International Journal of Business, Human and Social Sciences
ISSN: 2517-9411
Vol:10, No:10, 2016

Key Competences in Economics and Business Field: The Employers' Side of the Story

Bruno Škrinjarić

***Abstract*—**Rapid technological developments and increase in organizations' interdependence on international scale are changing the traditional workplace paradigm. A key feature of knowledge based economy is that employers are looking for individuals that possess both specific academic skills and knowledge, and also capability to be proactive and respond to problems creatively and autonomously. The focus of this paper is workers with Economics and Business background and its goals are threefold: (1) to explore wide range of competences and identify which are the most important to employers; (2) to investigate the existence and magnitude of gap between required and possessed level of a certain competency; and (3) to inquire how this gap is connected with performance of a company. A study was conducted on a representative sample of Croatian enterprises during the spring of 2016. Results show that generic, rather than specific, competences are more important to employers and the gap between the relative importance of certain competence and its current representation in existing workforce is greater for generic competences than for specific. Finally, results do not support the hypothesis that this gap is correlated with firms' performance.

***Keywords*—**Competency gap, competency matching, key competences, firm performance.

I. Introduction

RAPID technological developments and increase in companies' interdependence on international scale caused many changes in labor markets. This gave raise to concerns on whether employees (and, indeed, employers) possess the required knowledge, skills and abilities to fully exploit potentials of modern, computer based technology [9], [12], [21]. Traditional Taylorist workplace paradigm, marked by high levels of specialization, enforced standardization of methods and clear distinction between workers and managers [37], is labelled as inadequate and increasing emphasis is given to "soft" factors of production and "generic" competences such as communication skills and personality features [31], [18]. This transition from high division of labor and vertical hierarchy to increase in team work and more horizontal organizational structure is accompanied by a decline in lower-skilled, manual labor, and increase in knowledge work and service occupations [4], [15]. In these conditions, career success of employees will depend on their competency inventory, and their ability to expand and/or adapt it to meet the firms' needs. In knowledge based economy, employers are looking for individuals with not only specific academic skills and knowledge, but also with capability to be proactive and respond to problems creatively and autonomously [14]. This is true for workers with all kinds of background, and especially those with Economics and Business foundations as these workers are most often in a position to make big decisions. These generic requirements have not yet been fully integrated into models of labor market performance [29]. This paper hopes to contribute in development of that topic.

Several definitions of competences are present in the literature. For example, [32] defines competences as the skills, knowledge, abilities, motivation, and other requirements, which are needed in order to perform the job successfully. Reference [26] elaborates on this definition by saying that "competences can be characterized as individual dispositions to self-organization which include cognitive, affective, volitional and motivational elements; they are basically an interplay of knowledge, capacities and skills, motives and affective dispositions." This study opted to utilize the former definition of competences.

The goal of this research is to focus on workers with Economics and Business background and explore three connected issues: (1) which competences are viewed as the most important to employers; (2) what is the gap between a desired level of a given competency and a currently represented level of that competency among existing workforce of given enterprise; and (3) how is that gap connected to the performance of a given enterprise. Competences are divided in two groups as generic (academic and interpersonal skills) and specific (specific knowledge and skills needed in Economics and Business profession) competences, in light of [8]. Starting with competency models from other industries and the assessments from pilot study, a list of 58 competences or skills was compiled. These were then sent for evaluation to different firms. Workers with Economics and Business background were chosen as a subject of this study as their knowledge, both generic and specific, is needed across wide range of industries and wide range of departments within certain enterprise.

The structure of the paper is the following. The next section explains how this study builds on prior research that examined investigation into key competences. Section III presents data and methodology used. Section IV presents data analysis and discussions. The last section contains conclusions and

Bruno Škrinjarić is with the Institute of Economics Zagreb, Croatia (phone: 00385 1 2362 259; e-mail: bskrinjaric@eizg.hr).

This paper is part of the project KOMPEKO - Analysis of Key competences in Economics and Business Field (HR.3.2.01-0179) that has been funded with the support of the European Social Fund (ESF) which is a part of the European Union (EU) Structural Funds. The paper reflects the views only of the author and none of the institutions cited above cannot be held responsible for any use which may be made of the information contained therein.

discusses potential directions for future research.

II. Literature Review

Since the beginning of 90s, new organizational and technological models of firm behavior have been developed which replace the traditional Taylor-Fordist paradigm, based on centralization of decision making process and narrowly defined occupations. These new characteristics of modern firm are summarized with acronym HPWO (High performance Work Organization). As [22] describes it, HPWO features low level of hierarchy, high level of discretionary power, emphasis on broad skills, team working, participation in problem-solving groups, various motivation-boosting incentives and performance related pay. One of the key propositions of the HPWO is that it needs employee competences for its functioning.

It is widely accepted that work activities serve as an indirect source of learning; for example, learning-by-doing [3], learning-by-using [27], learning-by-interacting [23], learning-by-searching [11] and post-school learning [17]; however, it still remains unclear which kind of competences can be more easily learned and which organization characteristics foster better learning.

Reference [22] stresses out the importance of key competences: (1) They are of a higher class and involve cognitive processes of a higher order; (2) They are responsible for learning of other specific competencies of various natures; and (3) They are applicable to all workplaces, regardless of industry or company size. Further characteristic of key competences is that they cannot be easily duplicated or transferred by means of, for example, schooling or worker mobility. These key competences transform “potential” capacity for action into “actual” capacity for action, which becomes available to the firm if situation requires it. Hence, key competences are not easily acquirable, but they can be constructed by activating behaviors linked to reflexive, temporal, and locally situated work practices [28].

Inquiries into determination of key competences from employers' point of view have already been performed for workers with background other than Economics and Business. Reference [35] explored the key competences of tourism graduates from the employers' point of view among domestic and international Management Centre Innsbruck internship partners. They found that activity and action-oriented competences have the greatest importance, followed by social and communicative competences. Reference [8] investigated employers' perception of generic and specific competences related to entry-level jobs for health graduates in Poland, UK and the Netherlands. Their findings show that although health specific competences provide a useful starting point, employers increasingly value generic competences, such as communication and team work. Reference [2] looked key competences of construction graduates in US. On a sample of 148 respondents, they concluded that problem solving skills and interpersonal skills are viewed as the most important, while communication and environmental awareness ranked the lowest. Reference [24] performed a study on 70 libraries to find mostly sought after competences of academic librarians. His survey results showed that seven out of ten most important competences belong to IT category, with the most important one being "using relevant developments in information technology". Similar research was done for entry-level professionals in Malaysia [25]. Reference [10] investigated key competences in lodging industry, in a survey of 137 industry leaders. They found "self-management" to be the most important competency, followed by strategic positioning, critical thinking and communication. Other similar research was done for R&D managers [13] and HR managers [19], [34].

Research connecting competence or skill gaps and firm performance is rather scarce. Reference [5] conducted a study on US bank workers and showed that competency formation is linked to various workplace effects and in turn these competences are strongly correlated to firm performance. Reference [16] looked into ICT skill shortages among existing employees and found a negative effect on firm-level performance. Similar research is done by [33] which shows that skill shortages vary considerably across industries, and [30] where skill miss-match is linked to increased workload of other staff, thus increasing operating costs.

Based on the evidence gathered from the literature review, this paper will test three hypotheses on workers with Economics and Business background, namely:

H1. Generic competences, rather than specific ones, are viewed as more important to employers.

H2. The gap between desired level of competences and level represented among existing workforce is greater for generic competences.

H3. The gap mentioned in H2 is positively correlated with performance of an enterprise.

III. Methodology and Data Description

Dataset used in this research consists of primary data collected through questionnaire developed by author, amended with secondary data on firms from various databases.

Pilot study was carried out on randomly selected sample of 10 firms from each industry sector classified according to first degree classification of NACE Rev.2. The pilot study also included important policy-making institutions: Croatian Chamber of Commerce, Ministry of Labour and Pension System and Ministry of Science, Education and Sports. Questionnaires sent in this phase were in paper form with the instructions to write as many comments as they can think of with aim of improving question relevance to real time market situation. Pilot study was conducted in four counties (Zagrebacka county, Splitsko-dalmatinska county, Osjecko-baranjska county and Primorska county) and the City of Zagreb. Time span for this pilot study was one month (March 2016) and obtained comments were incorporated in the final version of questionnaire.

As a basis for creating questionnaire, list of competences was identified through literature review (for example [7], [8], [20]). These were then amended/modified by results of pilot study and structural interviews, which both preceded main

study. In the end, a final list of 58 competences were send out to evaluation. This list included competences specific of economics and business field and generic competences (relevant to any field). Specific cluster of competences included theoretical knowledge as well as methods and procedures specific to economics and business domain, while generic competences included higher cognitive competences (such as learning abilities, analytical skills, problem-solving abilities) and interpersonal competences (such as team working skills, planning and organizing skills and decision making skills). Respondents were asked to rate how important each competence is for workplaces occupied by Economics and Business workers on a five-point Likert scale ranging from 1 (unimportant) to 5 (extremely important). Additionally, respondents were asked how much these competences are represented among their existing workforce on a scale from 1 (not represented at all) to 5 (extremely well represented). Questionnaire also included queries about the socio-demographic characteristics of respondents and the basic information of enterprise they own or work for.

Final questionnaire was transferred into on-line version and sent out to a representative sample of 1,000 Croatian companies[1]. Sample was set to be representative in terms of firm size and their distribution across different industries and Croatian counties. Sampling strategy was borrowed from [36, p.3]. For each size category, a stratified sample was constructed with industry sector (two digit level) and county as control variables. First stage included creation of the table containing data on the size of each county-sector stratum. The size of each stratum was specified to be proportional to their size in 2014. After that, a share of each stratum in the population was calculated and then used to compute the number of firms from each stratum to be selected in the sample. Group data on company size, county and its industry sector were obtained from Croatian Financial Agency (FINA) while the individual data on company contact person (including their e-mail) were obtained from BizNet web portal established by Croatian Chamber of Commerce. A questionnaire was sent with instruction that it can only be filled by the owner (or the CEO), or the Head of Human Resource (HR) department (if a firm has one), due to the nature of research.

Invitations were send out to 275 large, 360 medium and 365 small enterprises, as defined by the Croatian Law of Accounting. Considering population sizes, this means that the invitations were sent to 77.6% of large firms, 29.5% of medium firms, and 0.51% of small firms. Within each of the three size groups, the sample is representative regarding industry sector and county. Time frame for questionnaire was from April to end of July 2016.

Once the responses were cleared of missing values, 156 observations/firms were left in dataset. As mentioned before, only the owner of the firm (or the CEO) or the Head of HR department were asked to fill in the questionnaire, so the return rate of 15.6% is quite standard. Reference [1] estimates that typical response rate of CEOs of the companies is between 13 and 20%. The distribution of firms in the final sample with respect to counties and industry sectors is presented in Table VII of Appendix. All the following tables and figures in this paper, unless stated otherwise, come from questionnaire data and author's own calculations.

Industry sectors were classified according to NACE Rev.2 on two digit specification. The analysis covered all of Croatia's 21 counties (NUTS 3 regions). Firms included in the analysis were both publicly and privately owned. The research was targeted only at trade associations as defined by the Croatian Law of Trade Associations. All monetary values are expressed in Croatian kunas (HRK). Firms were further classified according to four main categories: size, ownership, region and whether or not they export their product or service. Size classes are based on the number of employees. Three size groups are defined: "1-49" (small), "50-249" (medium) and "≥250" (large). Size and ownership category for each firm was checked using Business Croatia on-line database. Five Croatian regions are defined as per Table VIII of Appendix. Finally, export status is based on reported revenues from exports – firm was defined as exporter if the percentage of revenue from export was greater than zero.

Table I shows the final number of firms by different categories used in the analysis. Most of firms are situated in Central Croatia (39.1%) while other four regions are all roughly equally represented. In terms of size, small firms are most dominant with around three quarters of entire sample, medium firms occupy 16.7% of sample and the rest (10.3%) are large firms. When it comes to ownership, four out of every five respondent firm is privately owned with the rest being state owned. Finally, firms are roughly equally divided into exporters and non-exporters.

TABLE I
FINAL SAMPLE DISTRIBUTION BY DIFFERENT CATEGORIES

Category	Firms	Firms (%)
Region		
Central Croatia	61	39.1
North-western Croatia	23	14.7
East Croatia	21	13.5
North Adriatic and Lika	29	18.6
Central and South Adriatic	22	14.1
Size		
Small	114	73.1
Medium	26	16.7
Large	16	10.3
Ownership		
State	27	17.3
Private	126	80.8
Mixed	3	1.9
Exporters		
Non-exporters	81	51.9
Exporters	75	48.1
TOTAL	156	100.0

[1] Printed version of questionnaire is available on request from author and on-line version is available (in Croatian language only) through Google Forms platform at: http://goo.gl/forms/TfPiRX7zoRvT6Gs72

TABLE II
IMPORTANCE AND CURRENT REPRESENTATION OF COMPETENCES

Competence / relevance	Importance		Currently Represented	
	Mean	St. d.	Mean	St. d.
Motivate oneself to do work	4.60	0.55	3.76	0.86
Organizing and planning	4.59	0.57	3.70	0.88
Work towards common goals	4.56	0.59	3.86	0.86
Sharing knowledge and experience	4.56	0.67	3.78	0.99
Awareness of you actions onto others	4.36	0.80	3.56	1.05
Proactive and effective communication	4.36	0.77	3.51	1.00
Generating new ideas	4.20	0.90	3.38	1.08
Emotional self-control	4.13	0.75	3.58	0.94
Applying theory into practice	4.23	0.87	3.57	0.93
Long life learning	4.37	0.76	3.64	1.05
Adapting to various cultures and religions	3.60	1.18	3.78	0.99
Preservation of environment	3.67	1.13	3.38	1.06
Negotiation / intermediation towards solution	4.21	0.96	3.40	0.93
Effective conflict management	4.21	0.87	3.37	0.95
Representing client's interests	4.13	0.91	3.64	0.92
Presenting work	4.15	0.94	3.66	0.97
Presenting your firm	4.34	0.87	3.70	1.00
Work in team	4.60	0.63	3.90	0.94
Delegating tasks in team	4.13	0.82	3.51	0.91
Motivate other team members	4.24	0.79	3.42	1.02
Preparation of projects	4.13	0.96	3.35	1.08
Implementing projects	4.42	0.79	3.51	1.03
Adaptability to new work conditions	4.53	0.69	3.64	1.02
Work under pressure	3.74	1.08	3.29	0.99
Persuasion	3.65	1.01	3.31	0.92
Active listening	4.25	0.88	3.52	0.97
Taking responsibility	4.58	0.67	3.42	1.08
Making decisions	4.31	0.77	3.38	1.01
Independent work	4.57	0.61	3.75	0.95
Taking on different roles	4.08	0.87	3.52	1.01
Basic knowledge of…				
… theoretical economics	3.41	1.16	3.07	1.23
… accounting	3.61	1.16	3.28	1.23
… finance	3.62	1.12	3.29	1.24
… management	3.50	1.07	3.03	1.20
… marketing	3.45	1.13	2.92	1.21
… Croatian language	4.00	1.07	3.61	1.09
… English language	3.91	1.03	3.40	1.17
… another foreign language	3.21	1.24	2.72	1.15
Writing business letters	3.94	1.16	3.46	1.15
Writing financial reports	3.62	1.27	3.24	1.30
Interpreting tables and graphs	3.65	1.08	3.31	1.15
Calculating prices, costs and budgets	3.90	1.09	3.44	1.13
Using fractions, decimals and percentages	3.69	1.22	3.42	1.18
Making tables and graphs	3.62	1.11	3.29	1.16
Using simple algebra	3.62	1.17	3.35	1.22
Using advanced math and stats	3.19	1.16	2.61	1.22
Using calculator	4.06	1.09	4.15	1.04
Using Internet	4.58	0.73	4.35	0.96
Using e-mail	4.62	0.67	4.36	0.97
Money transactions via Internet	3.74	1.32	3.78	1.36
Work with text files	4.42	0.83	3.99	1.11
Work with tables	4.35	0.91	3.79	1.18
Work with presentations	3.79	1.13	3.34	1.30
Work with databases	3.21	1.24	2.56	1.27
Work with advanced math and stats programs	2.81	1.24	2.32	1.21
Programming and writing codes	2.38	1.26	2.00	1.19
Participation in on-line discussions	2.49	1.25	2.38	1.26
On-line learning	3.29	1.30	2.89	1.33

In the last section of questionnaire, respondents had to evaluate the importance of each competency for their work environment i.e. if they were to hire new worker how important would certain competency be in improving their chance of getting a job. Additionally, they were also asked to evaluate how represented are those competences among their current employees. Questionnaire emphasized that this evaluation should be done only positions that require Economics and Business background. An average year of respondents' working experience is 18.9 while the average tenure (at current employer) is 10.5 years which adds some validity to results. Basic results of this evaluation are presented in Table II. Based on this, we can see that employers put the most emphasis on the "ability to take responsibility" (for worker's actions), and at the same time, this was the area with the greatest difference of what employers regard as important and what stock of competences their employees currently possess. Also regarded as very important are competences like "motivating oneself to work", "organizing and planning" your activities and "being able to work in a team". From the competences specific to Economics and Business field the most important one was to be able to use emails, use Internet, work with text files (such as in MS Word) and using a calculator.

IV. DATA ANALYSIS AND DISCUSSION

In order to reduce the number of competences for analytical purpose, a factor analysis was performed with goal of identifying common underlying factors of the 58 competence-items. Using a standard criterion of eigenvalue greater than one, eight factors were extracted. Based on list of competences that were loading on each factor, eight factors were relabeled into eight key competences (Table III): (1) economics and business specific; (2) collectedness, conflict resolution and presentation; (3) IT proficiency; (4) business communication; (5) project management and professionalism; (6) advocacy, language fluency; (7) motivation and organization; and (8) basic algebra. Together these eight factors explain 80% of original variance. Kaiser-Meyer-Olkin sampling adequacy measure of 0.88 justifies the usage of factor analysis. Competences 1, 3, 4 and 8 are labelled as "specific" i.e. something highly associated with work positions held by someone with business and economics background, while competences 2, 5, 6 and 7 are labelled as "generic" competences, i.e. something used at almost any workplace.

Afterwards, for each factor (i.e. key competency) a sum score was calculated and divided by the total number of items per each factor. To determine a relative rank order (importance) of eight key competences a sign test was used to analyze whether the median ratings of each pair of competences significantly differed. If no such differences were recorded each competence was assigned the same rank. Finally, a regression model with fixed effects was used to analyze the impact of competency gap on firms' performance.

TABLE III
FACTOR ANALYSIS RESULTS

Key competences	Competence-items	F1	F2	F3	F4	F5	F6	F7	F8
Economics and Business specific	Basic knowledge of theoretical economics	0.71							
	Basic knowledge of accounting	0.88							
	Basic knowledge of finance	0.86							
	Basic knowledge of management	0.65							
	Basic knowledge of marketing	0.46							
	Writing financial reports	0.76							
	Interpreting tables and graphs	0.53							
	Calculating prices, costs and budgets	0.56							
	Making tables and graphs	0.47							
	Money transactions via Internet	0.70							
Collectedness, conflict resolution and presentation	Emotional self-control		0.49						
	Preservation of environment		0.58						
	Negotiation / intermediation towards solution		0.69						
	Effective conflict management		0.73						
	Representing client's interests		0.56						
	Presenting work		0.59						
	Presenting your firm		0.63						
	Work in team		0.46						
	Delegating tasks in team		0.53						
	Motivate other team members		0.60						
IT proficiency	Using advanced math and stats			0.54					
	Work with presentations			0.58					
	Work with databases			0.75					
	Work with advanced math and stats programs			0.79					
	Programming and writing codes			0.81					
	Participation in on-line discussions			0.77					
	On-line learning			0.59					
Business communication	Basic knowledge of English language				0.47				
	Writing business letters				0.46				
	Using Internet				0.84				
	Using e-mail				0.83				
	Work with text files				0.80				
	Work with tables				0.70				
Project management and professionalism	Preparation of projects					0.58			
	Implementing projects					0.59			
	Adaptability to new work conditions					0.58			
	Taking responsibility					0.61			
	Making decisions					0.59			
	Independent work					0.56			
Advocacy, language fluency	Awareness of your actions onto others						0.46		
	Proactive and effective communication						0.60		
	Work under pressure						0.57		
	Basic knowledge of Croatian language						0.46		
	Basic knowledge of another foreign language						0.47		
Motivation and organization	Motivate oneself to do work							0.48	
	Organizing and planning							0.60	
	Work towards common goals							0.67	
Basic algebra	Using fractions, decimals and percentages								0.57
	Using simple algebra								0.59

Using orthogonal rotation. Factor loadings lower than 0.45 were dropped.

Table IV shows the results of relative ranking of key competences. Results are, as before, on a five-point Likert scale, with mean values ranging from 2.44 to 4.59. Key competences "motivation and organization", "project management and professionalism" and "business communication" were ranked the highest, while "basic algebra", "IT proficiency" and "economics and business specific" competences were ranked the lowest. Interesting to notice is that top three desired key competences are all of generic type while lowest three competences are specific to economic and business field. These results confirm the first hypothesis *H1*, i.e. employers view generic competences are

more important from their employees with Economics and Business background.

TABLE IV
DESCRIPTIVE STATISTICS AND RANK ORDER OF KEY COMPETENCES

Factors	Key competence	Mean	St. Dev.	Ranking
F1	Economics and business specific	3.61	0.92	6
F2	Collectedness, conflict resolution and presentations	4.2	0.6	4
F3	IT proficiency	3.02	0.98	7
F4	Business communication	4.30	0.73	2
F5	Project management and professionalism	4.42	0.56	2
F6	Advocacy, language fluency	3.93	0.71	5
F7	Motivation and organization	4.59	0.45	1
F8	Basic algebra	2.44	0.73	8

Based on the sign test factors 4 and 5 are not statistically significant.

TABLE V
GAP IN KEY COMPETENCES

	Key competence	Importance		Representation		Diff.
		Me.	St. d.	Me.	St. d.	
F1	Economics and business specific	3.61	0.92	3.27	1.03	0.35
F2	Collectedness, conflict resolution and presentations	4.2	0.6	3.56	0.77	0.63
F3	IT proficiency	3.02	0.98	2.59	1.03	0.44
F4	Business communication	4.30	0.73	3.89	0.92	0.41
F5	Project management and professionalism	4.42	0.56	3.51	0.88	0.91
F6	Advocacy, language fluency	3.93	0.71	3.34	0.81	0.60
F7	Motivation and organization	4.59	0.45	3.77	0.80	0.81
F8	Basic algebra	2.44	0.73	2.26	0.76	0.18

To see the degree of matching between the level of competences which employer sees as the most important and the level they are currently possessed in its workforce, the means of those two categories were subtracted (last column in Table V). The gap is lowest for "basic algebra", "economics and business specific" competences and "business communication" meaning that a degree of training workers come equipped with (or learn on the job) in those competences is very close to what is demanded of them by employers. On the other end are competences like "project management and professionalism", "motivation and organization" and "collectedness, conflict resolution and presentation" whose level of representation does not meet employers' standards. Notice also that the former groups of competences are all specific competences while latter ones are of generic type. Thus, second hypothesis *H2* is also confirmed, i.e. the gap between desired level of competences and level represented among existing workforce is greater for generic competences. Finally, the last analysis looked into connection between key competence gap and performance of a certain enterprise. Performance was measured as reported revenue of a firm. Low competency gap would imply that employees are more efficient in their work (they possess exactly the right combination and level of competences that work environment is demanding) and they are able to generate more revenue for the firm. The opposite is true for high competency gap. For each firm $i, i \in \{1, 2, \dots, 156\}$ and for each key competency $k, k \in \{1, 2, \dots, 8\}$ an existence of competency gap $g_{i,k}$ is here defined as binary variable that takes a value of 1 if a (absolute value of) competency gap deviation of particular firm is greater than one standard deviation from the competency mean gap of entire sample. Mathematically, this can be expressed as:

$$g_{i,k} = \begin{cases} 1, & if \quad |g_{i,k}| > s_{g_k} \\ 0, & othherwise \end{cases} \tag{1}$$

The regression model is defined as:

$$Y = \alpha + \beta G + \delta X + e \tag{2}$$

where Y represents logarithm (ln) of firms' revenue, $G_{156\times 8}$ is a matrix of dummy variable vectors representing competency gaps in each of eight key competences defined earlier, X is a matrix that includes dummies for five regions, industry sectors and ownership and e is the error term. α, β and δ are vectors of parameters to be estimated. Four separate models were specified, where first iteration included no controls while subsequent iterations progressively added more controls. Results of estimated model are presented in Table VI.

Only variable g_7 i.e. gap in key competency "motivation and organization" shows to be statistically significant in explaining differences in revenue in first two models, but as more controls are added its significance vanishes. Gap in any other competence shows no evidence of correlation with firms performance, at least in terms of revenue earned. Furthermore, some of the models show very low explained variance. This indicates that other variables, that are not included in this survey, are better at explaining firms' performance. Hence, third hypothesis *H3* cannot be confirmed, i.e. the gap between desired level of competences and level represented among existing workforce is not shown to be correlated with performance of an enterprise.

V. CONCLUSION

The goal of this research was threefold: (1) to analyze which competences do employers consider to be "key competences" for employees with Economics and Business background; (2) what is the gap between desired level of these competences and the level that current workforce possesses them; and (3) how is this gap connected to firms' performance. Data was collected using a questionnaire on a representative sample of Croatian firms. On-line version of questionnaire was sent either to firms' owner (or CEO) or to the chair of Human Resource (HR) department, as they were best suited to address questions asked. Besides this primary data, paper also utilized three major Croatian company databases: Financial Agency database, Business Croatia database and BizNet database.

TABLE VI
RESULTS OF REGRESSION MODEL

	(1)	(2)	(3)	(4)
g_1	-0.075	-0.152	0.299	0.531
	(-0.14)	(-0.28)	(0.54)	(0.93)
g_2	0.164	0.152	0.287	0.366
	(0.32)	(0.29)	(0.52)	(0.66)
g_3	-0.232	-0.284	-0.458	-0.549
	(-0.49)	(-0.59)	(-0.95)	(-1.10)
g_4	-0.826	-0.799	-0.735	-0.705
	(-1.48)	(-1.38)	(-1.23)	(-1.18)
g_5	0.0355	0.122	0.332	0.422
	(0.07)	(0.24)	(0.64)	(0.81)
g_6	0.249	0.189	0.114	-0.025
	(0.48)	(0.36)	(0.20)	(-0.04)
g_7	0.794*	0.801*	0.289	0.415
	(1.77)	(1.76)	(0.59)	(0.83)
g_8	-0.047	-0.027	0.048	-0.043
	(-0.10)	(-0.06)	(0.10)	(-0.08)
Region control	No	Yes	Yes	Yes
Industry control	No	No	Yes	Yes
Ownership control	No	No	No	Yes
R^2	0.0940	0.0992	0.2991	0.3072
N	138	138	138	138

(***), (**) and (*) denote 1%, 5% and 10% level of significance, respectfully. t-statistics are in parentheses.

Results have shown that employers in general put more emphasis on generic competences rather than economics and business specific ones. The most important generic competences have shown to be: motivation and organization; project management and professionalism; and collectedness, conflict resolution and presentation. On the other hand, most important specific competencies are: business communication and IT proficiency. Lowest ranked specific competency is "basic algebra" and generic competency "advocacy and language fluency". It should be stressed out that, as [6] point out, generic competences do not replace domain-specific competences needed for basic day-to-day operations, but rather provide a wider focus and point out the most relevant competency fields. In terms of competency gap between its importance and current level of representation, it was shown that generic competences like "project management and professionalism" and "motivation and organization" exhibit larger gap than economic and business specific competences like "basic algebra" or business communication". However, this gap was shown to not be correlated with firms' performance, at least in terms of revenue. It would suggest that other factors, not covered in this study, play a much bigger role in determining firms' financial situation. This brings us to a conclusion that economics and business specific competences are right on the level where they should be i.e. their relative importance is very close to the level they are currently represented by existing workforce. Deviations are minimal for "basic algebra" competency. The story is quite opposite for generic competences which show much larger deviations. The largest discrepancies are for "project management and professionalism" and "motivation and organization" competences". Overall we can see that generic competences are both more important and currently lacking in existing workforce, and it should be a primary target for employee training courses as well as educational systems. This analysis is, however, subject to a number of limitations. It would be unwise to generalize these findings to job positions that require education background other than Economics and Business. While group of competences labelled as generic may be similar in their nature they may be quite different in their importance. Specific competences for other working positions are, in most of the cases, completely different, and cannot be used elsewhere. Another limitation is somewhat low number of respondents. Although research shows that response rate to a web-based survey are higher, response rate started declining rapidly two days after the initial invitations were sent. Add to this the fact that only CEOs or heads of HR department can fill this questionnaire and the risk of low response increases exponentially. While on-line surveys offer cost savings, greater options for editing and analysis, wider magnitude of coverage and quicker response time, they often display presentation issues of a computer questionnaire, lower levels of confidentiality and they might be missing additional instructions. Finally, this research did not respond to how the employees acquired competences in first place. Was it via job training programme or were they learned during their education process. More research iS needed in this area.

APPENDIX

Two tables are appended. Table VII shows distribution of firms in the original sample by counties (NUTS 3) and NACE Rev.2 code 1 digit sectors, and Table VIII shows categorization of Croatian regions.

TABLE VII
DISTRIBUTION OF FIRMS IN THE ORIGINAL SAMPLE BY COUNTIES (NUTS3) AND NACE REV.2 CODE 1 DIGIT SECTORS

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Q	R	S	Total
Zagrebacka			3		1	1	5	1			2					1			17
Krapinsko-Zagorska	1		1			2													4
Sisacko-Moslavacka																			1
Karlovacka											1								1
Varazdinska			4			1												1	6
Koprivničko-Krizevacka			2			1							2						5
Bjelovarsko-Bilogorska			4				1			1									6
Primorsko-Goranska			3		3	1	2		2	1						1	1		15
Licko-Senjska																			2
Viroviticko-Podravska	1		2																3
Pozesko-Slavonska										1									1
Brodsko-Posavska			1			1				1					1				5
Zadarska					1	1		2	1				2						7
Osijecko-Baranjska			4		1					1			1	1					8
Sibensko-Kninska													1						1
Vukovarsko-Srijemska			1		1		1									1			4
Splitsko-Dalmatinska			1	1		1		1	1	1			1						8
Istarska			5			1	2	1				1	1						13
Dubrovacko-Neretvanska					1	1		1					1						6
Medimurska			2		1	1	1		1								1		8
City of Zagreb		1	1	1		3	4	3		5	3		6	1		1		1	35
Total	2	1	34	2	9	15	16	9	5	11	6	1	15	2	1	4	2	2	**156**

TABLE VIII
REGION CATEGORIES

Region	County (NUTS 3)
Central Croatia	City of Zagreb
	Zagreb county
	Karlovacka county
	Sisacko-moslavacka county
	Bjelovarsko-bilogorska county
North-western Croatia	Krapinsko-zagorska county
	Koprivnicko-krizevacka county
	Varazdinska county
	Medimurska county
East Croatia	Viroviticko-podravska county
	Osjecko-baranjska county
	Vukovarsko-srijemska county
	Brodsko-posavska county
	Pozesko-slavonska county
North Adriatic and Lika	Istarska county
	Primorsko-goranska county
	Licko-senjska county
Central and South Adriatic	Zadarska county
	Sibensko-kninska county
	Splitsko-neretvanska county
	Dubrovacko-neretvanska county

ACKNOWLEDGMENT

Author thanks Dr. Pamela Campanelli from the Social Research Association in the UK for all advices regarding the final form of questionnaire.

REFERENCES

[1] B. R. Agle, R. K. Mitchell and J. A. Sonnenfeld, "Who matters to CEOs? An investigation of stakeholder attributes and salience, corporate Performance, and CEO values," *Academy of Management Journal*, vol. 42, no. 5, pp. 507-525, 1999.

[2] Y. H. Ahn, A. R. Pearce and H. Kwon, "Key competencies for U.S. construction graduates: industry perspective," *Journal of Professional Issues in Engineering Education and Practice*, vol. 138, no. 2, pp. 123-130, 2012.

[3] K. J. Arrow, "The economic implications of learning by doing," *Review of Economic Studies*, vol. 29, no. 3, pp. 155-173, 1962.

[4] D. Autor, J. Levy and R. Murnane, "The skill content of recent technological change: an empirical exploration," *Quarterly Journal of Economics*, vol. 118, no. 4, pp. 1379-1333, 2003.

[5] A. Bartel, R. Freeman, C. Ichniowski and M. M. Kleiner, "Can a work organization have an attitude problem? The impact of workplaces on employee attitude and economic outcomes," *NBER Working Paper No. 9987*, 2003.

[6] M. Barth, J. Godemann, M. Rieckmann and U. Stoltenberg, "Developing key competencies for sustainable development in higher education," *International Journal of Sustainability in Higher Education*, vol. 8, no. 4, pp. 416-430, 2007.

[7] R. G. Biesma, M. Pavlova, G. G. van Merode and W. Groot, "Using conjoint analysis to estimate employers preferences for key competencies of master level Dutch graduates entering the public health field," *Economics of Education Review*, vol. 26, no. 3, pp. 375-386, 2007.

[8] R. G. Biesma, M. Pavlova, R. Vaatstra, G. G. van Merode, G. G. Czabanowska, T. Smith and W. Groot, "Generic versus specific competencies of entry-level public health graduates: employer's perception in Poland, the UK, and the Netherlands," *Advances in Health Sciences Education*, vol. 13, no. 3, pp. 325-343, 2008.

[9] T. Bresnahan, E. Brynjolfsson and L. Hitt, "Information technology, workplace organization and the demand for skilled labor: firm level evidence," *Quarterly Journal of Economics*, vol. 117, no. 1, pp. 339-378, 2002.

[10] B. G. Chung-herrera, C. A. Enz and M. J. Lankau, "Grooming future hospitality leaders: a competencies model," *Cornell Hotel and Restaurant Administration Quarterly*, vol. 44, no. 3, pp. 17-25, 2003.

[11] W. Cohen and D. Levinthal, "Absorptive capacity: a new perspective on learning and innovation," *Administrative Science Quarterly*, vol. 35, no. 1, pp. 128-152, 1990.

[12] M. G. Colombo, M. Delmastro and L. Rabbiosi, "High performance work practices, decentralization, and profitability: evidence from panel data," *Industrial and Corporate Change*, vol. 16, no. 6, pp. 1037-1067, 2007.

[13] C. R. Dreyfus, "Identifying competencies that predict effectiveness of R&D managers," *Journal of Management Development*, vol. 27, no. 1, pp. 76-91, 2008.
[14] S. Fallows and C. Steven, "Embedding a skills program for all students," in *Integrating key skills in higher education*, London, 2000, pp. 17-31.
[15] D. Finegold and A. S. Notabartolo, *21st century competencies and their impact: an interdisciplinary literature review*. Washington: Board on Training and Assessment, 2010.
[16] J. Forth and G. Mason, *Do ICT skills shortages hamper firms' performance? Evidence from Uk benchmarking surveys.* London: National Institute of Economic and Social Research, 2006.
[17] J. J. Heckman, "Policies to foster human capital," *Research in Economics*, vol. 54, no. 1, pp. 3-56, 2000.
[18] J. J. Heckman and T. Kautz, "Hard evidence on soft skills," *Labour Economics*, vol. 19, no. 4, pp. 451-464, 2012.
[19] M. H. M. Jamshidi, A. Rasli and R. Yusof, "A research design to predict HR managers and professionals' competencies of universities," *Journal of Basic and Applied Scientific Research*, vol. 2, no. 6, pp. 5694-5702, 2012.
[20] E. Kelly, P. O'Connell and E. Smyth, "The economic returns to field of study and competencies among higher education graduates in Ireland," *Economics of Education Review*, vol. 29, no. 4, pp. 650-657, 2010.
[21] K. Laursen, N. J. Foss, "New human resource management practices, complementarities and the impact on innovation performance," *Cambridge Journal of Economics*, vol. 27, no. 2, pp. 243-264, 2003.
[22] R. Leoni, "Workplace design, complementarities among work practices, and the formation of key competencies: evidence from Italian employees," *ILR Review*, vol. 65, no. 2, pp. 316-349, 2012.
[23] B.-A- Lundvall, "Innovation as an interactive process: user-producer relations," in G. Dosi, C. Freeman, R. R. Nelson, G. Silverberg and L. L. Soete (Eds.), *Technical Change and Economic Theory*, London: Pinter, pp. 349-369, 1988
[24] K. Mahmood, "A comparison between needed competencies of academic librarians and LIS curricula in Pakistan," *The Electronic Library*, vol. 21, no. 2, pp. 99-109, 2003.
[25] S. U. Rehman, S. Majid and A. B. A. Baker, "Competencies for future library professionals of academic libraries in Malaysia," *Library Review*, vol. 46, no. 6, pp. 381-393, 1997.
[26] M. Rieckmann, "Future-oriented higher education: which key competencies should be fostered through university teaching and learning?," *Futures*, vol. 44, no. 2, pp. 127-135, 2012.
[27] N. Rosenberg, "Learning by using," in N. Rosenberg (Eds.), *Inside the black box: technology and economics*, New York, NY: Cambridge University Press, pp. 120-140, 1982
[28] D. S. Rychen, "Key competencies: meeting important challenges in life," in D. S. Rychen and L. H. Salganik (Eds.), *Key competencies for a successful life and well-functioning society*, Rohnswer: Hogrefe & Huber Publishers, pp. 103-139, 2003
[29] J. Semeijn, C. Boone, R. van der Valden and A. van Witteloostuijn, "Graduates' personality characteristics and labor market entry: an empirical study among Dutch economic graduates," *Economics of Education Review*, vol. 24, no. 1, pp. 67-83, 2005.
[30] J. Shury, M. Winterbotham, B. Davies, K. Oldfield, M. Spilsbury and S. Sonstable, *National employer skills survey for England 2009: main report: evidence report 23.* IFF Research and UK Commission for Employment and Skills, 2010.
[31] L. M. Spencer and S. M. Spencer, *Competence at work: models for superior performance.* New York: John Wiley and Sons, 1993.
[32] C. Spicer, "Building and competency model. Screening job candidates for desired competencies pays off in higher sales and lower turnover," *HR Magazine*, vol. 54, no. 4, pp. 1-3, 2009.
[33] P. A. Stevens, *Skill shortages and firms' employment behaviour*. London: National Institute of Social and Economic Research, 2004.
[34] D. Ulrich, W. Brockbank, D. Johnson, K. Sandholtz and J. Younger, *HR competencies: mastery at the intersection of people and business.* Alexandria, VA: Society for Human Resource Management, 2008.
[35] A. Zehrer and C. Mossenlechner, "Key competencies of tourism graduates: the employer's point of view," *Journal of Teaching in Travel & Tourism*, vol. 9, no. 3-4, pp. 266-287, 2009.
[36] M. Iootty, P. Correa, S. Radas and B. Škrinjarić, "Stylized facts on productivity growth. Evidence from firm-level data in Croatia," *Policy Research Working Paper 6990*, 2014.
[37] F. W. Taylor, *The principles of scientific management*. Harper, 1914.