way similar to contemporary views on these issues in the light of the theory of human capital.

Another great classical economist, D. Ricardo (1772–1823), presented one of the first models of economic growth. This model showed the influence of qualifications on the outcome of work, and presented the differences in the quality of work depending on the educational level of a worker. D. Ricardo, similar to A. Smith, perceived differences in the quality

of work assuming that skilled labour is a multiple of unskilled labour. He stressed the importance and role of knowledge and he saw it as a remedy for the faulty processes of the economic growth of that time. He claimed that countries where ignorance, idleness and barbarism cause deprivation and famine should be given a better government and more education and that would undoubtedly lead to an increase in capital higher than population growth (Ricardo, 1957). Contrary to A. Smith, D. Ricardo perceived education as an individual matter of each human being. He stressed the importance and role of knowledge and he considered it a panacea for faulty processes of economic growth of that time.

The issue of the importance of skills of workers and their influence on manufacturing processes was dealt with by numerous economists, such as: J. B. Say, J. S. Mill, H. Muller, and F. List. In their works, one can see the evolution of views on the economic role of the education of workers and skills acquired by them. When analysing the essence of production work, these economists considered the processes of education and scientific activity as direct factors contributing to an increase in the efficiency and output of human work.

J. B. Say (1767–1832) continued to develop the economic views of A. Smith. They both claimed that only some people have a well-developed talent for performing certain jobs, while they did not notice that each person has certain predispositions that should be identified and then developed through education. However, an important achievement of Say was the concept of separate roles of entrepreneurs, who organize production, and capitalists, who own capital. In this way, he emphasized the special role of the initiative, organizational abilities and other personality traits that are indispensable in business management. He was the first to evaluate human capital on the basis of the value of future income. He wrote that 'a talent of an artist or a lawyer constitutes a part of their assets, but because it cannot be exchanged, it can be evaluated only on the basis of lifetime income derived from this talent' (Say, 1960). He paid attention to the benefits of the division of labour and benefits derived from education. According to J. B. Say, human capital is created by means of different forms of education related to upbringing in a family, school education, work-based learning, and acquisition of skills. He considered education in terms of productivity and stressed that the acquired knowledge is the capital of a given person. Therefore, Say emphasized the impossibility of exchanging human capital contained in a human being.

Similar views on the role of education in production processes and economic growth were presented by J. S. Mill (1806–1873). He distinguished two constituents of human capital: human resources and skills, and classified them as national wealth and individual resources of a human being.

Therefore, although he separated human personality from his or her economic value, he believed that the value of a worker should be determined in terms of his or her knowledge and skills. J. S. Mill paid special attention to strong competition on the labour market. People with low qualifications have to settle for less stable and lower paid jobs in worse conditions, because workers with higher qualifications are more desired on the labour market. J. S. Mill differentiated the qualifications of workers and claimed that they depend on the duration and costs of education. He stressed that the remuneration of workers with higher qualifications should be higher. Similarly to D. Ricardo, J. S. Mill understood the social and economic benefits resulting from education, for example: a decrease in poverty, an increase in the level of intelligence, more opportunities to learn new types of work, better understanding of employers, a higher level of morality, honesty, culture, general knowledge, etc. Education, according to Mill, contributes to lower crime rate and, consequently, lower expenses incurred by the state on the judiciary and the police (Mill, 1965).

A. Muller (1779–1829), who criticised the classical economists, was strongly against describing national wealth only in terms of material objects. He believed that the idea of distinguishing only three factors contributing to economic growth, i.e. land, capital and labour, is incomplete and he added the fourth factor of 'spiritual capital,' which included, among others, knowledge, education, talents, culture, etc. This capital was supposed to include only exemplary goods of society and determine all economic growth, to become the most important factor in production. Therefore, work aimed at increasing the spiritual values has productive character and a person who works in the field of music, science or education is a production worker in the same way as a worker producing material goods in a factory (Spychalski, 1999). In conclusion, Muller believed that spiritual capital should be treated, on one hand, as the basic constituent of national wealth, and on the other hand, as a factor that influences the growth of national wealth.

Another pioneer who shaped the theory of human capital was F. List (1789–1846), a founder of the German school, who criticized the theory presented by A. Smith. In his works, he was against treating white-collar workers as non-production workers. Therefore, he emphasized the role of human knowledge and skills in the processes of economic growth and he regarded human knowledge and skills as the most important constituents of national productive forces. Such approach makes F. List one of the main pioneers of the theory of human capital (Miś, 2007).

Extensive studies on the role of the qualifications of labour force and knowledge in economic processes were also written by K. Marx (1818–1883). He stressed that the outcome of work depends on the qualifications and skills of workers. According to Marx, skilled labour is a multiple of

unskilled labour, because the acquisition of skills itself requires additional outlays. He believed that the material wealth of a society is determined by the productive forces that are developed by qualifications. The productive force is a combination of a human being and his or her productive capacity with means of labour. The main productive force is, therefore, a human being who possesses objectified knowledge. The basis for such reasoning was the determination of the concept of labour force by Marx, which was identified as the ability to work, which was viewed as the entirety of physical and spiritual abilities of a human body and personality, which are used by people in the process of production of any use-values (Marx, 1970). Furthermore, he recognized the need to incur expenses on the appropriate development of such skills. He created the concept of a constant, dynamic development of productive forces and suggested the need for changes in production methods in the conditions of the ever-changing, artificial natural environment.

K. Marx divided labour into two categories: productive and unproductive labour, and introduced the concept of a productive worker. According to Marx, productive labour aims at adapting the natural resources to human needs; it is performed within the material production and is equal to the labour of a worker. However, any work performed within the non-material production (education, culture, health care, science) constitutes unproductive labour. The concept of a productive worker was used for a worker who creates surplus value for a capitalist and thus increases the value of capital. The terms used by Marx for the elements of productive forces, the categories of the labour force and the general approval of human labour are connected to some extent with the contemporary understanding of human capital categories. Nevertheless, due to the discrepancies in the understanding of the basis of their value, they cannot be viewed as equal. Human capital performs work, whereas labour force, according to Marx, constitutes the source of work.

Views of Neoclassical Economists

Also other economists, such as A. Marshall, T. Veblen, and J. Keynes raised in their works the issue of the treatment of people in the context of capital; they pronounced their opinions on the subject of education and its role in the creation of national wealth. They claimed that the education of a society should be the highest priority of the state and not an individual matter of a human being. The cost of education should be incurred by the state and regarded as an investment in the economic growth (Wronowska, 2005).

A. Marshall (1842–1924) was a neoclassical economist who dealt with the issue of human capital to the greatest extent, including its development through investments in, among others, education. This author was

the first economist who differentiated between general education and specialised education. He defined general education as the knowledge and common sense required perform in all professions, while he defined specialised skills as the ability to deal with materials and processes in a given profession. He supported the idea that education is an investment that will bring benefits in the future in the form of higher remuneration. He compared investments in human capital to investments in material capital, paying special attention to investments in the education and teaching of children. The issues related to the origins of the 'human capital' concept were further developed in his dissertations by increasing the number of production factors. He added the factor of entrepreneurship and organization to the traditional division of labour, capital, and land. He stressed that profits of an enterprise are determined by the division of production tasks, technological progress, and the skills of managerial staff, whereas production costs also include payments related to traditional factors. He believed that an entrepreneur, who organizes production in a certain way, is the basic element of business practices and economic theory. He believed that the elimination of poverty is the main task of the economy. Marshall's considerations included numerous ideas that inspired future scholars dealing with human capital. Although he did not attempt to determine the capital value of a human being, he tried to prove that capital invested in people is the most effective of all (Miś, 2007).

In America, the problem of the role of knowledge in socio-economic life was raised by T. Veblen (1857–1929), who is considered a pioneer of institutionalism. Veblen referred to permanent behavioural traits as instincts. He claimed that human actions are driven by three main instincts: parental bent with regard to the closest family and members of the family community, workmanship, and idle curiosity pushing a man to learn about the surrounding world (Stankiewicz, 2007). Parental bent implies taking care of one's family, class and nation. Economy is influenced mainly by the instinct of workmanship, which makes people produce goods of high quality and strive for high efficiency and effective organization of work, which is reflected in the production output. Disinterested, idle curiosity makes people ask questions and search for the explanation of phenomena of the surrounding world, which constitutes the basis for the development of scientific knowledge and technology.

The views presented above were shared by the originator of the theoretical basis of state interventionism – J. M. Keynes (1883–1946). His views were presented in two ways: the first one – in the form of quantitative economy that was reflected in the models of economic growth, and the second one – as the theory of state interventionism in the economy. In terms of economic models, he frequently took resources of the labour force as vari-

ables, that is its: quantity, skills, the current level of technology, knowledge, and science (Wojtyna, 2000).

The issue of the labour force, its education and qualifications, did not receive its due share of attention until the Second World War. It was not until the middle of the 20th century that a sharp technological growth forced an increase in the level of qualifications of the labour force, while education and acquisition of knowledge became one of the basic factors contributing to the economic growth of countries. The issue of qualifications and knowledge affiliated with a broadly understood labour market was so popular among the economists at that time that a new scientific discipline was created – 'the economics of education.' It dealt with regularities and relations between outlays and effects of teaching, which made it possible to determine the influence of qualifications on the economic growth.

During the transition of modern economic thought into contemporary economic thought, the group of economists that dealt with the issue in question included three important authors: I. Fisher, J. A. Schumpeter, and S. G. Strumilin.

I. Fisher (1867–1947), the co-originator of the quantity theory of money, claimed that investments in professional education of a worker increase his or her future income. In the light of the foregoing, a production factor called labour can be regarded as capital generating a certain percentage of profits. This percentage rate should constitute the basis for discounting the income stream in order to make it equal with the costs of education. Fisher came to the conclusion that by means of the percentage understood in this way, one can measure the price that individuals are willing to pay in order to acquire income on an on-going basis, not in the future. The view presented above does not clearly indicate, however, whether Fisher considers as capital only the acquired skills, knowledge, and abilities added to people or people themselves with their qualifications, knowledge, and innovativeness, as well as the ability to use them. He presented these issues in a way, which invites different interpretations (Domański, 1993).

The issue of the role of knowledge in the processes of economic growth was also raised by J. A. Schumpeter (1883–1950), who is regarded as one of the most prominent intellectuals of the 20th century. He emphasized the influence of human enterprise on economic growth; furthermore, he paid attention to the creation of such work conditions for the workers that would be conducive to the development and manifestation of their enterprising qualities and this, in turn, would provide the company with committed, efficient, and innovative human capital (Czermachowicz & Marek, 2004, p. 23). Schumpeter did not define the concept of capital, but he thought that entrepreneurs play a key role in making economic growth highly dynamic. In his dissertations, he presented his vision of a society where inventions and

innovations, and technological progress, constitute a driving force for any progress.

The first attempts to perform an economic evaluation of the effectiveness of education were made by S. G. Strumilin (1877–1974), a Soviet economist of Polish descent. The starting point for this analysis of the effectiveness of expenses incurred on education was the comparison of remuneration and work efficiency of selected workers and clerks with the level of their education. The results of this research proved that obtaining the primary education by illiterate workers increased their work efficiency on average by 30 percent, whereas training unskilled workers in preparation for a profession increased their production capacity on average by 12–16 percent annually. Strumilin claimed that one year of learning increased qualifications 2.5 times more than one year of professional practice. On this basis, he proposed an increase in state funding to develop the primary education system, which would lead to an over-proportional increase in national income (Miś, 2007). The basic mistake of his analyses was the assumption that only qualifications have an influence on the level of work efficiency. He failed to take into consideration the impact of technological progress on work efficiency. The second flaw in his reasoning was not taking into account the source of financing for the education system and the development of professional qualifications, which are expenses incurred on educating individual persons. Nevertheless, this does not belittle the importance of his research, which constituted the basis for numerous future works devoted to the economic effectiveness of education.

Creation and Development of the Theory of Human Capital

The foundations of the theory of human capital were being created for many centuries by representatives of various economic theories in many countries. It was not until the 1960s that the theory of human capital was created. The foundations of this theory were built by: Theodore William Schulz, Gary Becker, and Jacob Mincer. The originators of the theory of human capital referred to the theory of capital created by I. Fisher, who claimed that all resources can be regarded as capital if they are used by a company. According to this view, the category of capital can also include human beings, and their skills, knowledge, and vital forces can be regarded as resources that constitute the source of services in the form of future satisfaction or salaries (Kunasz, 2010).

T. W. Schultz believed that human capital consists of human knowledge and skills, and he stressed that individuals make conscious investments in themselves in order to increase the acquired income and own welfare. In this way, he focused his attention on the socio-economic results of such investments and proposed a theory that faster growth of national income

in comparison with the expenditure of work, land and tangible assets has its source in the increased educational level of workers. T. W. Schultz believed that each individual is equipped with specific knowledge, abilities, and qualifications that may be regarded as factors of production. Certain aspects of motivation, behaviour, physical qualities, and mental health of individuals may also be perceived as human capital. Furthermore, apart from the broadly understood education, he identified other activities that may improve the quality of human capital, among others, health care and migration of workers within the labour market. According to the author, the value of human capital is decreased if it is not used in a proper way – such situation can be caused by unemployment or low wages (Schultz, 1963).

Another economist, G. S. Becker, analysed the issue of investment in education and related costs and effects with reference to unemployment. He understood investment in human capital as the allocation of resources that influences real future income. In the basic types of investments he included the expenses on health care that increase longevity and improve health, education within the education system, training for a profession and traineeship in companies, expenses related to human migration in order to adapt to new employment conditions, expenses on obtaining career information, expenses on scientific research (Becker, 1975).

Roughly at the same time, an American economist of Polish descent, Jacob Mincer (1922–2006), started working on a similar subject. Mincer introduced the concept of investment in human capital understood as the process of learning, first at school and later through work experience. He understood human capital as the sum of knowledge acquired at school and then at work. That is why the value of human capital can be determined by the duration of formal education and age, which reflects the experience of individuals (Mincer, 1974).

The influence of education and learning on the value of human capital and the amount of remuneration was one of the basic issues raised during the creation of human capital models. Education was regarded as investment by J. R. Walsh. He examined school education of a certain type, namely that preparing for a professional career, and he paid attention to the correlation between the duration of learning, the level of exclusivity of a given profession, and the probability that the decision to continue education will be based on the possibility that it will bring profits that will exceed costs incurred on education (Spychalski, 1999).

It is also worth paying attention to the works of other economists, which were written in the 1960s. For instance, an American economist B. A. Weisbrod claimed that investment in people makes it possible to take advantage of the technological progress and enables further progress. Investing in both physical capital and human capital, which includes, according to

Weisbrod, Schults and Becker, health and education, contributes to the economic growth (Weisbrod, 1962).

The theory of human capital is one of the basic theories explaining the phenomena and processes related to the use of labour resources in the economy. It is based on a neoclassical paradigm, but, at the same time, it changes its premises. The foundations of this theory were created in the 1960s, and then the theory was developed and prepared in its entirety by G. Becker in 1990. He understood human capital as 'knowledge' contained in people, and a higher level of human capital accelerates its further accumulation. He placed the investment in human capital in the middle of his model of economic growth (Becker, 1992).

The theory of human capital was criticized, in particular the views of T. W. Schultz, who proposed education only to be treated in the context of investments. This author omitted many other important reasons that motivate individuals to professional self-development related to: the feeling of pleasure and satisfaction connected with the acquisition of knowledge, accomplishment of goals and development of personality. Furthermore, one should remember that at the time of making a decision to study, employees never have full information concerning the situation of the labour market, so they may not have any material benefits from their education in the future and this is contrary to the assumptions of the concept of human capital. Nowadays, also the view of G. B. Becker is deemed to be contrary to the human nature, as according to his concept, human behaviour is always aimed at the maximization of effects and human beings can always define their preferences, which do not change with time.

Despite the criticism, the theory of human capital is thought to be important, especially due to its new approach to employees and their work, as well as rules of the operation of the labour market. It is worth noting that the concept of human capital is used at least on three levels: at a macro, micro (organization) and personal level.

While examining human capital at a macro level, one may assume that it is the stock of knowledge, skills, health, and vital energy in a given society/nation. Human capital constitutes a resource, which is a source of future satisfaction and income, or, on the whole, services of certain value (Domański, 1998). This approach emphasizes that human capital exerts great influence on the innovation of economy and society, and hence the ability to adopt and implement global accomplishments related to science and world-view. Furthermore, it influences institutional transformations, is conducive to the propagation and dissemination of modern patterns of consumption, and shapes modern technological, organizational, information, social and other types of infrastructure (Makowski, 2002). Therefore, investments in human capital have positive effects on both individuals and

society as a whole. Benefits can be seen as an increased output and economic growth, but they may also be connected to non-economic benefits, such as higher social cohesion, lower crime rate, better condition of health of society, etc.

On an organizational level, human capital is closely associated with the category of intellectual capital, although different authors interpret it in many ways. Intellectual capital denotes non-material resources and a transfer of knowledge available within an organization (Armstrong & Baron, 2008). The category of intellectual capital includes human capital, social capital, and organizational capital. Human capital includes knowledge, skills, opportunities, and the potential for development and innovations represented by the employees of a given company. By investing in themselves, people can increase the number of choices available to them. Social capital concerns the structures, networks of interpersonal contacts, and procedures that allow the employees to acquire and develop intellectual capital in the form of knowledge gained by interpersonal relations. The concept of organizational capital includes institutional knowledge that constitutes the property of particular organizations and is contained in databases, procedures, regulations, etc. (Edvison & Malone, 1997).

When analysing the human capital of an organization one should also pay attention to its two aspects: its quality and quantity. From a qualitative, structural point of view, human capital denotes the system of mutually related elements that determine the uniqueness and exceptional character of human resources in a given organization. This approach emphasizes that the condition of the human capital of a company is determined not only by adequate qualifications, but also by personality traits, openness to change, creativity and enterprise of employees. Because the concept of human capital is based on the assumption that a human being learns throughout his or her entire life, members of an organization should be regarded as resources in which one can and should invest. A quantitative, financial perspective reflects the aspect of costs related to the development of human capital and hence the capitalization of expenditures and efficiency (Tyrańska & Walas-Trębacz, 2005). In this sense, human capital is closely related to the accumulated value of investments in employee training, competencies and their future; it is focused on the value of what a given person can produce (the value of a person in the economic sense). Therefore, efficient management of human resources in an organization requires the determination of measures of human capital. The most frequent measures include the record of absences from work, the record of accidents at work, the cost of training and educational projects, the staff turnover rate, personnel costs and results of customer satisfaction surveys (Czerna-Grygiel, 2008, p. 246).

The third level, at which one can examine human capital, relates to indi-

vidual human beings. At an individual level, the constituents of human capital are defined in different ways, because the literature does not reflect a single, common stance on the subject. M. Blaug mentions six components, which form human capital of an individual: formal education, experience in a given profession, job seeking, reconstruction of information, migration, and health condition (Blaug, 1976). H. Król offers another idea and claims that individual human capital is the sum of specific qualities and traits embodied in a human being (knowledge, skills, abilities, health, motivation), which have a certain value and constitute the source of future income (Król, 2006).

Despite the fact there are no clear-cut and precise definitions, the author assumes that human capital comprises competencies of workers (including skills and know-how), attitudes of employees (motivation, leadership skills of managers) and the intellectual abilities of people (innovation, enterprise, capability of adaptation and learning).

When analysing the concept of human capital at all three levels, the importance of an effective education system and the acquisition of skills by means of formal education and experience is emphasized. Therefore, the development of human capital is regarded as an important investment in the development of society that contributes to an increase in the competitiveness of the economy. Nowadays, the rules of human capital development in a modern enterprise are determined by the concept of knowledge management. It was A. Marshall, one of the originators of the neoclassical theory of economy, who observed that: 'capital consists in knowledge and organization to a large extent' (Stankiewicz, 2007). Within the management science, knowledge management is a new trend that is connected with the theory of human capital.

Human Capital as a Strategic Resource in the Knowledge-Based Economy

From the perspective of the theory of economic growth, the concept of knowledge is extremely extensive. It comprises a continuous set of different types of knowledge, from highly abstract knowledge in the form of theorems, theories, etc., to directly useful knowledge in the form, for instance, skills related to the operation of a telephone. Between these two extremes, there is knowledge somewhere in-between, for instance the production technology of telephones, ideas for a new film screenplay, new formula of a medication, etc.

J. Liebowitz and T. Beckman propose another type of knowledge – constructive knowledge. Their classification of knowledge is based on two criteria related to the possibility of accessing and storing knowledge. Available knowledge is stored in computer systems. Tacit knowledge is in a human

brain and access to it is particularly difficult. Constructive knowledge is also located in a human brain and documents, and it is possible to access to it by means of questions and discussions. In this case, an important role is played by an informal communication system, because it gives an opportunity to share this knowledge (Liebowitz & Beckman, 1998).

The importance of this knowledge results from the contemporary paradigm of economic development based on the following three elements: globalization, competitiveness, innovation. Knowledge constitutes a source of innovations and determines the intensity of their use in practice by means of appropriate information technologies. Furthermore, it has a significant impact on the competitive advantage. Consequently, the concept of knowledge-based economy has been created with reference to modern economy, which is sometimes referred to as the knowledge-driven economy in order to stress the role of knowledge (Grzelak & Olechnicka, 2003).

The creation of KBE requires the recognition of knowledge as a separate factor of production. Both the creation of knowledge itself (within the R&D sector) and its diffusion by means of technologically advanced added value within GDP requires the redefinition of the conventional human labour. It means the creation of a new category of human capital; this capital is indispensable for the creation of a new quality in the R&D sector and in other branches of modern economies.

Human capital is a specific category and has special attributes. Firstly, ownership rights with regard to human capital are different than ownership rights with regard to physical capital. It results from the essence of human capital that is embodied in a particular human being, who has the right to liberty. Consequently, the so-called knowledge workers have the right to make decisions about their career and choose types of investments to match their individual talents, energy and time. Because human capital constitutes an integral part of a human being – a worker, it does not belong to a company, but it is only lent by a worker. It is the only factor of production that can increase its value and contribute to a decrease or an increase in the value of other types of capital of an enterprise. According to this view, it is the most important and, at the same time, the least durable category of intellectual capital (Table 1).

Another characteristic of human capital is connected to the idea of treating it as an asset and not only a cost. It results from the efficiency potential of human capital, which implies profitability of an investment in this kind of capital. An investment in human capital also incurs some costs, such as: financial expenses (direct and indirect expenses in the form of costs of alternative financial capital used for investments in human capital), psychological costs (related to difficulties in the assimilation of knowledge), social costs (related to costs of alternative time invested in human capital).

Table 1 Constituents of Intellectual Capital

Human capital	Organizational capital	Market capital	Innovation capital
Competencies	Processes	Relationship	Process
Attitudes	Infrastructure	with clients	improvement
Leadership and	Culture	Relationship	Products and
development	Management	with suppliers	services
		Market skills	Technologies
		Other relationships	

Notes Adapted from Kasiewicz, Rogowski, and Kicińska (2006).

The results of investment in human capital are qualifications – a new quality of a given person, which allows him or her to create an added value of a new quality. An employer investing in human capital obtains an increase in the level of innovation and efficiency. Furthermore, human capital is the source of competitive advantage, if the competition is not able to substitute or imitate human resources representing human capital of a certain quality. The competencies of human capital have to be efficient from the point of view of GDP, which determines the economic profitability of investment in human capital. Nevertheless, it is difficult to predict which areas of human capital will be profitable, for example, in 20 years' time. However, one may generally assume that an increase in the quality of human capital leads to an increase in intelligence, which is viewed as the ability to communicate with the surroundings and adapt to problems that arise. Therefore, investments in human capital decrease the scope and level of risk and may improve the perception of safety the individuals possess.

One should stress that human capital is a dynamic asset that is subject to different conditions related to, among others, the loss of value due to accidents (death, qualification for disability pension at a young age) and depreciation (influence of health on the quality of human capital).

Furthermore, the implementation and activity of human capital occur in the complex network of social relations. It could be said that economic growth based on human capital depends on the level of social capital (Dokurno, 2009).

It is worth mentioning that human capital is subject to the process of depreciation, because some skills deteriorate with age and disappear completely when not used. Therefore, the category of human capital cannot be regarded as a homogeneous and constant set of skills and competencies (Giegiel & Wildowicz, 2007).

Research concerning the creation of value added to an organization by human capital showed that companies, which manage human capital in an effective way, can overtake their competition by up to 43 percent (assuming the market value as the reference point rather than the book value). Nowadays, the value of an enterprise is determined mainly by the human factor, so the planning of personnel professional development and investing in the

development of certain skills of employees should be of overriding importance (Jurczak, 2006). According to this view, human capital management in organizations takes advantage of many innovative concepts of management, such as knowledge management, skills management or intellectual capital management.

Knowledge Management

Works of futurists and authorities in the field of management have become the source of inspiration and interest in the issue of knowledge. Peter Drucker, in his works written in the 1980s and 1990s (Drucker, 1993), popularized such concepts as the knowledge-based economy, knowledge-based leadership, and knowledge as the most important and unique resource. A similar role can be ascribed to works of Alvin Toffler (1985) and John Naisbitt (1997).

The concept of knowledge management is thought to have begun in 1987, whereas its development falls to the second half of the 1990s when the concept was popularized by Ikujiro Nonaka from Japan, who in 1995 published a book together with Hirotaka Takeuchi entitled *The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation.* Views on the subject of the meaning and importance of human capital as the capital of tacit knowledge, and on the ways of solving problems related to its effective use in a company have been evolving. There have been many models and approaches to knowledge management, but three of them can be recognized as the leading trends in this field: Japanese model, resource model and process model.

The Japanese model of knowledge management is the result of the research conducted by two Japanese men mentioned above, Nonaka and Takeuchi, who created the model of 'the spiral of knowledge' at the beginning of the 1990s, which was later developed into the systemic approach to knowledge management (Nonaka & Takeuchi, 1995). The starting point for the creation of the Japanese model of knowledge management was the distinction between two types of knowledge – tacit (implicit) knowledge and explicit knowledge, assuming that tacit knowledge is more important and hence it should be used by an entire organization. In order to do that, it is necessary to use suitable information technologies. According to the Japanese model, the transformation of tacit knowledge, which is unattainable, into knowledge that can be perceived and acquired by other members of an organization constitutes the process of knowledge creation – in this way knowledge in organizations is created. Their approach is of systemic nature, but in the subject literature it is often simplified and reduced to the process of knowledge creation.

The resource model of management was developed in the first half of the 1990s as a result of research on the innovation of industrial companies.

It was based mainly on the concepts of D. Leonard-Barton from Harvard Business School and her model of the 'wellsprings of knowledge' based on the concept of key competencies and skills (Leonard-Barton, 1995). The resource model of knowledge management is based on the resource approach that has been developed for a long time within strategic management. According to this approach, knowledge is the most important resource of companies. A company itself or its surroundings can constitute a source of knowledge. The resource model of knowledge management concerns the present and future time, as well as internal affairs of the company and its surroundings. This model is not very innovative, but it refers to the traditional way of thinking developed on the basis of strategic management.

The process model, contrary to the two models presented above, is based on solutions and practical experience of large consulting companies. Davenport and Prusak (2000, pp. 36–45), Probst, Raub, and Romhardt (2002), as well as Bukowitz and Wilson (2000) have contributed greatly to the development of the concept of the process model, because they made a synthesis of the existing practical experience. According to the process model, knowledge management consists of all processes than enable creation, dissemination, and exploitation of knowledge for the purposes of an organization.

The concept of knowledge management is related to the concept of intellectual capital. Intellectual capital is defined in many ways. It can be understood as all assets derived from the knowledge of a company, as the result of the process of knowledge transformation, or as knowledge itself.

Edvisson defines intellectual capital in a similar way – it consists of knowledge, practical experience, technologies, and good relationships with clients of a company (Edvinson and Malone, 1997). Karl-Erik Sveiby (1997) thinks that the main difference between intellectual capital and knowledge management is the fact that intellectual capital is a static concept, whereas knowledge management is dynamic and constitutes the art of creation of wealth out of intangible assets of an organization.

Nowadays, both concepts knowledge management and intellectual capital have many advocates and popularisers. While knowledge management is focused on the management of activities related to the creation, transfer and exploitation of knowledge, the management of intellectual capital is focused on the registration, visualization, measurement and development of intellectual resources from the point of view of a company's strategy.

Paradigm of Information Technology

Knowledge management is not possible without certain changes introduced to information and communication systems. The development of computer networks that enable their users to access data, have a conversation or

discussion, as well as special databases and expert systems constitute an integral part of knowledge management in a company. For many years it has been considered to be closely connected with the development of modern computer tools and their common application.

Modern society is described as the information society. It is thought that information, which constitutes the basis of an activity, plays a key role in this society. This society is characterized by socio-economic relations in which particular entities and individuals have free access to a lot of information and tools used for its analysis. Organizations are able and, at the same time, possess opportunities enabling them to share knowledge, which, consequently, should lead to the creation of values that are conducive to development (Hales, 2008).

New paradigms of management pronounced by Drucker in 1999 highlight a very important role professional computer tools have in management (Drucker, 1999). The paradigm of information technology constitutes the basis of the information society. According to the new paradigm, management has to be focused on the psychological aspect, commitment of employees, subjectivity, trust, participation, and team work. Furthermore, technology should use cheap information inputs that result from the progress in the field of microelectronics and communication technology. This paradigm is based on the rules related to the generation of information borrowed from natural sciences, which also appear in other fields of technology (Castells, 2007). M. Castells mentions five key characteristics of the paradigm of information technology. Information, which constitutes the basis of the technology, plays a key role in the paradigm. The second characteristic is linked to the ever-present influence of new technologies, because information constitutes an integral part of each area of human activity. The third characteristic of the paradigm constitutes a network logic of each area (system, set of relations), where new information technologies are used. Because of the complexity of the network, it can operate in an effective way only as a complete unit consisting of many different elements. Owing to information technology, it is possible to use networks in all kinds of processes and organizations. The development of the network grants more benefits to its users due to a higher number of connections. Flexibility is another characteristic of the paradigm in question. The reversibility of processes, their modifications and sometimes even a radical change in the configuration of systems are the answer to constant changes in the field. The last and fifth characteristic is the connection of particular technologies into a highly integrated system. Separate technological procedures that have existed until now are becoming more and more similar to each other. Particular specializations within a single industry are becoming interdependent and integrated with one another. It is the consequence of the complexity of technological sys-
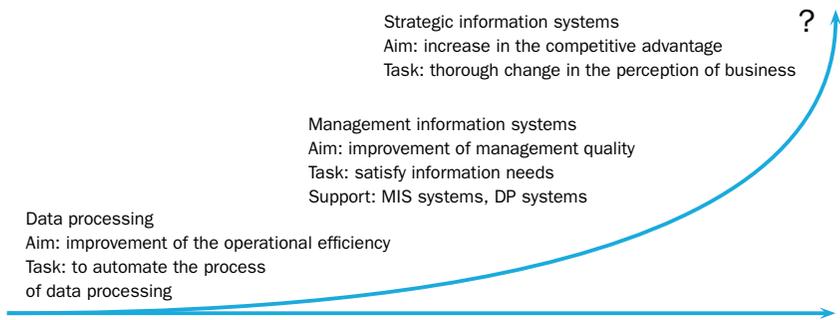
Strategic information systems
Aim: increase in the competitive advantage
Task: thorough change in the perception of business

?

Management information systems
Aim: improvement of management quality
Task: satisfy information needs
Support: MIS systems, DP systems

Data processing
Aim: improvement of the operational efficiency
Task: to automate the process
of data processing

Figure 2   The Model of Evolution of Information System (adapted from Curry, Flett,
& Hollingsworth, 2009)

tems in which one element does not operate properly without the remaining elements (Castells, 2007).

An increase in the importance of knowledge leads to the 'dematerialisation' of processes and intellectualisation of business entities. It requires new solutions in the field of technology that will enable the creation, exploitation, and diffusion of knowledge. Solutions that have been used until now make it impossible to use the results of the dynamic growth of science, technology and management, as well as certain skills and competencies in an effective way (Grudzewski & Hejduk, 2008). The evolution of the information system to date is shown in Figure 2.

Nowadays, we are still at an early stage in the development of knowledge-based organizations, in which the role of information systems consists of:

1. Improvement and coordination of internal processes
2. Connecting organizations with suppliers and clients
3. Manufacturing of products preferred by customers
4. Providing managers with data and information

Figure 2 shows that organizations still have a lot of work to do in order to be highly flexible, act quickly and gain a competitive edge based on the creation of knowledge. We will have to wait some time until solutions developed by scholars and theorists will be supported by practitioners and until managers and workers will be ready to change the economic reality.

Conclusions

The issue of the place of a homo economicus in economic processes is still present and it has been established during the historical development of economic thought. Nevertheless, in classical works it was only mentioned during the presentations of views related to leading trends. In the 1960s, some revolutionary changes occurred in this area – the perspective

has changed. Thanks to the works by Becker, Schultz and Mincer, activities regarded until that time as consumption and the source of costs (e.g. personnel costs) started to be seen in a new light, because they examined the issue of benefits and thus profitability of these activities, which have been regarded as investment in human capital since then. These authors were the pioneers of the modern concept of human capital.

The theory of human capital is still being developed in social sciences. The development and dissemination of the theory of human capital had a considerable influence on many other fields, especially in the area of economics, but also management – such as the theory of intellectual capital and knowledge management.

Nowadays, management is based on knowledge that is a new category among the factors of production. Human capital is thought to be of key importance in the process of knowledge accumulation. In this case, this variable is not limited to manual labour as was the case in the classical economy. Human capital includes knowledge, skills, opportunities and the potential for development and innovations represented by employees of a given organization. By investing in themselves, people can increase the number of available choices. Skills are influenced by genetic factors, but they also depend on the process of knowledge accumulation in the process of a broadly understood education of an individual. In the time of knowledge-based economy, human capital is becoming the main catalyst for development at a macro level, but also at a micro level, and, at the same time, one should not forget about the individual level of human capital.

In conclusion, the evolution in the approach to human capital, from human capital management to the management of tacit (implicit) knowledge resources in organizations results from changes in the understanding of the role of a human being and his/her work in an organization – starting from when he/she was first treated equally to other factors of production, until now, when he/she is considered to have a decisive role in the process of work, and who is capable of developing his/her individual potential, skills, qualifications and knowledge by performing tasks in a responsible and independent way.

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A Study on the Sense of E-Learning Communities: The European Qualification and Certification Association

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During the last years, scientists and practitioners have attempted to define and implement the feasible models of building and nurturing e-learning communities in order to continuously activate group dynamics, gain highly interactive learning experiences, and significantly enhance their sense of community. The main objective of this paper is to *identify a model for the sense of community behaviour attributes description.* The article's sections are: (1) introduction, (2) description of the conceptual model, (3) brief presentation of ECQA, and (4) research on the sense of e-learning communities of ECQA. In the final sectioner, general conclusions and recommendations for future research are presented.

Keywords: e-learning, communities, sense of community, European Certification and Qualification Association

Introduction

The dynamics of computer-aided systems and associated communities (working, professional, social etc.) have been supported by the evolution of information and communication technologies (ICT). This tendency has the background of human needs for learning and development, for rapid discovery and knowledge acquisition (in synchronous or asynchronous ways of acting, working, and learning, using different resources and sources), and for sharing knowledge and ideas through professional and/or social relations in order to quickly confirm or validate knowledge and information. Human learning behaviour has changed not only due to the technologies available in the field (e.g. blending learning technologies), but also due to the rapid change of social and economic environment (high requirements of professional competencies and expertise are needed by actual employers on the market) (Palloff & Pratt, 1999; Robson, 2013).

Several researches and developments related to e-learning, including the satisfaction of members' needs and how e-learning communities are built

and nurtured, where performed in the recent years. Literature in this field underlines the importance of modern learning technologies and interdisciplinary approaches, including perspectives from the field of computer science, human resources management, and education (Beetham & Sharpe, 2013). Since the 1960's, the researchers and developers of e-learning systems and communities have emphasized the importance of computer assisted instruction in order to gain a more efficient educational system mainly in the tertiary level and vocational education. Furthermore, computer-aided systems and communities have supported the organizational learning itself, when distributed environment opportunities and advantages were used (Goodman & Darr, 1998). This refers not only to the individuals and organizations that use the learning (training) systems (from the beneficiaries perspective), but also to the organizations that develop the systems (from the developers perspective). These actors not only define a community of interest in learning, but also, a social network (Rennie & Morrison, 2012).

In this context, e-learning communities have flourished and are now an important part of the educational system. Increasingly more universities and companies exploit the e-learning systems and support professional e-learning communities' development because of advantages such as: low-cost of human resource development programs, in training/examination programs design, planning, scheduling, and environmentally eco-friendly cyber space for learning, tutoring, and evaluation functionalities, etc. (Palloff & Pratt, 1999).

Learning communities addresses the learning needs of a specific group of people that could be associated with a community of interest regarding particular professional skills development and they explicitly use learning as a way of promoting social cohesion, regeneration, and economic development, which involves all parts of the community (Yarnit, 2000). In addition, learning communities represent any group of people (from the training viewpoint), whether linked by geograpic location or some other shared interest, which addresses the learning needs of its members through proactive partnerships (Kearns, McDonald, Candy, Knights, & Papadopoulos, 1999).

Learning communities are supported by *e-learning* systems. The concept came into use in the mid '90s along with the development of the World Wide Web and increased interest in asynchronous discussion groups (Garrison, 2011). The learning facilities created by the Internet and web technologies, delivered via end-user computing, not only create connectivity between people and information but also opportunities for social learning approaches. Furthermore, e-learning systems were developed in order to support instructions delivered via all electronic media including the Internet, Intranet, Extranet, satellite, broadcasts, audio/video, interactive TV, and CD-ROM (Kahiigi, Ekenberg, & Hansson, 2007). Consequently, these types of instructions

are described as Internet-based hybrid learning or distance learning (or education). E-learning is inclusive of and synonymous with multimedia learning, technology-enhanced learning (TEL), computer-based instruction (CBI), computer-based training (CBT), computer-assisted instruction or computer-aided instruction (CAI), internet-based training (IBT), web-based training (WBT), online education, virtual education, virtual learning environments (VLE) (which are also called learning platforms), m-learning, and digital educational collaboration (http://en.wikipedia.org/wiki/E-learning).

The *e-learning community* concept is a type of individual and/or group education where the medium of instruction is computer based technology or delivery of learning, training or educational programs via electronic means (Garrison, 2011); it is also associated with a group of people that can be assimilated with a community of interest in specific professional skills development. In addition, e-learning community could be seen as a goal of e-learning to create a community of inquiry, independent of time and location through the use of ICT and also as a group of individuals who collaboratively engage in purposeful critical discourse and reflection in order to construct personal meaning and confirm mutual understanding. This perspective reflects a particular educational approach using the possibilities of new and emerging technologies to build collaborative constructivist learning and/or teaching communities (Garrison, 2011).

From the above presented considerations (and the associated terminology analysis of other concepts (Anohina, 2005)) it can be observed that e-learning communities are the next generation of the learning communities (in the process of development and already existing in schools where adequate infrastructure and capacities are developed, implemented, and in intensive use). Methods and tools based on web technologies have recently been developed in order to support not only communication, but also work processes related to e-learning communities.

During the recent years, scientists and practitioners defined and implemented feasible models of building and nurturing e-learning communities by including group dynamics in the learning processes in order to gain highly interactive learning and activate the sense of community (Biggs, 1989), (Nicholson, 2010). It has been demonstrated that the existing information system is not a sufficient condition to create such communities (Robson, 2013; Tsai, Shen, & Chiang, 2013). The intensive use and exploitation of the e-learning system functionalities, together with the associated social media facilities, assure effective and efficient learning experiences (Beetham & Sharpe, 2013; Keengwe et al., 2013).

In this context, the main question behind this developing research is: *What are the behaviour elements or factors that have to be considered to build and nurture an e-learning community (in terms of creating a strong*

sense of community)? The answer is convergent with the research objective *(identify a model for the sense of community behaviour attributes description)* and the article sections display the research approach developed in order to find a solution for the e-learning community creation and to continue the support processes. The article sections are: (1) introduction and brief overview of e-learning community concept definition and evolution; (2) description of the conceptual model used for the research design methodology; (3) brief presentation of the ECQA as the research context; (4) investigation of the sense of e-learning communities' specificity in the case of ECQA community. In the final section, conclusions and recommendations for future research will be presented.

From the 3P Model to the Sense of Community Behaviour: A Conceptual Model

The Presage – Process – Product (3P) model refers to an integrated system of three major phases; each phase begins with a 'P,' hence the so-called – 3P model (Biggs, 1989). The presage phase occurs prior to the learning process. Taking into account the instructional system design, the presage phase relates to the learner's attributes, instructional attributes, and contextual attributes. The process phase facilitates learning by planning and delivering instructional interventions. Furthermore, it highlights the more significant aspects for learning related to collaborative practice (associated to collaborative communities that are created in the e-learning context together with the communication facilities). In the product phase, learning to collaborate is thus vital for professional training and development. In addition, the anticipated products refer to domain-specific knowledge, skills, attitudes, and collaborative competencies of knowledge management. In his approaches to the enhancement of tertiary instruction, Biggs (1989) noted that understanding the learning progress and improvement involves interactive and contextual approaches.

For the purpose of the presented research, the 3P model was integrated in a proposed research methodology. The 3P model description was adapted in order to generate a large overview of the learning community and not only instructional intervention.

Figure 1 describes the proposed 3P model adapted for the proposed research in order to identify (and characterize) the success factors for building, developing and nurturing an e-learning community.

The framework presents an integrated system representing the factors that exists prior to the process of community development, approaches supporting community development, the process of community development, and a myriad of outcomes including a sense of community (similar with the suggested issues described by Brook & Oliver in 2003).

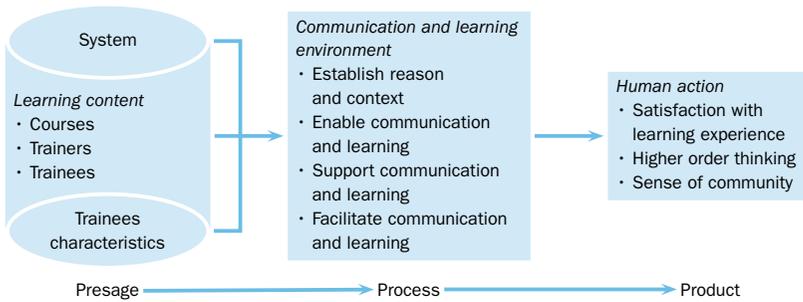Taking into account the final phase specificity and the related socio-

Figure 1   Research Design Model (3P supporting e-learning community development)

psychological and behaviour elements of its description, the references underline that the sense of community should be considered the most valuable aspect in building and nurturing a community (McMillan & Chavis, 1986; Moore & Brooks, 2000; Brook & Oliver, 2003). In this context, research is focused on characterizing a sense of community in a particular case of the e-learning community. In order to do this, the learning community should be characterized by the willingness of its members to share resources, accept and encourage new membership, communicate regularly, solve problems systematically and their preparedness to share success (Moore & Brooks, 2000). These characteristics were considered to be those that support community development (including their peculiarities in the case of e-learning community) and a positivistic view of the community. In addition, a social phenomenon may generate negative influences on the community members. Potentially negative influences include the members' need to conform and subsequent loss of individuality and the potential to hoard knowledge, thus restricting innovation and creativity. In certain cases, the community structure could generate pressure on individuals with nonconforming behaviours that could evolve in the formation of sub-communities (Brook & Oliver, 2003). These behaviour aspects of the community members could affect the community. Furthermore, reference analysis has underlined the inventory of the community sense elements and its attributes, as shown in Table 1.

The characterization of each behavioural element required a deep understanding of the human behaviour in the context of the activities and processes associated with an e-learning community. The *membership* behaviour element is related to: a sense of belonging, personal relatedness, investment of the self, feeling the right to belong, being a part of the community, boundaries including identifying people who belong and people who do not belong, emotional safety (through belonging), feelings of acceptance, willingness to sacrifice for the group, identification with the group, sharing common symbols, and personal investment. The *influence* behaviour element could be explained and understood by the following associated con-

Table 1   Community Sense Elements

Membership	Influence	Fulfilment of needs	Sharing an emotional connection
Boundaries that separate *us* from *them*. Emotional safety. A sense of belonging and identification. A common symbol system.	Individual members matter to the group. The group matters to the individual. Making a difference to the group. Individual members influence the group. The group influences the individual member.	Benefits and rewards. Members meeting their own needs. Members meeting the needs of others. Reinforcement and fulfillment of needs.	Identifying with a shared event, history, time, place or experience. Regular and meaningful contact. Closure to events. Personal investment. Honour. Spiritual connection.

Notes   Adapted from Brook and Oliver (2003).

cepts: mattering, individual members making a difference to the group and the group having an influence on its members, conformity, members having a say in what happens in the group, consensual validation, closeness. The *fulfilment of needs (and their integration)* behaviour element could be described in association with: a feeling that members' needs will be met by the resources of the group and through membership, reinforcement, rewards to members, status of membership, group success, group and individual competence, 'person-environment fit,' serving individual's needs through a sense of belonging, shared values, and the fact that the members are able and willing to help one another and receive help in return. The *sharing an emotional connection* behaviour element refers to: the commitment and belief that the community has (and will continue to share) a history, common places, shared events, time together, and similar experiences, positive experiences among group members, relationships and bonds between members, completed tasks, shared importance of events/tasks, investment (time, money, intimacy), emotional risk between members, honours, rewards and humiliation by the community have an impact on the members, spiritual bonds.

Based on the proposed model (described in Figure 1) and the described aspects of human behaviour that could be associated with the *sense of community* (Table 1), the research focused on identifying and characterizing the relevant aspects that were considered to support the development of successful e-learning communities (building and nurturing). In order to accomplish this objective, a questionnaire was developed and each of the behaviour attributes about the sense of community related to the ECQA members (developers of e-learning communities) was evaluated using a Likert scale (1 – very unimportant, poor perception, disagreement with the affirmation, strong perception and approval of the affirmation; 2 – weak perception; 3 – average perception; 4 – strong perception; 5 – very strong

Table 2 The Questionnaire Overview

Element	Behaviour attributes related to sense of community	Evaluation of the behaviour perception
Membership	1.1 Boundaries that separate us from them 1.2 Emotional safety 1.3 A sense of belonging and identification 1.4 A common symbol system	1 2 3 4 5
Influence	2.1 Individual members matter to the group 2.2 The group matters to the individual 2.3 Making a difference to the group 2.4 Individual members influence the group 2.5 The group influences the individual member	1 2 3 4 5
Fulfilment of needs	3.1 Benefits and rewards 3.2 Members meeting their own needs 3.3 Members meeting the needs of others 3.4 Reinforcement and fulfilment of needs	1 2 3 4 5
Sharing an emotional connection	4.1 Identifying with a shared event, history, time, place or experience 4.2 Regular and meaningful contact 4.3 Closure to events 4.4 Personal investment 4.5 Honour 4.6 Spiritual connection	1 2 3 4 5

perception, very important). Table 2 shows the content of the designed questionnaire.

Based on these considerations, a research scenario was established for identifying the chain of events that lead to e-learning community development (in association with the collaborative knowledge and wisdom base available and well known in the investigated community). The research was developed with the support of the trainers and experts of the ECQA. This community could be defined as a reunion of numerous e-learning communities (that were investigated) that were established in the context of the projects developed with the financial support of the Lifelong Learning Programme (2007–2013). The present research was guided by the contemporary relevant literature, the practices of experienced professionals working in the field, and the experience of trainees (most of them members of the ECQA community).

The Research Context: European Certification and Qualification Association (ECQA)

Past, Present, and Future of the ECQA Organization

The ECQA (www.ecqa.org) idea arose in 1998, while the association was established in 2009 by the members from different European countries that are specialists in the field of education, qualification, training or human re-

sources professional development. It was decided to follow a joint process for the human resources certification that could be useful for the European labour market in order to harmonize the skills and competencies gained for a specific professional qualification. The common interests of these organizations (from more than 24 countries in Europe) was to establish an association (external entity) with the purpose of developing and maintaining a set of *quality criteria and common certification rules,* which would be applied across different European regions/countries. The result of this initiative was a *pool of professions (defined and developed in the context of the Lifelong Learning Programme, LLP),* which resulted in a high level of European comparability via common Europe-wide agreed syllabus and skill set, a European test questions pool and European exam (computer automated by portals) system, a common set of certificate levels, and a common process to issue the certificates.

Today, ECQA is a success story due to the impact achieved with the development and support of many e-learning communities, built in the context of LLP projects, that define specific qualifications (training programs are currently developed and updated by specialists on the Job Role Committees) and certification programs dedicated to specific professions.

ECQA has grown to an association, which had more than 60 members from 25 European countries in 2013. Several thousand certificates have been issued in more than 30 different job roles. The ECQA community of interest grows constantly. The impact worldwide is visible as ECQA is increasingly approached by interested people who want to cooperate in order to obtain certification (as trainees or trainers) in specific professions, to cooperate as representatives of training organizations that want to be recognized and certified as ECQA training or exam providers, and above all to develop new certification and qualification programs (Erasmus+ projects with the support of ECQA members in order to establish new Job Role Committees for specific, required competencies on the European labour market).

The next strategic step for ECQA is aligned with the Europe 2020 strategy related to *inclusive growth* by helping people of all ages to anticipate and manage change through investment in skills and training. In the next period, ECQA policies will have a positive impact on the Europe's employment rate by resulting in more and better jobs; furthermore, ECQA policies will enhance employability with Europe-wide recognized certificates and strengthen these certificates in cooperation with international companies (big multinational, global companies, and small and medium size companies that operate internationally).

Overall, the ECQA strategy has to be *quality focus continued,* as this is the key aspect to the ECQA's success. In order to demonstrate the high quality of the ECQA processes and activities, the audit procedures for the
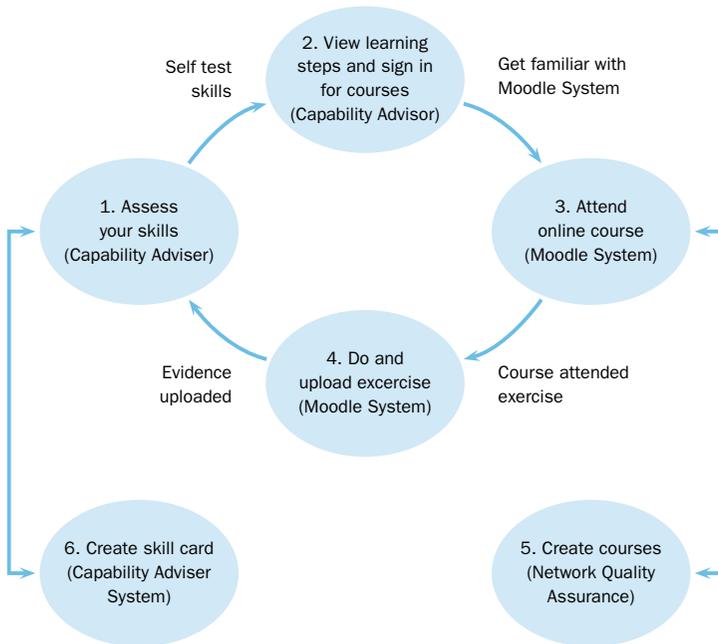
Figure 2 Integrated European Skill Acquisition System: The ECQA IT System

ISO 17024 and ISO 9001 certifications will be initiated in the near future. In the next few years, the ECQA's vision is to become known for its high quality management certificates in Europe, as well as worldwide. This will positively affect the employability of every person having a professional ECQA certificate.

The ECQA Infrastructure for Learning, Examination, and Certification

This section provides an overview of the information technology (IT) system implemented and developed by the ECQA member community in order to support the international partnership projects, training, and certification activities. Based on an e-learning platform developed over years with funding support of the European Commission, the ECQA created an *extensible pool of knowledge for specific professions and competencies.* This pool consists of the following core elements: (1) Self-Assessment Portal, (2) e-Learning Platform with a discussion forum (developed with web-based public domain learning management system Moodle, see www.moodle.com), and (3) online Examination System. Figure 2 provides an overview of the e-learning process supported by the above mentioned systems.

One of the preliminary research objectives was to examine the role of the information technology infrastructure in sustaining the development of

e-learning communities based on the observed qualification, examination, and certification processes (quantitative and qualitative information was available in the case of certain ECQA professions).

An Inventory of ECQA Projects and E-Learning Communities

In order to create a pool of knowledge for specific professions, ECQA established an international partnership with more than 20 European countries. In 2009, 15 European professions were supported by the system; in 2010, the number increased to 20 European professions; and in 2013, already more than 30 European professions were supported by the system (ECQA, 2011). These Job Roles were targeted by the research questionnaire and the involved researchers (members) of each e-learning community were asked to express their perception and evaluate the sense of community.

According to the information available on ADAM platform (http://www.adam-europe.eu/adam/thematicgroup/MMVII), the project and product portal for the Leonardo da Vinci Programme, all of the ECQA projects can be considered as efficient and effective initiatives that help Europe along the path to meeting its 2020 targets for smart, sustainable, and inclusive growth. These projects are fostering new ideas and innovations that are vital as Europe faces up to the challenges of a competitive global environment.

Investigation of the Sense of ECQA E-Learning Communities

The Research Design Scenario and Sample Characterization

In the context of the new policies and the strategy of the European Union related to Erasmus+ initiative and program, the ECQA started to evaluate its potential for future projects, based on a thorough analysis not only of the knowledge and experiences gained, but also of the e-learning communities success factors from the perception of the members (researchers, developers, tutors, and trainers) that were involved in the building and development process of these communities. The research design methodology was based on the conceptual model described previously. The research method used was a marketing survey based on a questionnaire (with close ended questions). The announcement with a link to the research survey (Google Docs Questionnaire) was distributed via e-mail.

The sample considered for the marketing survey consisted of the ECQA members' community, namely team managers and researchers that have built and developed e-learning communities (in the context of some LLP, Leonardo da Vinci projects during 2005–2013). Initially, more than 200 messages (with the questionnaire link) were sent, but only 97 valid questionnaires were processed. The respond rate was 0.485, which is considered as very good. The research sample included 97 subjects of different ECQA partners with different nationalities: Spanish (4), Polish (2), Austrian

Table 3   The Most Important Challenges to Achieve a Successful E-Learning Community

Answer options	1		2		3		4		5	
	#	%	#	%	#	%	#	%	#	%
Education and training	3	6	6	6	18	17	37	36	33	32
Understanding and managing user expectations	6	6	6	6	6	6	29	28	50	49
Data quality	6	3	3	3	18	17	24	23	46	45
Data integration	6	6	6	6	30	29	18	17	37	36
Customer collaboration and support	5	13	13	13	16	16	37	36	26	25
Budget constraints	6	16	16	16	16	16	32	31	27	26
Culture change	3	16	18	17	32	31	22	21	22	21
Time required to implement	2	16	16	16	37	36	16	16	26	25
Tool capability	5	25	27	26	29	28	20	19	16	16

Notes   1 – very unimportant . . . 5 – very important.

(10), Croatian (4), Afghan (2), German (14), Romanian (11), Hungarian (8), Bulgarian (4), Finnish (13), Danish (8), French (8), Greek (6), and Slovenian (3). The age of the participants ranged between 25 and 61.

Research Results and Discussion

Prior to the evaluation of the sense of e-learning community perception (as displayed in Table 1), the most important challenges to achieve successful e-learning community were identified (Table 3 issues were established based on the references and ideas from a focus group with the ECQA Board members; Likert scale was used for the evaluation). The preliminary results indicated the following important challenges: *understanding and managing user expectations (49% very important),* data quality (45% very important), data integration (36% very important), education and training (36% important), customer collaboration and support (36% important), budget constraints (31% important), time required to implement (36% of average importance), culture change (31% of average importance), and tool capability (28% of average importance).

From the preliminary research results it can be concluded that the ECQA members are very attached and devoted to their e-learning community (managing user expectations is the first priority together with data quality and integration related to the training materials, certification process and communication support through the facilities used on the ECQA e-learning platform). Trainees' need satisfaction and their expectations related to training and certification are very important aspects that shape the ECQA researchers, developers, trainers, and/or tutors behaviour inside the e-learning community.
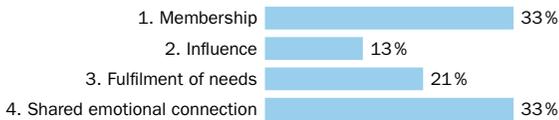
Figure 3 The Global Perception of the Sense of Community Behaviour Elements

The first research question pointed out the global perception of the ECQA members (researchers, developers, trainers, and/or tutors) about the sense of community characterized by the four behaviour elements: membership, influence, fulfilment of needs, and sharing an emotional connection. As shown in Figure 3, the global score displayed an equally high perception of membership and sharing an emotional connection, despite the culture diversity of the investigated sample and of the e-learning communities' members.

At the same time, a relative equilibrium of the behaviour element perception can be observed (two elements are in the same percentage of perception and the other two elements are less perceptible but with a significant percentage). In conclusion, the ECQA members sense their related e-learning communities can be characterized by a behaviour model based on the following four elements: membership (33%), sharing an emotional connection (33%), influence (13%), and fulfilment of needs (21%).

Table 4 shows the research results regarding the ECQA members' sense of community related to each behaviour dimension and attributes that were analysed. This analysis reveals a behaviour profile of the ECQA members related to their developed e-learning communities.

The first element investigated was related to the perception of the membership element. As it can be seen in Table 4, the results of the behaviour attributes are as follows: 1.2 Emotional safety (0.39 strong perception), 1.3 Sense of belonging and identification (0.27 very strong perception), 1.3 Common symbol system (0.39 strong perception); there is a dominant strong and very strong perception of the ECQA members regarding the e-learning communities where they were involved and they are attached with (most of the answers delivered were in the area 4 and 5 of Likert scale). Related to the behaviour dimension, 1.1 Boundaries that separate us from them, the ECQA community members are very attached to the e-learning community activity and do not believe there are any boundaries between them and the users as trainees (weak perception of 0.31).

In the case of the second behaviour element, the perception of influence, the results identified a very strong perception regarding the attribute 2.1 Individual members matter to the group (0.40), a strong perception on 2.2 The group matters to the individual (0.37), a weak perception on 2.3 Making a difference to the group (0.28), an average perception on 2.4 Individual

Table 4 Research Results

Behaviour attributes related to sense of community	Likert scale/#					Total	Frequency				
	1	2	3	4	5		1	2	3	4	5
Membership behaviour element											
1.1 Boundaries that separate us from them	24	30	15	15	13	97	025	0.31	0.15	0.15	0.13
1.2 Emotional safety	3	3	18	38	35	97	0.03	0.03	0.19	0.39	0.36
1.3 A sense of belonging and identification	4	17	18	30	28	97	0.04	0.18	0.19	0.31	0.29
1.4 A common symbol system	4	3	22	38	30	97	0.04	0.03	0.23	0.39	0.31
Influence element											
2.1 Individual members matter to the group	4	5	16	33	38	96	0.04	0.05	0.17	0.34	0.40
2.2 The group matters to the individual	2	3	28	36	28	97	0.02	0.03	0.29	0.37	0.29
2.3 Making a difference to the group	24	27	20	14	12	97	0.25	0.28	0.21	0.14	0.12
2.4 Individual members influence the group	10	21	31	20	15	97	0.10	0.22	0.32	0.21	0.15
2.5 The group influences the individual member	9	19	33	21	14	96	0.09	0.20	0.34	0.22	0.15
Fulfilment of needs behaviour element											
3.1 Benefits and rewards	5	5	29	37	21	97	0.05	0.05	0.30	0.38	0.22
3.2 Members meeting their own needs	0	6	21	40	30	97	0.00	0.06	0.22	0.41	0.31
3.3 Members meeting the needs of others	4	7	18	39	29	97	0.04	0.07	0.19	0.40	0.30
3.4 Reinforcement and fulfilment of needs	2	8	21	42	24	97	0.02	0.08	0.22	0.43	0.25
Sharing an emotional connection behaviour element											
4.1 Identifying with a shared event, history, time, place or experience	3	3	24	41	26	97	0.03	0.03	0.25	0.42	0.27
4.2 Regular and meaningful contact	3	4	27	36	27	97	0.03	0.04	0.28	0.37	0.28
4.3 Closure to events	3	4	20	44	26	97	0.03	0.04	0.21	0.45	0.27
4.4 Personal investment	3	3	23	38	30	97	0.03	0.03	0.24	0.39	0.31
4.5 Honour	1	3	4	52	37	97	0.01	0.03	0.04	0.54	0.38
4.6 Spiritual connection	2	3	26	36	30	97	0.02	0.03	0.27	0.37	0.31

members influence the group (0.32), and on 2.5 The group influences the individual member (0.34). In conclusion, he results of the study identified a weak perception regarding the issue of making differences to the e-learning community as a group; however, the ECQA community members displayed a strong relation and dedication to each trainee in the e-learning community, as well as the whole group.

The evaluation of the fulfilment of the needs behaviour element (the third element of the model) identified a strong perception related to all attributes: 3.1 Benefits and rewards (0.38), 3.2 Members meeting their own needs (0.41), 3.3 Members meeting the needs of others (0.40), and 3.4 Reinforcement and fulfilment of needs (0.43). These results identified a strong relation of the ECQA researchers, developers, trainers, and/or tutors to the trainees that belong to the related e-learning community. All these actors are linked together mainly by their behaviour related to their reciprocity of needs satisfaction. The sense of belonging to the e-learning community can assure the benefits and rewards seen as success in accomplished training and certification tasks together with the related projects success.

Evaluation of the last element, sharing an emotional connection, revealed a strong perception of all behaviour attributes: 4.1 Identifying with a shared event, history, time, place or experience (0.42), 4.2 Regular and meaningful contact (0.37), 4.3 Closure to events (0.45), 4.4 Personal investment (0.39), 4.5 Honour (0.54), 4.6 Spiritual connection (0.37).

The investigated ECQA community members recognized a strong emotional connection with the related e-learning communities based on their share actions (on-line and face-to-face) such as training sessions, certification sessions, project meetings etc. The results revealed that the respondents place a high value on integrity with the most important characteristic of the emotional connection being the *honour* behaviour attribute with a frequency level (0.54).

Conclusions and Recommendations for Future Research

This article discussed a research approach and the results that characterize the behaviour elements and attributes that define the sense of e-learning communities of the ECQA.

An overview including the definitions, approaches, and characteristics of concepts such as: learning community, e-learning, and e-learning community preceded the research objective formulation.

In the second section of the article, the proposed conceptual model used for the research methodology and scenario definition was described. The proposed research model is based on the 3P Presage – Process – Product model (Biggs, 1989; Brook & Oliver, 2003) that was adapted and extended in order to detail those aspects relevant to the methodological investiga-

tion of the e-learning community members' behaviour in the last phase. Furthermore, the behaviour elements including: membership, influence, fulfilment of needs, and sharing an emotional connection were considered (the detailed model of the sense of community elements inspired by Brook and Oliver (2003). Each element was characterized by specific behaviour attributes.

The third section described the particularities of the research context that was the ECQA (www.ecqa.org). ECQA is a non-profit association joining institutions and thousands of professionals from all over Europe and abroad. ECQA developed a set of quality criteria, which are used for the certification of the following types of service providers: trainers, training organizations, exam organizations, and certification organizations. The aim is to ensure the same level of training and certification quality in all participating countries members of the ECQA learning community.

In the fourth section, the adopted research scenario (a marketing survey based on a questionnaire, distributed among the ECQA members in October 2012 using a Google Docs Questionnaire) and the research results with comments and discussion are presented. The research results characterized the behavioural elements and the related behaviour attributes in the case of the ECQA researchers, developers, trainers, and/or tutors that were involved in the process of building and nurturing the e-learning communities (and also, part of the research sample of 32 subjects). Their sense of community was evaluated by considering the conceptual four element model in the following proportion: membership (33% perception from the total sample), sharing an emotional connection (33% perception from the total sample), influence (13% perception from the total sample), and fulfilment of needs (21% perception from the total sample). A detailed analysis of the attributes associated with each behaviour element as characterized by the ECQA researchers, developers, trainers, and/or tutors perception about the e-learning communities. Table 5 summarized the research results in terms of the subjects' dominant opinion.

The research objective was achieved and Figure 4 describes the *model for the sense of community behaviour attributes description* in the case of the ECQA e-learning community (global view).

Through this research and the associated informal discussions with the ECQA members, we confirmed that the investigated behaviour attributes can be considered as important elements in building, developing, and nurturing an e-learning community. The majority of the ECQA community members agreed that the membership and shared emotional connection behaviour elements are the most significant elements for the ECQA e-learning communities' support, followed by the fulfilment of the needs behaviour element.

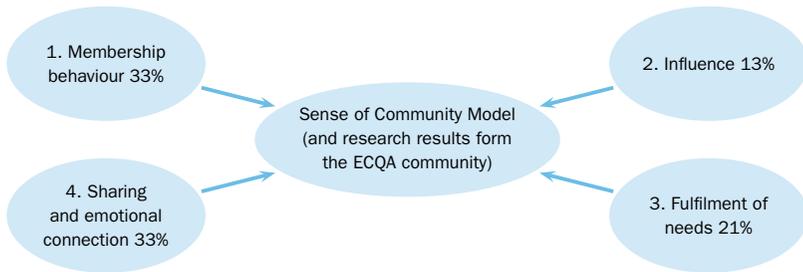This research presented an investigation for characterizing the sense

Figure 4 The Model for the Sense of Community Behaviour Attributes Description in the Case of the ECQA E-Learning Community

Table 5 Behaviour Model: Research Results

Behaviour element	Behaviour attributes related to the sense of community	ECQA community members perception
Membership	1.1 Boundaries that separate us from them	Weak 0.31
	1.2 Emotional safety	Strong 0.39
	1.3 A sense of belonging and identification	Very strong 0.29
	1.4 A common symbol system	Strong 0.39
Influence	2.1 Individual members matter to the group	Very strong 0.40
	2.2 The group matters to the individual	Strong 0.37
	2.3 Making a difference to the group	Weak 0.28
	2.4 Individual members influence the group	Average 0.32
	2.5 The group influences the individual member	Average 0.34
Fulfilment of needs	3.1 Benefits and rewards	Strong 0.38
	3.2 Members meeting their own needs	Strong 0.41
	3.3 Members meeting the needs of others	Strong 0.40
	3.4 Reinforcement and fulfilment of needs	Strong 0.43
Sharing an emotional connection	4.1 Identifying with a shared event, history, time, place or experience	Strong 0.42
	4.2 Regular and meaningful contact	Strong 0.37
	4.3 Closure to events	Strong 0.45
	4.4 Personal investment	Strong 0.39
	4.5 Honour	Strong 0.54
	4.6 Spiritual connection	Strong 0.37

of e-learning communities that belong to the ECQA. The research results could be used in nurturing the present e-learning communities, but also to develop new ones (based on honour, spiritual connection, diversity and tolerance, rather than on rigidity).

Furthermore, the results can be considered as *lessons learnt* in order to use the sense of e-learning community as a tool for fostering understanding and cooperation between all actors involved in building and nurturing such

type of communities. Furthermore, the research results can provide a basis for better understanding of the dimensions of desirable behaviour in an e-learning community.

The proposed research methodology can be applied to any e-learning community in order to describe the members' sense of community through relevant behaviour attributes characterization. This will contribute to the e-learning communities' development and nurture. In addition, future recommendations of research include the statistical data process and analysis that will conduct a thorough analysis of the sense of community characterization and the empirical model description in the case of the ECQA e-learning community.

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projects (5–22 EU project partners). Michael was a part of the Microsoft academic advisory council of Microsoft, as well as a frequent speaker at different international conferences. In 2009, the ECQA was founded and Michael Reiner was elected president. The association is in charge of more than 30 industry certifications; Michael's main target is to focus on the quality of trainings and future targets, vision and goals, as well as spreading the word of ECQA worldwide. *michael.reiner@fh-krems.ac.at*

Exploring Customer Knowledge from Social Media to Improve the Performance of Strategy

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Customer knowledge refers to the understanding of the customers' needs, wants, and aims. It is essential for an organization to align its processes, products, and services to build customer relationships. Managers need to understand how the acquisition and the use of customer-related knowledge create value for an organization. Customer knowledge management, which integrates knowledge management systems and customer relationship management systems, is a strategy that focuses on the task of gathering information, including finding effective ways to extract data from customers, as well as to locate and absorb information from other sources. Consequently, an organization can achieve the creation of new knowledge. This paper analyses the categories of customer knowledge, investigates the domains of customer knowledge, and explores customer knowledge management framework of social media. Then, information retrieval and information extraction of the social media are integrated to discover customer knowledge. Finally, customer knowledge management structure for workflow integration is proposed to align and integrate the strategy maps.

Keywords: customer knowledge management, knowledge management systems, information retrieval, information extraction, social media, strategy maps

Introduction

Gaining corporate advantage depends on how quickly organizations can acquire business knowledge and fulfill customer requirements in the rapidly changing market (Dickson, 1992). Organizations have long recognized knowledge management as an important business strategy (Hull, Coombs, & Peltu, 2000). How to apply customer knowledge effectively to improve business strategy in order to enhance corporate advantage is an important challenge. With global competition, rules of the market change, thus forcing enterprises to adapt swiftly. Exploration and management of the remaining knowledge in customers' mind can help enhance the predicting, responding, and value-creating abilities of an enterprise to strengthen its competitive advantages in a dynamic environment (Gibbert, Leibold, & Probst, 2002). Jussila, Kärkkäinen, and Leino (2012), indicated that organi-

zations can increasingly quickly learn about market needs and technological solutions from customers in various ways with the use of social media to respond to the quick and often unpredictable changes in their business environment.

Knowledge is considered to be a key factor in global competition and is viewed as the foundation of potential competitive advantage for an economic entity to identify or develop core competences (Vargo & Lusch, 2004). Knowledge management is a specific systematic and organized process. The function of knowledge management is to acquire, organize, and communicate knowledge through the use of knowledge, thus creating knowledge, so that other people can use knowledge to further improve performance (Alavi & Leidner, 2001; Huber, 2001). Quaddus and Xu (2005) defined that knowledge management system is designed to handle knowledge generation, preservation, and sharing inside and outside an organization. Knowledge management systems promote value-added service for knowledge management.

Analysis of knowledge for the customers can satisfy the consumer requirements for information about products, market, and other relevant issues. Exploring knowledge about the customers can capture a customer's background, motivations, expectations, and preferences for products or services. Comprehending knowledge from the customers can help understand the patterns of the customers' needs and/or experience of a product and/or service consumption (Su, Chen, & Sha, 2006). Customer knowledge can be a critical resource of competitive advantage. In the recent years, many researchers are widely discussing customer knowledge management. Customer knowledge management is a dynamic combination and application of customer's experiences, demands, and insights in the framework of customer's contacts with a company (Harald, Malte, Lutz, & Walter, 2005). Customer knowledge management provides information related to the customers and their experiences to help organizations effectively develop strategic planning to improve competitive advantage.

In most companies, operational and management control systems are built around financial measures and targets, which bear little relation to the progress of a company in achieving long-term strategic objectives. Thus, the emphasis most companies place on short-term financial measures leaves a gap between the development of a strategy and its implementation (Kaplan & Norton, 1996a). A strategy map is a diagram that describes how an organization creates value by aligning strategic objectives in explicit cause-and-effect relationships in four balanced scorecard perspectives (financial, customer, internal processes, learning and growth) (Kaplan & Norton, 1996b). Customer knowledge can effectively provide reference and basis for strategy planning around the four perspectives.

This paper integrates information retrieval and information extraction to discover customer knowledge from the Web. Customers can provide their experience, creative ideas, and satisfaction or dissatisfaction with products or services. Having customer feedback, the system can effectively analyze, explore, and comprehend customer knowledge to assist organizations with conducting the alignment and integration of strategy objects in strategy maps.

The contribution of this paper consists of (a) analysis of the categories of customer knowledge and investigation of the domains of customer knowledge, (b) exploration of the customer knowledge management framework of social media, (c) integration of information retrieval and information extraction of social media to discover customer knowledge and (d) proposal of a customer knowledge management structure for workflow integration to align and integrate strategy maps. The remainder of this paper is organized as follows. In the second section, some related literature is reviewed. Next, we describe how to apply customer knowledge management to identify strategic objectives in the third section. Finally, the concluding remarks are presented in the fourth section.

Literature Review

According to the following literature review, we propose some different contributions to several streams of literature. Customer knowledge management can be regarded as a comprehensive concept, which integrates customer relationship management and knowledge management (Gebert, Geib, Kolbe, & Brenner, 2003). It emphasizes 'knowledge about customers' and can be viewed as an extension and development of customer relationship management. Customer knowledge management uses knowledge gathered through the interactions with customers required for the organization (Nazari, Ansarinejad, Miri-Nargesi, Dalfard, & Kamran, 2011). Customer knowledge management is mainly used to increase revenue, reduce potential risks, and avoid the production of products that do not match the customers' needs. It helps to enhance mutual understanding between a company and its customers. The processes of customer knowledge management, which include acquisition, analysis, and integration of customer knowledge, can help an organization to record, analyze, share, and create customer information (Lin, Su, & Chien, 2006). Through these processes, enterprises transform data into customer information and integrate the information throughout their business model to develop customer knowledge competence (Campbell, 2003).

Customer relationship management emphasizes sustainable long-term relationship with the customers and cultivates customer loyalty that reflects a customer-oriented strategy. Customer relationship management should

be used instead of the processing of customer knowledge to pursue the goals of relationship marketing. Knowledge flows in customer relationship management processes can be classified into three categories including knowledge for the customers, knowledge about the customers, and knowledge from the customers (Rowley, Beata, & Leeming, 2007). Knowledge management emphasizes effective capturing, sharing, and diffusion of customer knowledge in an organization. Knowledge asset is an important element of creating value for an enterprise. It includes customer's information regarding products, market, and suppliers (Rowley, J., 2002). Through the interactions with the customers and by accumulating knowledge, a company can sustainably grow. This paper analyses the categories of customer knowledge and investigates the domains of customer knowledge. Next, customer knowledge management framework of social media is explored to gather tacit customer knowledge.

Data mining was proposed as a useful approach in the domains of data engineering and knowledge discovery. Recently, it has been successfully introduced into the research of web data management. Web mining is the extraction of interesting and useful knowledge and implicit information from activities related to the Web (Kosala, & Blockeel, 2000). The term 'web mining' originally denoted the use of data mining techniques to automatically discover web documents and services, extract information from web resources, and uncover general patterns on the web (Etzioni, 1996). Over several years, web mining research has been extended to cover the use of data mining to discover resources, patterns, information, and knowledge from the web and web-related data to extract, analyzes, and create new information and knowledge for an organization. This paper integrates information retrieval and information extraction of social media to discover customer knowledge.

Strategy map is a component that represents cause-effect relationships among the strategic objectives, as well as summarized depictions of the main parts of a business system that link to drive a firm's sustainable competitive advantage (Quezada, Cordova, Palominos, Godoy, & Ross, 2009). The concept of strategy mapping was originally developed by Kaplan and Norton as a part of a balanced scorecard system, a means of assessing how successful a company is in terms of delivering on stated goals. The balanced scorecard of a strategy map has four perspectives: learning and growth, financial, customer, and internal processes. Strategy map presents how a number of indicators are integrated in a company's strategy through the balanced scorecard and also develops the strategy in an efficient way. In business operations, organization must comprehend the market and meet the expectations of the target customers in order to find a unique value proposition. In other words, in the strategic planning process, an organization must find the target to implement (Kaplan & Norton, 2004). The pur-

pose of a strategy map is to help execute the strategy, that is, after drawing up the measure of indicators for the organization's strategic objectives, the employees' abilities and skills are improved in order to achieve better customer satisfaction, loyalty, and performance. The effect of the strategy map will reflect on enhancing the turnover and shareholders' value.

Methodology

Business model describes how an organization captures, creates, and delivers value. In order to maximize the customer value, it is crucial to integrate the internal and external elements to form a complete high efficiency and unique operating system with core competeness. Thus satisfying the customer demand and realizing customer value through optimal forms. As well as, at the same time, achieve the profitability goal. The process of business model construction is a part of a business strategy. A business provides types of products or services based on the propositions of its customers, technology, and operation. Among them, the proposition of the customer is the most difficult to comprehend. How to understand the customer requirements, meet the customer expectations, and manage the customer complaints is a challenge in strategy planning. If businesses wish to know the customer, they need not only to quantify the customer-related information, but more importantly, they need to comprehend customer knowledge by organizing and analyzing it. Integrating customer, knowledge, and management becomes a practical action to execute.

Customer knowledge management can be classified into the following four categories:

- *Management of knowledge for the customers:* this is knowledge that company provides to satisfy the customers' knowledge needs. Examples include knowledge on products, markets, suppliers or services (Gebert et al., 2003).
- *Management of knowledge about the customers:* this is accumulated knowledge to understand the customers' motivations and interests. This includes customers' profiles, connections, requirements, expectations, and their purchasing behavior (Gebert et al., 2003).
- *Management of knowledge from the customers:* this is knowledge that customers own with regard to perceptions, insights, and reactions of/to products, services, suppliers, and markets. Through interactions with the customers, this knowledge can be gathered to sustain continuous improvement (Daneshgar & Bosanquet, 2010).
- *Management of knowledge co-creating with the customers:* knowledge management seeks to facilitate the interactions between the customers and the company for the development of new knowledge (Smith & McKeen, 2005).
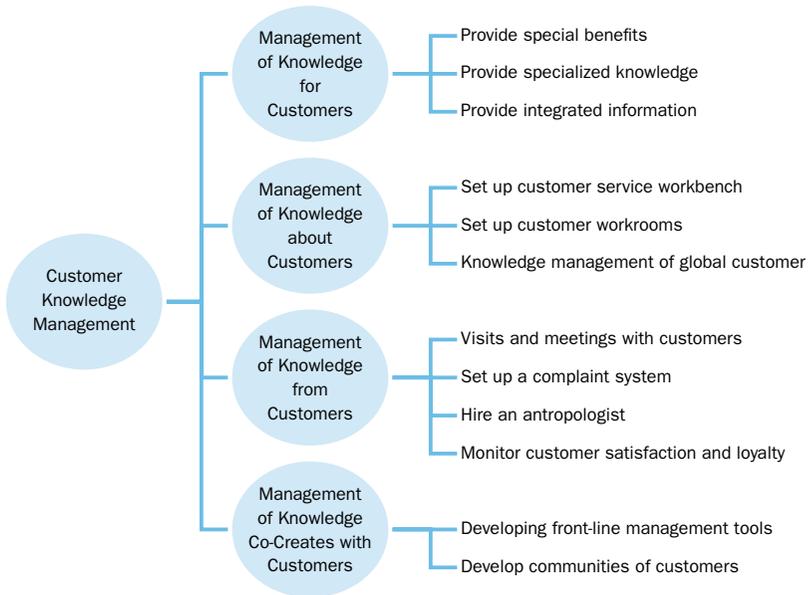
Figure 1 Conceptual Model of Customer Knowledge Management (adapted from Rowley, F. E., 2002)

When providing products or services, we should know the customer demand first and provide the products or services that could satisfy the customer demand. Consequently, an analysis of the customer motivation of consumption should be performed to develop a good marketing plan and attract the customers. After customers use products or services, the level of customer satisfaction and customer experience should be observed. The advantages and disadvantages of products or services should be explored in order to further improve business operations. Interaction with the customers inspires innovative thinking to provide new products or services in the future. Customer knowledge follows the following process: for the customers–about the customers–from the customers and co-creating with the customers. Customer knowledge model constantly circulates to make the products or services advance and improve continuously. Figure 1 describes the management cycle of knowledge.

Customer knowledge management activities should focus primarily on knowing what the customer wants. There are three domains of knowledge related to the customers (Wayland & Cole, 1997) and each domain is defined on a psychological basis associated with the customer. These domains are:

• *Conversational knowledge:* understanding what the customers need
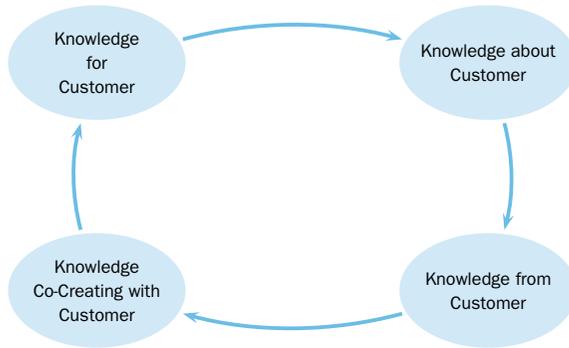
Figure 2

Management Cycle
of Knowledge

via interactions between the customers and the employees, the employees and the suppliers, and so forth;

- *Observational knowledge:* observing how the customers feel about the use products and services;
- *Predictive knowledge:* predict the customer behavior based on analytic models.

Observational knowledge is the most difficult to gather and acquire from the customers. How to observe and obtain the customers' usage of products and services is a critical point. Tacit knowledge acquisition is a very difficult task, which requires a large number of customers with direct and indirect connections in the form of observation or experience exchange. With the rise of Web 2.0, web content services move towards the emphasis on 'interactive sharing' and 'user experience.' By effectively observing, capturing, organizing and analyzing web content, we will be able to have a better understanding of the tacit customer knowledge. After the emergence of Web 3.0, we are entering the age of intelligence systems. We could predict future trends more clearly by using and analyzing the gathered intelligence

Because of increasing sophistication and changing of the customers' preferences, we should apply a dynamic customer-centric approach to observe, capture, organize, and analyze customer knowledge. Social media refers to the means of social interactions among people using online services. People can create and share information and ideas in virtual communities and networks through highly accessible and scalable web-based publishing techniques (Dutta, 2010). Social media can support a multi-way communication between organizations and their customers with relatively lower costs and higher levels of efficiency than traditional communication channels (Gallaugher & Ransbotham, 2010). Many researchers emphasize the importance of social media in bringing the customer's aspect into the customer knowledge management.

There are four emerging social media services that organizations often use to communicate with their customers. These services include micro-blogging services, social networking services, location-aware mobile services, and corporate discussion forum services.

Micro-blogging services, such as Plurk, identi.ca, Tout, Twitter, Yammer, Tumblr, and Weibo, allow the users to publish, exchange, share small elements (usually less than 140 words) of content, such as short sentences, status updates, commentaries, individual images, or video links (Kaplan & Haenlein, 2011). Micro-blogging services are different from a traditional blog. Not only in relation to its data, such as words, sounds or videos, but also due to the fact that the capacity is often smaller than that of a traditional blog. However, the users still use it at the same level for work and personal reasons. Many micro blogs provide short comments or news, which concern a company at a face to face level, for example, products and services.

Social networking services, such as Facebook, Friendster, Bebo, Quazza .com, and MySpace, provide a platform to build social networks or social relations among people who can construct and present their profiles, share their interests, activities, backgrounds or real-life connections (Gao & Bai, 2014). The main role of the social networking services is to build the social media for a group of people who have the same habits and activities. Social networking services are based on the 'Six Degrees of Separation' framework, namely to include friends of friends to expand the social network. The service is based on the Internet to provide people with every kind of connections. Social networking provides a new channel for information sharing and exchange. Recently, the social networking services have become a mainstream communication channel for their users.

Location-aware mobile services allow the users to check-in online at real-world locations and receive context-sensitive information based on their locations. Location-aware mobile services provide the push-services. Server could also initiatively provide information for the users. Location-aware service will play an important role in the next generation information systems. By capturing the relative locations of users, they could reach many services, such as service forwarding, path inquiring, image-based guidance system, and so on. Many location-aware mobile services have been proposed for public spaces, such as museums and libraries (Kaasinen, 2003; Dhar & Varshney, 2011).

Corporate discussion forum services, such as BrainKeeper's Forum Software+Wiki Software, allow the members of an organization to engage in collaborative discussions and answer questions more effectively or provide dedicated avenues for the customers to discuss the organization-specific issues. The interactive discussion platform provides a whole host of fea-

Table 1 Customer Knowledge Management Framework Supported by the Social Media

Services	Management of knowledge for the customers	Management of knowledge from the customers	Management of knowledge about the customers
Micro-blogging services (MBS)	Serve as an avenue for organizations to supply knowledge for the customers about their products, markets, offers, and also provide customer service.	Allow organizations to draw knowledge from the customers by actively seeking out customer-driven innovation in their design and production.	Keep organizations knowledgeable about their customers and better manage the potential areas of concerns among them.
Social networking services (SNS)	Help organizations provide knowledge for the customers by keeping them abreast of changes in their products and services.	Enable organizations to gain knowledge from the customers by comprehending how they react to changes.	Facilitate accumulation of a body of shared knowledge about the customers, which in turn helps promote customer loyalty.
Location-aware mobile services (LMS)	Permit organizations to provide knowledge for the customers about offers and discounts available at a particular branch, encouraging them to check-in at that location.	Allow the checked in customers to leave tips and comments, which can be a useful source of knowledge from the customers.	Separate customer and help organizations acquire knowledge about the variations in the customers' preferences based on different locations.
Corporate discussion-forum services (CDS)	Allow organizations to provide knowledge for the customers by publishing content related to their existing products and services, as well as ideas that are currently under experimentation.	Encourage the customers to express their needs, doubts, purchase intentions, and to contribute novel ideas, which are valuable knowledge that can be acquired from the customers.	Promote exchange of customer-to-customer know-how, which may be monitored to unearth knowledge about the customers in the form of opinions, preferences, and electronic word-of-mouth.

tures to make it incredibly easy to get information into the system, find relevant information, and notify the right people when essential information is added. Company members can use this platform to share their areas of expertise (Maswera, Dawson, & Edwards, 2006).

Social media supports customer knowledge management framework, which integrates the social media services to facilitate the customer knowledge management strategies (Chua & Banerjee, 2013). The framework is shown in Table 1.

The highly developed information technology at the end of the 21st century has brought another wave of revolution in the modern society. It affects our modern life at an amazing rate, E-mail, Internet, E-commerce, social media and so on are a part of our life. Digital communication has changed the
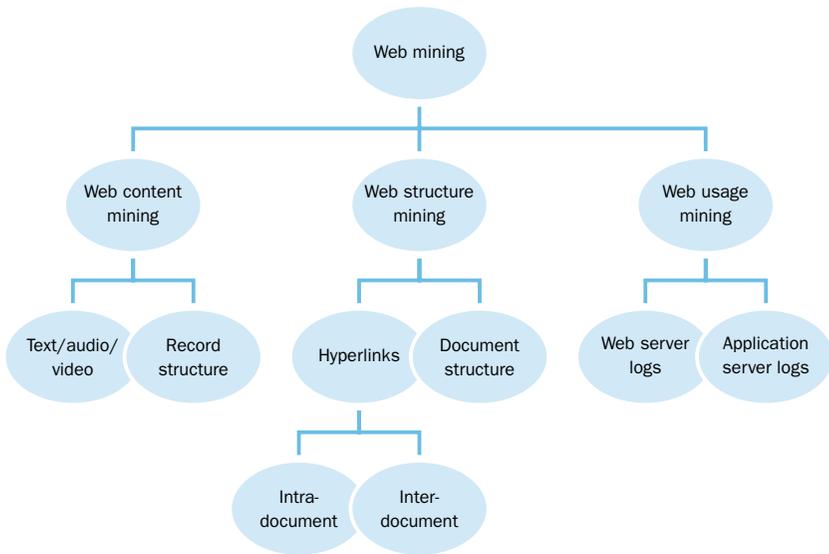
Figure 3   Types of Web Mining (adapted from Srivastava, Desikan, & Kumar, 2005)

old forms of communication, because it is not limited to time and space. However, its low cost and convenience lead to too much information. It's a big challenge to transform the information into useful knowledge. Through integrating and classifying customer knowledge and social media, as well as effectively distinguishing the social media, we could achieve the key social media in customer knowledge. In this way we could manage knowledge more efficiently in this age of information explosion.

Web mining is the application of data mining techniques to discover web content, web structure, and usage of data from the web (Eirinaki & Vazirgiannis, 2003). In 1997, the concept of web mining was proposed. With the use of web mining on the World Wide Web, we could analyze, discover, and excavate value-added information and knowledge from network data (Pal, Talwar, & Mitra, 2002) with the goal of more effective analysis of the World Wide Web data. Namely, a wealth of information is distributed everywhere on the Internet, which is convenient for people to use, but also difficult to utilize in-depth. In order to gather tacit customer knowledge from the social media, we use web mining to automatically discover and extract information from web documents and services. Web mining generally consists of web usage mining, web structure mining, and web content mining as depicted in Figure 3.

- *Web structure mining* is the process of using graph theory to analyze the node and connection structure of a website and to discover useful knowledge from hyperlinks, which represent the structure of

the web. In order to extract the link model under the web link architecture, we are using the Topology theory, because network model is structured according to hyperlink Topology architecture. Network model could effectively classify and generate the related information between websites. Besides, internet structure mining can also extract the topic, which internet formulated, and indicate the abstract of a special topic.

- *Web content mining* is the mining, extraction, and integration of useful data, information, and knowledge from web content including text, picture, and link. Furthermore, we can mine forum postings and customer reviews to discover customer opinions. In the recent years, search engines, intelligent agents, as well as some of the recommended content all use data mining in order to help users find the required contents in the immense cyberspace.

- *Web usage mining* is the process of extracting useful information from server logs and discovering user access patterns from web usage logs. WWW server saves history data and records every user's visit and interactive information. The analysis of such data could help understand user behavior, as well as improve the structure of the website or provide personalize service to the users.

Information retrieval and information extraction can be used to extract content from the web. Information retrieval is an activity of obtaining and collecting information resources relevant to the information need. Information extraction is a task of automatically extracting structured information from unstructured and semi-structured machine-readable documents. When extracting web content with the use of web mining, there are four typical steps: (1) collecting, i.e., fetching content from the web; (2) parsing, i.e., extracting usable data from formatted data; (3) analyzing, i.e., tokenizing, rating, classifying, clustering, filtering, and sorting information; and (4) producing, i.e., turning the results of analysis into something useful.

Extracting knowledge process includes extracting and arranging useful data from everywhere. After extraction, transformation, and load, analysis and mining tools are used, using appropriate query, to analyze and finally change data into knowledge. This knowledge is presented to managers; furthermore, it provides aid for managers in the decision making process for business decisions of an organization or enterprise on the operational, management, as well as strategy layer. Organizations plan their strategy to define direction and make decisions regarding the allocation of their resources according to their vision and mission. In order to determine the organization's future direction, it is necessary to understand its current position and possible avenues through which to pursue particular courses of action.
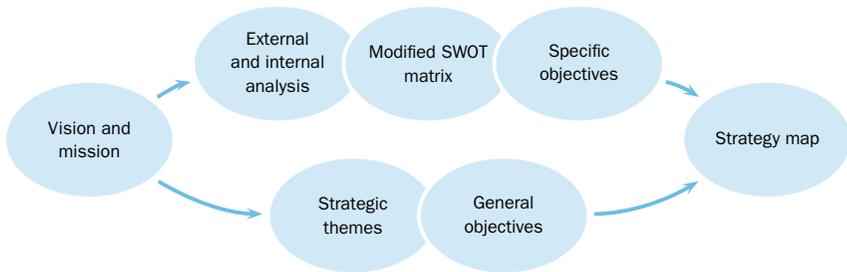
Figure 4 The Process of Strategy Map Generation

Strategy map is a diagram that is used to document the primary strategic goals pursued by an organization or management team. It also provides a visual framework for integrating the organization's objectives. Strategy map portrays the cause-and-effect relationships that link specific capabilities in human, information, and organization capital with process excellence, and process excellence with the desired outcomes in the customer and financial perspectives. Organizations pursue these strategic goals to improve their competitive advantages in a dynamic environment (Quezada et al., 2009). The process of developing a strategy map is depicted in Figure 4.

- *Definition of vision and mission.* A business establishes an organizational identity (vision) and where it wants to go (mission). The core enterprise concept and future prospect are formulated by internal organization members. With team discussion, organization consistency consensus is acquired and best actions for the future direction are formed. Through development, targeting, and implementation of the visions, an organization is built toward reaching success and maximizing the organizational power.

- *Identification of strategic themes.* Strategic themes provide vertical links through the four dimensions, seeing the strategy as a parallel and complimentary theme. Strategic themes are specific, itemized business objectives, which can link business vision to the business strategy.

- *Definition of general objectives.* General objectives are generated from the vision and mission of a business. A method to select the most important objectives will be presented later. The objective is to achieve the vision that an enterprise wants to accomplish. The objective has the functions of guide, excitation, integration, etc. It could integrate the employee actions and ensure effective planning and performance of each employee. Furthermore, the definition of the general objectives will increase economic efficiency, improve enterprise image, and ensure reaching the final mission.

- *Internal and external analysis.* Strategic internal and external analyses are carried out through SWOT analysis. SWOT analysis is a structured planning method used to evaluate the strengths, weaknesses, opportunities, and threats in a business. Through SWOT analysis, an enterprise could gather resources and actions in their own strength, as well as determined possible opportunities. Further, it could aid in clearer enterprise strategy. *Generation of specific objectives.* Specific objectives are derived from a modified SWOT matrix. The consistency between specific strategic objectives with business strategy on the one side and general objectives derived from the vision and mission on the other side should be revised.

- *Generation of the strategy map.* Strategy map is generated by establishing the cause-effect relationship between general and specific objectives. It is a long way from completed strategy to actual strategy implementation by each department. The most difficult part is to transfer the strategy into clear and specific language and present it to everyone who could understand. Strategy map is a tool used to create the steps and modes of the strategy architecture, as well as the best way to understand the strategy.

Strategy mapping encourages the managers to look beyond traditional financial measures by applying four different perspectives. The four performance perspectives are:

- *Financial:* What do investors expect and what should be followed to reach the strategic goals of the financial perspective?
- *Customer:* Which strategy goals are to be set with regard to meeting the customer needs in order to attain the financial goals?
- *Internal processes:* Which strategic goals are to be set for internal processes in order to fulfill the expectations of the customers and investors?
- *Learning and growth:* Which strategic goals are to be pursued to develop the key potentials in order to provide an excellent basis for outstanding results in the other perspectives?

Research Result

In the 21st century, successful enterprises are more and more dependent on the quality of the knowledge they have. It is always a challenge for enterprises to create and maintain competitive advantage with the use of knowledge. With the use of customer knowledge an enterprise can reach excellence in knowledge management. Through interaction with the customers, creation, communication, and application of customer knowledge

an enterprise can increase business value and maintain competitive advantage. Customer knowledge comes from customer behavior analysis through which it is possible to understand and distinguish the activities of consumption from a variety of different perspectives in order to develop products and support services to satisfy the customer requirements. Most of the customer information gathered by traditional methods, such as statistical surveys, is not adopted and properly used by organizations.

Customer knowledge includes the following domains: conversational knowledge, observational knowledge, and predictive knowledge. Observational knowledge is the most difficult to gather and acquire from the customers. Web mining is the application of data mining techniques to discover the patterns from the Web. Observational knowledge can be gathered and acquired with the mining, extraction, and integration of useful information and knowledge from web content. The goals of customer knowledge management include extracting useful information, generating useful knowledge, and creating new knowledge to achieve innovation, accomplish new product development, establish or improve customer loyalty, and develop marketing strategies.

We applied web content mining to gather and extract customer's experience when using products and services. The following four steps are typical when extracting web content information using web content mining:

- *Collecting* fetching content from the Web. Real data is very messy. The tools to collect the data do not examine the data precisely, thus resulting in the possible unavailability of collected data. Pre-process has to conduct data purification, format conversion, and table links. Furthermore, it should effectively deal with the hidden noise, inconsistency, missing and repetition of data, as well as understand the effects of time evolution.
- *Parsing* – extracting usable data from formatted data. According to plan, following pre-treatment, the required information is extracted for analysis.
- *Analyzing* – tokenizing, rating, classifying, clustering, filtering, and sorting of information. By using anomaly detection, association rule learning, clustering, classification, regression, summarization, etc. in order to find useful and interesting information or features.
- *Producing* – turning the results of the analysis into something useful. The results of the analysis are presented through reports or visualization.

We applied customer knowledge management to identify the strategic objectives in order to align and integrate the strategy maps. Financial perspec-
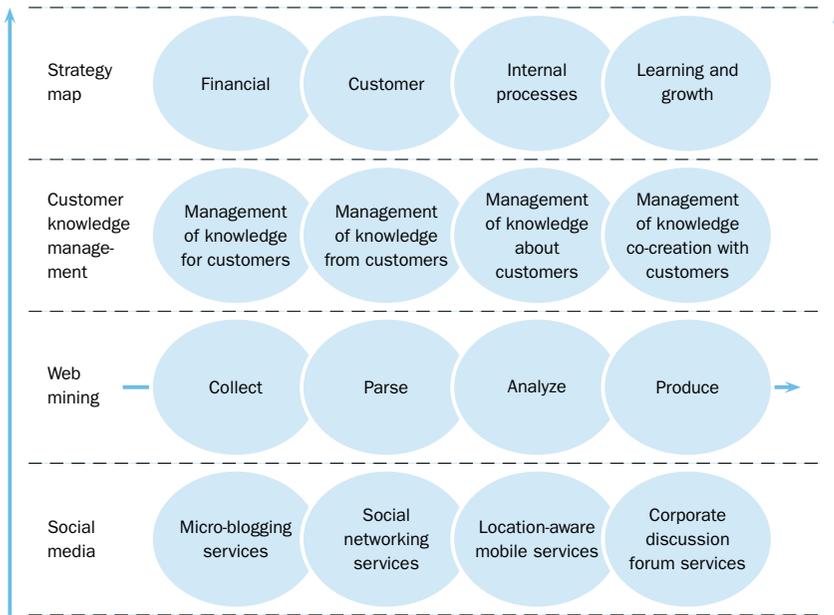
Figure 5 The Processes of Customer Knowledge Management

tive includes two important financial strategies, i.e., expansion of product markets, as well as increased productivity. Customer perspective concerns satisfaction of the customer requirements and customer expectations. Internal processes perspective refers to the transformation of intangible assets into customer and financial outcomes through operational management in order to achieve value-creating processes. Learning and growth perspective signifies that the foundation of the strategy rests on aligning and integrating intangible assets and activities to achieve value creation. We used web mining to automatically discover and extract information from the social media. Through the process of collection, parsing, analysis, and production, the customer knowledge can be extracted and organized. The process is depicted in Figure 5.

Conclusion

The key purpose of customer knowledge management is to capture, organize, share, transfer, and control customer knowledge for organizational benefits. It can help organizations address the specific needs of their customers and make them more effective in enhancing customer satisfaction (Plessis, 2007). Researchers have indicated that customer knowledge management can shorten the duration of service calls and improve the quality of the provided service, enhance knowledge transfer to the customer, resulting

in higher customer satisfaction, higher loyalty, and higher revenue, as well as facilitate more efficient content creation resulting in lower costs (Bueren, Schierholz, Kolbe, & Brenner, 2005; Dimitrova, Kaneva, & Gallucci, 2009; Dalfard, Jafari, & Alizadeh, 2012). Customer knowledge management applies the acquisition and use of customer-related knowledge through direct and indirect interactions with the customers to create value for the organization.

Strategic objectives are derived from the organization's vision and mission. They are classified into four perspectives, which include financial, customer, internal processes, and learning and growth. Clearly defined, enterprise planning falls into four spindle strategies and clarifies the relationship between the four spindle strategies to achieve specific value proposition of the action route map. The financial targets are defined from the customers' perspective. A concern about 'who is the target customer' and 'how these customers bring revenue growth,' specifically developed the countermeasures to maintain long-term relationships with the customers. In order to satisfy the customer demand, it will naturally influence the product design, brand and market development, sales and other internal process. Hoping it could create expected customer value, as well as product and service differentiation. Finally, in order to reach the objective and promote the strategy, further study of the next layer of 'organization,' 'employee,' 'training,' etc. should be performed.

Past customer knowledge management mixed with customer information and knowledge seldom explored how the enterprise obtains the information through analysis and customer interaction. Hence, an enterprise could not achieve larger contribution from customer knowledge management. The contribution of this paper is in (a) analysis of the categories of customer knowledge and investigation of the domains of customer knowledge, (b) exploring of the customer knowledge management framework of the social media, (c) integrating information retrieval and information extraction from the social media to discover customer knowledge, and (d) proposing a customer knowledge management structure for workflow integration to align and integrate the strategy maps.

Customer knowledge management is a new research topic, which is worthy of research. Knowledge is the basis of business competition in current business environment. The ability to manage customer knowledge is valued. Using information systems to obtain customer knowledge has become an important success factor in any business. We will further (1) study how customer knowledge management can result in new organizational culture in organizational learning, (2) analyze how customer knowledge management can result in greater efficiency in cross-functional departments integration, and (3) explore how customer knowledge management can be used in customer collaboration.

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Abstracts in Slovene

Managerske kompetence v kontekstu znanja: primerjalna analiza Poljske in Združenega kraljestva

Agnieszka Sitko-Lutek and Monika Jakubiak

Namen študije je definirati pomen managerskih kompetenc, pri čemer se zlasti posveča znanju, bodočim poklicnim karieram študentov in stopnji v okviru katere so bile obravnavane kompetence pridobljene v času študija. Empirično gradivo je bilo pridobljeno na osnovi diagnostične ankete izvedene od leta 2009 do leta 2010 v Lublinu na Poljskem in v Huddersfieldu v Veliki Britaniji. V skupino anketirancev so bili vključeni univerzitetni študentje zadnjega letnika na področju ekonomije in managementa. Rezultati raziskave so pokazali, da je pomen ocenjenih kompetenc obeh skupin študentov presegel stopnjo pridobljenih kompetenc v času študija.

Ključne besede: izobraževanje managerjev, znanje, kompetence

IJMKL, 3(2), 151–164

Vpliv implementacije učeče se organizacije na oblikovanje pozitivne organizacijske identitete

Marko Peršič, Duško Uršič in Draško Veselinovič

Članek razišče rezultate širše raziskave vpliva implementacije učeče se organizacije na oblikovanje pozitivne organizacijske identitete v slovenski podjetniški praksi. Na osnovi analize izvedene na vzorcu 132 podjetij v Sloveniji v letu 2012 so avtorji pridobili svojo definicijo organizacijskega učenja. S pomočjo faktorske analize in regresijskega modela smo ugotovili, da vsak dejavnik, katerega smo definirali v okviru tega članka, neodvisno vpliva na oblikovanje pozitivne organizacijske identitete. Toda v primeru skupnih dejavnikov učeče se organizacije ima samo dejavnik opolnomočenja in organizacije statistično pomemben vpliv na oblikovanje pozitivne organizacijske identitete. Ugotovitve naše raziskave so primerne za praktično vsako podjetje v Sloveniji, in sicer jih vodstvo lahko uporabi za oblikovanje organizacijske identitete podjetja s ciljem povečanja konkurenčnosti poslovanja.

Ključne besede: učeča se organizacija, pozitivna organizacijska identiteta, organizacijsko učenje, faktorska analiza

IJMKL, 3(2), 165–180

Motivacija za izboljšanje dela skozi učenje: konceptualni model

Kueh Hua Ng in Rusli bin Ahmad

Cilj predstavljene študije je izboljšati obstoječe razumevanje prenosa pridobljenega znanja na usposabljanju s predlogom konceptualnega modela, ki

podpira posredniško vlogo motivacije v povezavi z izboljšanjem procesa dela preko učenja o odnosu med socialno podporo in prenosom pridobljenega znanja na usposabljanju. Preučevanje motivacije za izboljšanje dela skozi učenje ponuja celovit pogled, ki se nanaša na profil učenca v delovnem okolju, ki poudarja pomen učenja za izboljšanje delovne uspešnosti. Pričakujemo, da bo predlagani konceptualni model pripomogel tako pri oblikovanju teorije razvoja človeških virov, kakor tudi pri delovanju področnih izvajalcev preko poudarjanja motivacijskih aspektov, ki so ključni za uspešen prenos pridobljenega znanja na usposabljanju.

Ključne besede: motivacija, situirano učenje, organizacijska podpora, nadzor, podpora vrstnikov, prenos usposabljanja, prenos znanja, strokovni razvoj

IJMKL, 3(2), 181–200

Pričakovanje visokotehnoloških veščin za trajnostni razvoj v Rusiji

Valery Gurtov, Maria Pitukhina in Svetlana Sigova

V Rusiji je velik pomen nedvomno pripisan zagotavljanju razvoja takšnih veščin študentov, ki jim bodo, kot državljanom, omogočale večjo produktivnost in vključenost. Prispevek se posveča metodologiji predvidevanja veščin na področju sedmih visoko tehnoloških industrij v Rusiji, katere posledica je razvoj modelov tako za mehke kot tudi trde veščine. Obstajajo različne široko uporabljene metode kot so: kvalitativna projekcija parametrov trga dela, študije, analize dokumentov, uporaba predvidevanja, ankete delodajalcev in ekspertov. Posledično naj bi novi modeli veščin pomagali strokovnjakom učinkovito premagovati izzive, implementirati inovativne odločitve in povečati stopnjo tehnološkega znanja.

Ključne besede: metodologija predvidevanja veščin, znanje, visoko tehnološke industrije, izobraževalna politika, pristop temelječ na sposobnosti, vseživljenjsko učenje, trajnostni razvoj, Rusija

IJMKL, 3(2), 201–215

Človeški kapital kot izziv za ekonomsko teorijo

Barbara Wyrzykowska

Problematika človeškega kapitala je vedno bolj zanimiva tako za teoretike kot praktike, saj danes človeški viri predstavljajo odločujočo vlogo pri oblikovanju konkurenčnih gospodarstev in poslovnih subjektov. Človeški kapital in znanje postajata ključna dejavnika na področju konkurenčnosti. Posledično je človeški kapital analiziran na večplasten način v kontekstu številnih ekonomskih teorij. Cilj predstavljene študije je povzeti, analizirati in sintetizirati objavljene informacije na temo teorije človeškega kapitala ter predstaviti nove teorije in znanstvene paradigme. Teorije obravnavane v okviru te študije prikazujejo, da zaposleni predstavljajo osnovi kapital modernih organizacij. Ena izmed sodobnih paradigem modernega managementa je koncept na znanju temelječega gospodarstva in paradigma informacijske tehnologije. Članek je osnovan na preučeni literaturi in teoretičnem razmišljanju avtorja.

Ključne besede: človeški kapital, teorija človeškega kapitala, intelektualni kapital, znanje, informacije, upravljanje znanja, na znanju temelječe gospodarstvo

IJMKL, 3(2), 217–240

Študija o pomenu e-učnih skupnosti: Evropsko združenje za certificiranje in kvalifikacije

Anca Draghici in Michael Reiner

V zadnjih letih so znanstveniki in strokovne osebe poskušali definirati in implementirati izvedljive modele oblikovanja in negovanja e-učnih skupnosti z namenom neprestane aktivacije skupinske dinamike, doseganja visoko interaktivnih učnih izkušenj ter pomembnega povečanja občutka skupnosti. Glavni cilj prispevka je identificirati model za opis atributov pomena vedenja skupnosti. Prispevek je razdeljen na naslednja poglavja: (1) uvod, (2) opis konceptualnega modela, (3) kratka predstavitev ECQA ter (4) raziskava pomena e-učnih skupnosti ECQA. V zadnjem poglavju so predstavljeni splošni zaključki ter priporočila za nadaljnje raziskave.

Ključne besede: e-učenje, skupnosti, občutek skupnosti, Evropsko združenje za certificiranje in kvalifikacije (ECQA)

IJMKL, 3(2), 241–259

Izboljšanje učinkovitosti strategije z raziskovanjem znanja kupcev na podlagi socialnih medijev

Tzu-Chun Weng

Poznavanje strank se nanaša na razumevanje potreb, zahtev in ciljev strank. Za grajenje odnosov s strankami je bistvenega pomena, da organizacija uskladi svoje procese, produkte in storitve. Managerji morajo razumeti na kakšen način pridobivanje in uporaba znanja povezanega s strankami predstavlja pomembno vrednost za organizacijo. Upravljanje poznavanja strank, ki povezuje sisteme za upravljanje znanja in sisteme za upravljanje odnosov s strankami, je strategija, ki se osredotoča na zbiranje informacij, kar vključuje iskanje učinkovitih načinov pridobivanja podatkov od svojih strank, kakor tudi lociranje in absorpcijo informacij iz drugih virov. Na tak način lahko organizacija oblikuje novo znanje. Članek analizira kategorije znanja strank, razišče domene znanja strank ter upravljanje znanja strank v okviru socialnih medijev. S ciljem odkrivanja znanja strank sta postopka pridobivanja in ekstrakcije informacij s socialnih medijev nato integrirana. Nazadnje je predlagana struktura upravljanja znanja strank za integracijo poteka dela s ciljem uskladitve in integracije strateških zemljevidov.

Ključne besede: upravljanje znanja strank, sistemi upravljanja znanja, pridobivanje informacij, ekstrakcija informacij, socialni mediji, strateški zemljevidi

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