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JOB SATISFACTION OF IT PROFESSIONALS IN POLAND: DOES BUSINESS COMPETENCE MATTER?

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Abstract. This paper examines the effects of business competence on the job satisfaction of Information Technology (IT) professionals in Poland. The necessary data is collected from a survey conducted among 391 IT professionals working in various companies in Poland. The results of the analysis indicate that business competence, in general, positively affects the job satisfaction of IT professionals in transition economies. However, business competence seems to have mixed effects on various aspects of job satisfaction. Although business competence affects satisfaction with co-workers, supervision and work itself, the surveyed IT professionals feel that business competence does not have any substantial effect on their salary level and professional promotions. The theoretical implication of this study is that systematic development of human capital by building business competence will have positive effects on the job satisfaction of IT professionals in transition economies. This paper also has a practical implication for managers in transition economies seeking improvements in productivity as it may help them to devise a compensation and promotion system that would better account for competency in their employees.

Keywords: Business competence, business knowledge, human capital, information technology management, IT professionals, job competency, job satisfaction, Poland, transition economies.

JEL Classification: J00, J30, J31, J32, J40, M50.

Introduction

Although many information technology (IT) investments are conducted in transition economies like Central and Eastern Europe, limited research about exactly which job competency assures stable employment and professional carrier combined with job satisfaction is reported from this region (Roztocki, Weistroffer 2015). The majority of studies on job satisfaction was conducted in Western Europe and North America (Eyupoglu, Saner 2009), while not much is known about job satisfaction in countries in Central and Eastern Europe (Lange 2009). Despite more than two decades of

transition process, there is a substantial economic gap between transition economies and the mature, developed economies (Kowal, Roztocki 2013). One explanation of the persistence of this economic gap could be seen in the so-called "fragile human capital" (Soja, Paliwoda-Pekosz 2013). In essence, many companies in transition economies struggle with the development of human capital resources, since many employees leave the countries to seek positions in mature, developed economies that would give them better salaries and promotion prospects, thus making hiring and retaining competent employees an issue (Kowal, Roztocki 2015; Piotrowicz 2015). However, competent and better trained employees with the prospect of higher salary and promotion are more likely to innovate, which in turn leads to a strengthening of the company's position in the global market (Díaz-Fernández *et al.* 2014; Vila *et al.* 2014). Thus, understanding the relationship between competency and job satisfaction can indirectly serve to improve the economic situation in many transition economies.

In the context of this paper, we define job competency as a set of abilities and attitudes "that might directly or indirectly affect job performance" (Woodruffe 1993). Job satisfaction can be defined as an affective or attitudinal reaction to a job (Spector 1985). Several aspects, such as pay, promotion, co-workers, supervisors, and work itself, may constitute the overall satisfaction with the job (Vitell, Davis 1990).

In this research, we attempt to close the gap by investigating the relationship between business competency and job satisfaction in Poland, a transition economy located in Central and Eastern Europe. Thus, the main research question guiding our research is formulated as follows: Does business competency lead to job satisfaction among IT professionals working in companies in Central and Eastern Europe? The rest of the paper is structured as follows. In the proceeding section, we review literature related to business environment in transition economies, business competency, and job satisfaction. The results of literature review are then used in establishing a set of hypotheses. These hypotheses are tested using data from a structured survey conducted among IT professionals working for companies in Poland. Next, the results of this survey are presented and implications are discussed. After outlying our contribution, we conclude the paper with presenting some ideas for future research.

1. Background and literature review

1.1. Business environment and the IT use in transition economies

Transition economies are economies that are in a long-term process of transition from a centrally planned economic system to a market driven system (Roztocki, Weistroffer 2011a). Although the transformation started more than two decades ago, many transition economies still suffer from the communist past in the form of a lingering government bureaucracy and managerial attitudes not fully attuned to free market economy (Roztocki, Weistroffer 2009). In addition, often unclear legislation present in many transition economies, also a relic of the past times of a centrally planned economy (Soja 2008), complicates business operations.

Existing reports point to differences in management style. For example, managers in transition economies in general seem to rely less on hard data in comparison to their

colleagues in developed, mature economies. This may be explained in absence of historical data and need for managerial flexibility in fast changing regulatory environment (Kozminski 2008). Moreover, as compared to the developed countries, in transition economies many managers identify themselves less with their company and often tend to look at the firm only with their own interest in mind (Soja 2008). This could be another relic within the history of a centrally planned economy as one the main objectives of the companies was to provide work and income for populace (Roztocki, Weistroffer 2008).

1.2. Job competency of IT professionals

Relatively few reports related to the competency of employees in transition economies exist. In one study Parts *et al.* (2013) conducted a survey among 534 alumni of the Tallinn University of Technology one and half years after their graduation. Most respondents were employed and satisfied with their job. They felt that both technical competences (computer and learning skills, professional knowledge) and non-technical competences (social competences, self-expression and presentation skills, and foreign language) are necessary for employability.

Therefore, in addition to a solid technical knowledge, also called IT competency (Bassellier *et al.* 2001), successful IT professionals must pose a robust understanding of business and have effective interpersonal skills (Todd *et al.* 1995). Overall this set of nontechnical skills, also termed as business competence, accordingly to the taxonomy proposed by Bassellier and Benbasat (2004), and could be divided in two categories: organization specific and interpersonal and management. This taxonomy of business competence is summarized in Table 1.

Table 1. Business competency categories of IT professionals (Adapted from Bassellier and Benbasat (2004))

Competency category	Sub-category	Description
Organization specific	Organizational overview	Knowledge about the organization, its goals, core capabilities, customers, and competitors.
	Organizational units	Understanding functions of various organizational units and their role in achieving goals of the organization.
	Organizational responsibility	Responsibility of IT professionals for organizational business processes and their outcomes.
	IT-business integration	Ability to use IT as problem solver for various organizational business problems.
Interpersonal and management	Knowledge networking	Knowing where knowledge resides within and outside the organization.
	Interpersonal communication	Ability to develop and maintain relationships with others, capability to develop a social network across various organizational units and beyond boundaries of organization.
	Leadership	Skills to manage and ability to find ways of integrating business processes with IT.

1.3. Job satisfaction

Job satisfaction is frequently defined as the emotional-affective response of the employees to the job (Spector 1985). Job satisfaction is an important organizational construct as it could explain employee motivation, their performance, absenteeism and turn-over (Koh, Boo 2001). Motivated employees positively affect firm performance. Multiple aspects, such as pay, security, initiative, opportunities for independent decision-making, responsibility, sense of achievement, hours of work, promotion prospects, working with pleasant people and pressure at work (Lange 2009), may explain the satisfaction with a given job.

Regarding job satisfaction in transition economies, Linz (2003) studied satisfaction among Russian workers and identified factors affecting the level of job satisfaction. In general, Russian workers were satisfied with their job, and there were positive correlations between job satisfaction and organizational commitment. No differences in job satisfaction were reported between genders; however, older employees are more likely to be satisfied than younger ones. S. M. Carraher and S. C. Carraher (2006) examined the applicability of traditional human resources management theories to 375 owners of small- to medium-sized enterprises in Belarus, Poland and Ukraine. Performance and annual incomes were relatively unrelated to job satisfaction. Regarding the relationships between performance, income, and job satisfaction, the authors think that many assumptions that are based on the traditional Western human resource management do not operate well with business owners in transition economies of Eastern Europe.

In a comparative study, Fargher *et al.* (2008) compared the impact of cultural values and beliefs on job satisfaction in eight transition economies with job satisfaction of twelve developed countries in Western Europe. Contrary to the developed economies, in transition economies the importance of family/friends and religion as a predictor for job satisfaction is not substantial. Sakowski (2012) studied job satisfaction of occupational medicine nurses in Poland. He observed low satisfaction with salary and promotion opportunities. He reports that about 26 percent of nurses who participated in the survey considered leaving Poland to find a job in one of mature, developed economies.

In a different study, Ubius *et al.* (2013) compared job satisfaction in three transition economies in Eastern Europe (Czech Republic, Estonia and Slovakia) with two counties in Asia (Japan and China). In contrast to the Asian counties where the innovation climate in an organization positively affects job satisfaction in transition economies, the relationship between innovation climate in a company and the level of job satisfaction was not identified in this study.

2. Research hypotheses

We decided to use the environmental hypothesis as the theoretical foundation of our study (Roztocki, Weistroffer 2011b). In transition economies, there are many environmental factors that are typical for many of these economies and may potentially affect the job satisfaction of IT professionals. The transition from a centrally planned to a market

economy, created opportunities for independent decision-making at the firm level, which resulted in more flexible reward mechanisms and larger income inequalities (Lange 2009). Overall, many transition economies are faced with typical conditions prevalent in emerging economies where there is a high demand for highly qualified workers but salaries remain low as compared with developed economies (Roztocki, Weistroffer 2011b). The relatively low salaries may motivate IT professionals working in transition economies to seek new job opportunities in and outside the country.

On first look, in a job market characterized by high demand for IT professionals and high employee turnover, employees possessing more than only technical skills may better brand themselves while looking for new employment opportunities. In addition, possessing solid business competence may help IT professionals advance in their company. Overall, strong business capabilities should support IT professionals' advancement in their job, which will subsequently lead to greater job satisfaction.

In order to provide an answer to the main research question, we decided to use a set of three hypotheses. In essence, these three hypotheses state that business competence does not have any effect on job satisfaction of IT professional working in transition economies. Obviously, we expect that these three hypotheses would be accepted.

Thus, we propose the following hypothesis to test whether or not business competence of IT professionals working in companies in Central and Eastern Europe has an effect on their job satisfaction:

H1: Business competence of IT professionals has significant effect on their job satisfaction.

Moreover, we were also interested in knowing if there is a difference in how organization-specific business knowledge and interpersonal and management knowledge affect job satisfaction.

Understanding the connection between IT and the business of an organization is an important non-technical skill and is referred to as organization-specific business knowledge (Bassellier, Benbasat 2004). This knowledge allows understanding the business of the company, its strategies and sources of competitive advantage. It is about organizational goals and objectives, core capabilities, and the business environment in which the company operates. It is also related to understanding the top management's preferences, as well as companies' policies and culture. It is quite reasonable to expect that the organization-specific business knowledge will affect employees' choices and their job satisfaction. However, it takes time to accumulate the organization-specific business knowledge, and this kind of business competency is not easy transferable.

Therefore, regarding organizational specific business knowledge, we propose the following hypothesis to test whether or not this business competence of IT professionals working in companies in Central and Eastern Europe has an impact on their job satisfaction:

H2: Organization specific business knowledge of IT professionals has significant effect on their job satisfaction.

Interpersonal and management knowledge is the ability to interact with and manage others (Bassellier, Benbasat 2004). It includes personal skills, such as the ability to build a professional network, interpersonal communication skills, and leadership skills (Bassellier, Benbasat 2004). Interpersonal and management knowledge may have a large impact on job satisfaction, as it is transferable to different organizations, and IT professionals with these skills are more likely to be promoted.

Thus, in regard to interpersonal and management knowledge, we propose the following hypothesis to test whether or not this business competence of IT professionals working in companies in Central and Eastern Europe has an effect on their job satisfaction:

H3: Interpersonal and management knowledge of IT professionals has significant effect on their job satisfaction.

Our research model is depicted in Figure 1.

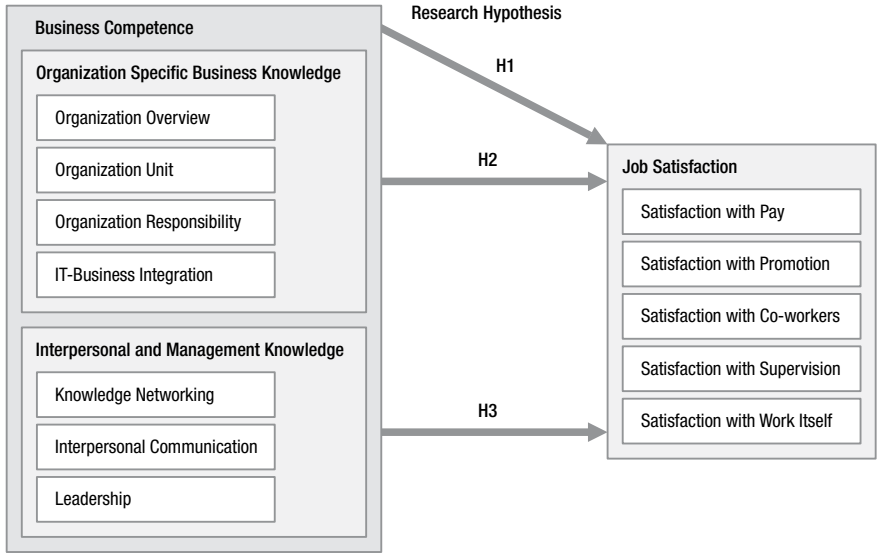

Fig. 1. Research framework

3. Methodology

To test the research hypothesis that guided our research, we decided to use a survey. This survey was conducted among IT professionals working for companies that are located in in Poland.

3.1. Research questionnaire development

To measure the independent variables related to business competence, we adopted the questionnaire developed by Bassellier and Benbasat (2004). The questions are depicted in Tables 2 and 3.

Table 2. Items for business competence regarding organization specific knowledge (Adapted from Bassellier and Benbasat (2004))

Dimension	Variable name	Question
Organizational overview	OVR1	Rate your level of knowledge of the organization's external environment (e.g. government, competitors, suppliers, and customers).
	OVR2	Rate your level of knowledge of the goals and objectives of the organization as whole.
	OVR3	Rate your level of knowledge of the core capabilities of the organization.
	OVR4	Rate your level of knowledge of the key factors that must go right for the organization to succeed.
Organizational units	UNT1	Rate your level of knowledge of the main challenges that different divisions in the organization face in achieving their objectives.
	UNT2	Rate your level of knowledge of the language (e.g. key concepts, jargon, ect.) of the different divisions in the organization.
	UNT3	How well do you understand the work processes of the different divisions in your organization?
	UNT4	Rate your level of knowledge of the connections and interdependencies between the various divisions in the organization.
Organizational responsibility	RES1	To what extend do you take actions to stay informed about business development not directly related to IT?
	RES2	How much do you participate in business activities that are not directly related to IT?
	RES3	To what extent are you concerned by the overall performance of your business organization?
	RES4	To what extent does your work have an impact on the performance of the organization?
IT-business integration	ITG1	How experienced are you at recognizing potential ways to exploit new business opportunities using IT?
	ITG2	How experienced are you at analyzing business problems in order to identify IT-based solutions (understanding situations, getting the "big picture" identifying underlying root problems, etc.)?
	ITG3	How experienced are you at evaluating the organizational impacts of IT solutions?
	ITG4	Rate your level of knowledge of the alignment between business goals and information systems in the organization as a whole.
	ITG5	Rate your level of knowledge of the way IT contributes to the value of the organization.

Note: All items are measured on a 5-point Likert-type scale: very low (1), low (2), neutral (3), high (4), very high (5); * Reverse scale items.

Table 3. Items for business competence regarding interpersonal and management knowledge (Adapted from Bassellier and Benbasat (2004))

Dimension	Variable name	Question
Knowledge networking	NET1	If you have a business question or problem that you cannot solve alone, how confident are you about finding the right person to contact in your organization?
	NET2	If you have a business question or problem that you cannot solve alone, how confident are you about finding the right contacts outside your organization (consultants, vendors)?
	NET3	If you have a business question or problem that you cannot solve alone, how confident are you about finding other relevant sources of business Information including Internet site, magazines, trade journals, and conferences?
Interpersonal communication	COM1	In general, how effective do you think you are at communicating with people at different levels of the organization (e.g., with your subordinates, peers, superiors)?
	COM2	How effective are you at working in a team environment?
	COM3	How well can you communicate about IT matters in non-technical language and within a business context to non-IT specialists?
Leadership	LEA1	In general, how effective do you think you are at managing projects (planning, managing resources, evaluating, etc.)?
	LEA2	In general, how effective do you think you are at acting in a leadership role (e.g. establishing direction, directing people, motivating and inspiring, etc.)?
	LEA3	Rate your level of knowledge of the existing practices for the management of change in the organization.
	LEA4	Rate your level of knowledge of the risk management practices that can be applied in the organization.

Note: All items are measured on a 5-point Likert-type scale: very low (1), low (2), neutral (3), high (4), very high (5); * Reverse scale items.

To measure the dependent variables related to job satisfaction we adopted the questionnaire that was used in previous studies (Vitell, Davis 1990). These variables are depicted in Table 4.

3.2. Research questionnaire adaptation and testing

We decided to adopt several changes to survey instruments. Basselier and Benbasat (2004) used 5 points on the Business Competency scale, while Vitell and Davis (1990) used 7 points on the Job Satisfaction scale.

The questionnaire was translated from English to Polish and adapted to cultural and business conditions in Poland. The adaptation included the method of competent judges, items discriminatory power, scales validity (CFA) and reliability (Cronbach's α) analysis.

Table 4. Items for job satisfaction (Adapted from Vitell and Davis (1990))

Dimension	Variable name	Question
Satisfaction with pay	SPAY1	My organization pays better than competitors.
	SPAY2	My pay is adequate, considering the responsibilities I have.
	SPAY3	I am underpaid for what I do. *
	SPAY4	My fringe benefits are generous.
Satisfaction with promotion	SPRO1	I do not like the basis on which my organization promotes people. *
	SPRO2	Promotions are infrequent in my organization.*
	SPRO3	If I do a good job, I am likely to get promoted.
	SPRO4	I am satisfied with my rate of advancements.
Satisfaction with co-workers	SCOL1	The people I work with do not give me enough support. *
	SCOL2	When I ask people to do things, the job gets done.
	SCOL3	I enjoy working with the people here.
	SCOL4	I work with responsible people.
Satisfaction with supervisor	SBOS1	The manager I work for back me up.
	SBOS2	The managers I work for are "top notch".
	SBOS3	My superiors don't listen to me. *
	SBOS4	My management doesn't treat me fairly. *
Satisfaction with work itself	SJOB1	My job is interesting.
	SJOB2	I feel good about the amount of responsibility in my job.
	SJOB3	I would rather be doing another job. *
	SJOB4	I get little sense of accomplishment from doing my job. *

Note: All items are measured on a 5-point scale: strongly disagree (1), disagree (2), neutral (3), agree (4), strongly agree (5); * Reverse scale items.

For all dimensions in both questionnaires standardized Cronbach's alpha coefficients were greater than 0.8. To check for the quality of translation, the questionnaires were then translated back in English by a different translator. This version was very similar to the original one.

Our questionnaire's adaptations were made to the content, format, and response options of some part of the questions (Harkness *et al.* 2010). The goal of the adaptations was to better fit the questionnaires to the needs of the Polish population, language, culture, social structures and business environment. To assess the discriminant validity of the construct, we examined with the Average Variance Extracted (AVE) method, whether the amount of variance explained by the construct in relation to the amount of variance due to the measurement error is significant (Fornell, Larcker 1981; MacKenzie *et al.* 2011). The AVE results for Business Competence and Job Satisfaction constructs were

statistically significant and respectively equal to: AVE (BC) > 0.78 and AVE (JS) > 0.68, which are quite acceptable results for both adapted questionnaires.

Validity manifested by content, criterion, and construct validity is related to the extent to which an instrument measures what it is intended to measure (Cronbach, Meehl 1955). Constructs (dimensions, for example Job Satisfaction or Business Competency) validity is crucial to the overall observed validity of the test and we verified it by using the methods of the Confirmatory Factor Analysis (CFA) as described by Thompson (2004). The results concerning validity for both adapted questionnaires were positive; the tracking errors data indicated by the RMSEA statistics for Job Satisfaction was 0.04 and 0.03 for Business Competency. As an external criterion for evaluating the validity, we have chosen the average rates (on a scale of 1 to 5) of compliance questionnaires given by competent judges, which in the case of both questionnaires were fairly high. The results of Job Satisfaction included the mean of m = 4.3, the Kendall's coefficient of concordance W = 0.8, and for the Business Competency results were equal to m = 4.1 and W = 0.7, respectively.

Reliability (ability of an instrument to measure consistently) was estimated by Cronbach's alpha, with satisfying results. The Cronbach's alpha and average correlation coefficient for Business Competency Scale were equal to alpha = 0.94 and r = 0.7 and for the Job Satisfaction Scale the results were: alpha = 0.90 and r = 0.6, respectively.

3.3. Participants and data collection

In February 2012, a questionnaire was posted on the website of the College of Management "Edukacja" in Wroclaw, Poland. Contact information of potential participants was retrieved from two databases: one compiled by the Centre for Scientific Research of College of Management "Edukacja" and second by the NOT-Federation of Engineering in Wrocław. These databases include several thousand representative addresses of IT specialists from across the country.

In the e-mail invitation sent by the first author to potential respondents, the research value of this survey was explained along with the previous work that was related to the topic of job satisfaction. No incentives were offered to the participants. From February 2012 to February 2013, 391 participants completed the online questionnaire, as depicted in Table 5.

The representativeness of the IT professionals sample was confirmed by control variables, such as the respondents' age, gender, income level, and the size of the company they work for. For example, in regard to the size of company, about 77 percent of respondents participating in our survey were employed in small and medium-sized companies, which is comparable to the national employment figures and published by the Polish Agency for Enterprise Development (2010).

Table 5. Sample characteristics (N = 391)

Variables and categories	Quantity	Percent
Age in years		
Less than 20	19	5
20–29	165	42
30–39	145	37
40–49	43	11
50–69	19	5
Total	391	100
Gender		
Male	239	61
Female	152	39
Total	391	100
Firm size		
Micro – up to 9 people	71	17
Small – from 10 to 49 people	77	20
Medium – from 50 to 250 people	155	40
Large – from 250 people	88	23
Total	391	100
Level of salary		
Much lower than average	24	6
Lower than average	61	16
Average level	142	36
Above average	129	33
Much above average	35	9
Total	391	100

3.4. Statistical methods

In our analysis, for each of the variables used in our research, common measures of central tendency and of dispersion, such as the arithmetic mean (the simple average, in this paper denoted as m), the median (Me), the standard deviation (s), skewness ($a3$) and kurtosis ($a4$) were calculated. To assess the strength of relation between the variables describing business competency and job satisfaction, and so to test our hypotheses, the Pearson product-moment correlation coefficient (denoted as r) was applied.

Furthermore, for the verification of the research hypotheses and for the purpose of generalizing the conclusions coming from this study on the general population, a 95% confidence interval (significance level of 0.05) for the mean was constructed.

4. Results

The descriptive statistics is depicted in Table 6 and the results of the correlation analysis are summarized in Table 7.

As it could be seen from Table 7, all aspects of job satisfaction are related to competency. The strength of the relation varies across items, however. Business competence of IT professionals in our sample seems to have a significant effect on their satisfaction with co-workers, supervisors, and work itself. In contrast, only a quarter (25%) of the respondents feel that their competency has an effect on their pay. For example, our analysis results show that influence of such dimensions like Interpersonal and Management Knowledge (IMK) and satisfaction with pay (SPAY) on Job Satisfaction (JS) is positive and statistically significant but not strong. Moreover, knowledge about the business integration seems to have only a marginal effect on job satisfaction in Polish conditions and the correlation may explain only maximum of 36% variation of job satisfaction. The main results of our analysis are summarized in Figure 2.

Table 6. Descriptive statistics (N = 391)

Variable codes	Long variable labels	*m*	*ll*	*rl*	*Me*	*s*	*a*3	*a*4
M8_age:	Age	32.8	31.9	33.7	31	9.2	1	1
OVR	Organizational overview	3.6	3.5	3.7	3.8	0.9	–0.2	–0.6
UNT	Organizational units	3.6	3.5	3.7	3.8	0.9	–0.3	–0.6
RES	Organizational responsibility	3.4	3.3	3.4	3.3	0.9	0	–0.6
ITG	IT-business integration	3.3	3.2	3.4	3	1	0.1	–0.5
OSBK	**Organization specific business knowledge**	**3.5**	**3.4**	**3.5**	**3.4**	**0.8**	**0.3**	**–0.7**
NET	Knowledge networking	3.6	3.5	3.7	3.7	1	–0.3	–0.7
COM	Interpersonal communication	3.7	3.6	3.8	4	1	–0.6	–0.5
LEA	Leadership	3.5	3.4	3.6	3.5	0.9	–0.1	–0.8
IMK	**Interpersonal and management knowledge**	**3.6**	**3.5**	**3.7**	**3.7**	**0.9**	**–0.1**	**–0.9**
BC	Business competence	3.5	3.4	3.6	3.5	0.8	0.2	–0.8
SPAY	Satisfaction with pay	2.7	2.6	2.8	2.5	0.9	0.2	–0.6
SPRO	Satisfaction with promotions	2.7	2.6	2.8	2.8	0.9	0.4	–0.2
SCOL	Satisfaction with co-worker	3.3	3.2	3.4	3.5	1	–0.1	–1.1
SBOS	Satisfaction with supervisors	3.3	3.2	3.4	3	1.1	0.1	–1.2
SJOB	Satisfaction with work itself	3.4	3.3	3.5	3.5	1.2	–0.1	–1.2
JS	**Global job satisfaction**	**3.1**	**3**	**3.2**	**3.1**	**0.9**	**0.2**	**–1**

Designations: *m* – mean; *ll* – 95% confidential interval left limit; *rl* – 95% confidential interval right limit; *Me* – median; *s* – standard deviation; *a*3 – skewness; *a*4 – kurtosis.

Table 7. Pearson's linear correlation coefficient matrix

Variable	SPAY: satisfaction with pay	SPRO: satisfaction with promotion	SCOL: satisfaction with co-workers	SBOS: satisfaction with supervision	SJOB: satisfaction with work itself	JS: global job satisfaction
OVR: organizational overview	0.5	0.5	0.6	0.6	0.6	0.7
UNT: organizational units	0.4	0.4	0.6	0.6	0.6	0.6
RES: organizational responsibility	0.5	0.5	0.6	0.6	0.6	0.7
ITG: IT-business integration	0.5	0.4	0.5	0.5	0.5	0.6
OSBK: = OVR + UNT + RES + ITG: organization specific business knowledge	**0.5**	**0.5**	**0.6**	**0.6**	**0.7**	**0.7**
NET: knowledge networking	0.4	0.4	0.6	0.6	0.6	0.6
COM: interpersonal communication	0.4	0.4	0.7	0.6	0.6	0.7
LEA: leadership	0.5	0.4	0.6	0.6	0.6	0.7
IMK: = NET + COM + LEA: interpersonal and management knowledge	**0.5**	**0.5**	**0.7**	**0.7**	**0.7**	**0.7**
BC: = OSBK + IMK: business competence	**0.5**	**0.5**	**0.7**	**0.7**	**0.7**	**0.8**

In summary, business competence of IT professionals in transition economies has a significant effect on their job satisfaction as summarized in Table 8.

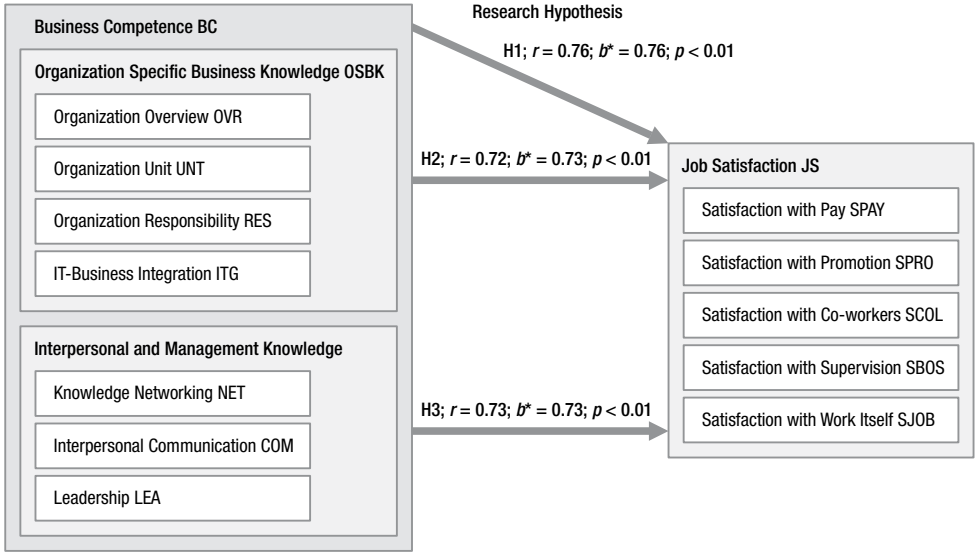

Fig. 2. Business competence and its effect on job satisfaction

Table 8. Overview of results

Hypothesis	Supported	Comments
1	Yes	Business competence of IT professionals has a significant effect on their job satisfaction.
2	Yes	Organization specific business knowledge of IT professionals has a significant effect on their job satisfaction.
3	Yes	Interpersonal and management knowledge of IT professionals has a significant effect on their job satisfaction.

5. Discussion

There are two important findings in our study. First, business competency seems to be related to the overall job satisfaction of IT professionals in transition economies. However, many IT professionals feel that their compensation level and promotion opportunities are inadequate for the competency they possess. A possible explanation could be seen in the existing compensation structures in many Polish companies. Frequently, in Polish companies it may be difficult to offer competitive compensations for a small group of talented workers. Moreover, a large number of newly-graduated IT professional seeking jobs, may depress the salary level for the whole group. This imbalance between a large number of IT professionals seeking jobs and relatively small number of job openings is typical for the job markets of many transition economies. In those job markets, relative high demand enjoy professions such as maintenance personal, cleaners, janitors, sales force, security personnel and construction workers, while job offers for university graduates are rather rare (Kowal *et al.* 2010). In essence, the situation in the job markets in transition economies mirrors their phases of the transition process. Although the transition economies are able to attract foreign investors

yet, the difficulty in attracting and retaining headquarters of global players persists; while, knowledge and technology is imported from developed countries than created (Roztocki 2012). Furthermore, as many IT outsourcing initiatives have commodity character and seek cost advantage rather than look for special skills, they could often be conducted with the help of newly-graduated IT professionals. Consequently, the demand for extremely qualified, experienced knowledge workers is flat and, as a result, many of the requests for radical salary increases and promotions from these workers could be simply turned down.

Second, possessing knowledge of IT-business integration by IT professionals working in Polish organizations seem to have only a marginal effect on their job satisfaction. According to research reports from developed, matured economies, IT professionals should be encouraged to act as problem solvers for business-related issues (Bassellier, Benbasat 2004). Thus, in essence, IT-business integration requires from IT professionals an ability to recognize ways in which IT could be used to increase business performance. It requires solid business knowledge combined with a high level of abstraction and creativity that allows connecting various IT solutions with existing business problems. One explanation of this could be seen in the education of Polish IT professionals that emphasize technical skills. It is also quite possible that middle management in many Polish companies does not value acquiring additional business knowledge by their employees and rather discourages business thinking. To this extent, a more recent study reports that 67 percent of Polish managers believe that there is no need for continuous, professional training (Kowal 2011). In essence, this middle managers' resistance to continuous training and education, which is essential for competitiveness in this global knowledge economy, could be seen as a relic from the communist past. Many decision-makers currently holding managerial positions in Poland were educated and started their careers in a centrally planned economic system. In this old, communist system, there was no need for business thinking and initiative by young employees were suppressed, and individuals showing signs of excelling within a group were seen as destructive for socialist group harmony (Lange 2009; Longenecker, Popovski 1994).

Conclusions, limitations and future research

To conclude, we believe that our research presented in this paper makes a substantial contribution to the existing knowledge. It provides practical implications that governments in transition economies should pay more attention to development of human capital. For example, transition economies should encourage more competency related education and training by providing tax incentives for companies that participate in such programs. Our research is subject to several limitations. First, our survey is conducted in only one country. Conducting a survey in several similar countries would allow a comparison and generalization of the findings to other transition economies. Second, business competencies are self-reported by the participants as a subjective self-evaluation. A test that would verify the business competencies of each participant could produce a more realistic picture. Third, in our analysis we did not specifically account for differences in the demographic profile of the participants such as gender and age. This kind of analysis could produce additional interesting results.

To conclude, we hope that our research presented in this paper will inspire other researchers to conduct their own research on this interesting topic.

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