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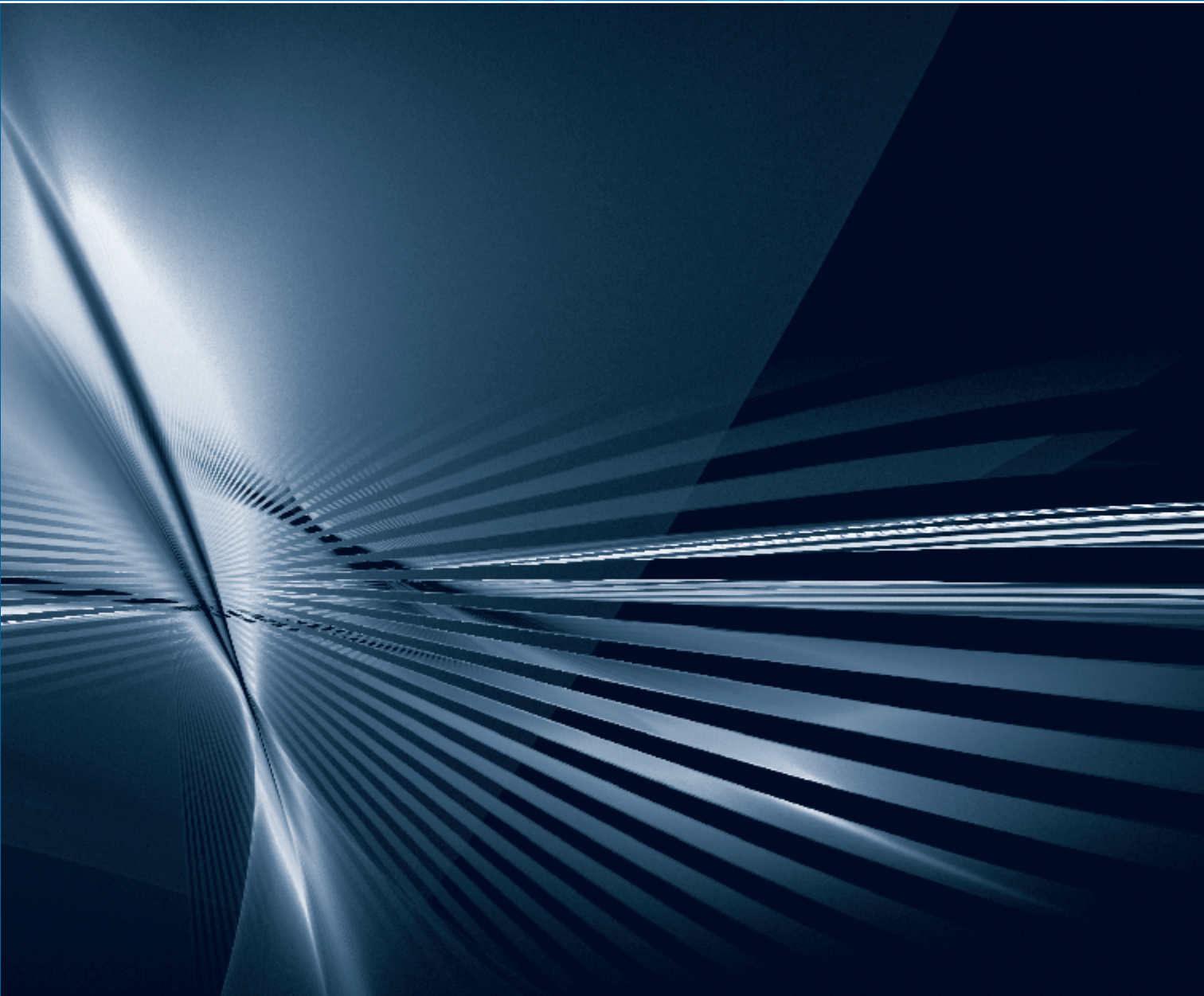
Revija za management, informatiko in kadre

ORGANIZACIJA

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Contents 2/2018

Part-time Jobs: Opportunity or Obstacle? Case of the Moravian-Silesian Region

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Background and Purpose: Part-time employment could be seen as a modern form of employment or a type of innovative organizational change. The average share of part-time jobs in the Czech Republic in the observed period of 2004-2016 was 3.9 % according to the OECD, in comparison to the average OECD value of 16.6%. The main question to arise was, are there any regional differences? The presented conclusions are based on a regional study in the Moravian-Silesian Region (MSR) in the Czech Republic where the median value of part-time jobs is 10%. The main goal is to evaluate the regional level of part-time job offers and identify the main opportunities and obstacles which cause the low number of these job positions.

Design/Methodology/Approach: The paper is based on a quantitative study using a questionnaire-based survey, comprising 215 respondents – owners of small and medium-sized enterprises (SMEs) in the Moravian-Silesian Region in the Czech Republic. The survey consists of 16 questions in three main areas: (i) Entrepreneurial motivation (1 item), (ii) External factors – Labour market problems (4 items), and (iii) Internal factors. Secondary information such as the results of earlier studies and regional government websites were used for data results comparison. All variables are compared in the context of the branch of business, number of employees, turnover, and age. Finally, a factor analysis was used to find the main way how to improve part-time job offers.

Results: The variety of businesses and different regional locations opens up space for discussion regarding part-time job support. A factor analysis found five significant issues, which could affect local labour market and company behaviour.

Conclusion: The added value of the paper can be seen in the factor identification, where internal willingness to support part-time employment and qualification growth as organizational change must be in first place.

Keywords: flexibility; Moravian Silesian Region; part-time employment; SME

1 Introduction

Flexibility in the labour market concerns the management of different items such as production, organizational processes, number of working hours and different types of employment. There is a fundamental shift away from factors of material prosperity in favour of intangible assets such as knowledge, invention, innovation and creativity (Čemerková et al., 2016, p. 113), which brings opportunities for employees, but on the other hand obstacles for employers. It changes the behaviour of employees, but also the approach of organizations themselves when working with human capital. One type of employment, used particularly in Western European countries in the area of flexible employment, is part-time employment. Willingly assuming part-time employment creates an opportunity for employees to combine family and work life or to secure at least some source of income in cases when a full-time job is not available. Part-time employment represents an opportunity for employers to keep specialists in the company and to cope with fluctuations in demand (Formánková, et al., 2011).

The behavioural change in companies brings about a different ratio between standard forms of employment (8-hour working day, 5 working days a week, permanent employment) and non-standard forms of employment. These non-standard forms need to be re-evaluated in contrast to the current concept of employment of workers. Possibilities regarding the amount of flexibility in the labour market are defined by subcontracts and short-term contracts, which could erode the direct relationship between an employer and an employee. A number of factors influencing labour market changes have triggered the need, which was defined by Dušková (2005) and Keller, (2012):

- an increase in the number of employees in services,
- the risks and uncertainties associated with continual changes,
- new forms of ICT technologies,
- an increase in the number of well-paid jobs and knowledge-based positions,
- an increase in the volume of non-fully-fledged forms of work.

In accordance with this, flexible forms of employment need a particularly sensitive approach from superiors and, above all, in-depth communication (Němcová et al., 2016). However, the styles and methods of executive management directed towards part-time employees are often similar to full-time employees, even though these groups of workers have completely different values, views, principles and attitudes (Clinebell and Clinebell, 2007, Wotruba, 1990). Different managerial practices within these two groups represent a prerequisite for understanding employees' needs in order to increase their satisfaction.

The transition of a qualified permanent employee to part-time employment would be a good solution in cases, when the employee still has a standard relationship to the transformed employment and cannot work on a standard daily basis for a variety of reasons (personal, health, etc.). If the employer does not permit reducing the working time, he may well lose the employee who requires this change. An employee leaving unexpectedly means not only the loss of the capital invested in this person, but also brings about new costs associated with training a new employee for a given position in the company.

On the contrary, the recruiting of part-time workers faces several obstacles. The crucial thing arises from the nature of the matter, where part-time jobs offer lower financial incentives and are usually connected with professions where the high qualification of an employee is not required (Sobaih, 2011b). It is this that causes less interest in this type of employment. In addition the lower hourly wage rate and the worse position of an employee in the case of hourly wage rises are considered to be one of the main factors affecting the increase of part-time work in general (Hora, 2009, Sobaih, 2011b). Another problem is related to the perception of part-time work as a possible

benefit, which becomes an argument in negotiating non-financial forms of employee benefits, such as a company car or a laptop (Formánková and Křížková, 2015, Tilly, 1996).

Another group of obstacles arise from employee education and development. Investments in human capital have a similar importance as investments in tangible assets. In the case of a non-standard working regime (part-time work, home office, etc.), businesses tend to restrict access to the activities paid for by the employer (Sobaih, 2011a, Hirsch, 2005). On the other hand, part-time employees do not have the full range of employee benefits and the same hourly wage rate as core employees (Haipeter, 2013). The potential for career advancement is also restricted (Vohlídalová and Formánková, 2012) for part-time employees. It can be argued that a part-time employee is more productive per hour than a full-time employee, because he or she spends less hours at work during the day and is less exposed to stress (Garneo et al., 2013).

A different approach to part-time employees could be illustrated across selected countries around the world. A part-time employee in the USA or in Australia is defined as an employee who works less than 35 hours per week, while in New Zealand and the United Kingdom it is an employee who works less than 30 hours per week. Extreme values were set in Germany, when part-time employment is defined as working less than 36 hours per week, in contrast France puts the number at 20 hours per week (Bardoel, et al., 2007, Fagan et al., 2014). Similar biases are also faced in Australia where the proportion of part-time employment is relatively high, i.e., about 30% (OECD, 2018).

There is a significant gap between the countries of Western and Eastern Europe (Epstein, et al., 2014, Muffels, 2014, Fialová, 2017) as illustrated in the EU in the period of 2004-2016 in EU countries (Table 1).

As is shown in the Table above, significant differences exist across EU countries, where the situation during the observed period is mostly unchanged. While the OECD median value is a 16.6% share, only seven countries are hovering around that value in the appropriate quartile. The leading countries for part-time employment are, using the mode value - Netherlands (37.02 %), United Kingdom (23.93 %), Ireland (23.27 %) and Germany (21.98%). Clearly lagging behind are Bulgaria (1.86 %), the Slovak Republic (3.66 %) and the Czech Republic (3.9 %).

Part-time employment is defined in Section 80 and Section 241 of the Labour Code (Act No. 262/2006 Coll. Labour Code) in the Czech Republic. A part-time employee means an employee, whose normal working time, calculated on a weekly basis or as an average over a certain period of employment but not exceeding one year, is shorter than the normal working time of a comparable full-time worker (Kučina, 2007, p. 18). The smallest number of hours per week is not stated. According to research by the Confederation of Industry and Transport (Svaz průmyslu a dopravy, 2008), reluctance to introduce part-time work in

Table 1: Number of Part-time Employees in Selected Countries in the EU (as a percentage share of the total number of employees). Source: OECD (2018)

Country	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	**Median**	**Quartile**
Bulgaria	2.54	2.15	1.88	1.56	1.49	1.58	1.78	1.82	1.91	2.13	2.6	1.86	1.59	**1.86**	**0**
Slovak Republic	2.59	2.39	2.38	2.39	2.6	2.94	3.66	4	3.79	4.3	4.86	5.72	5.76	**3.66**	**25**
Czech Republic	3.8	3.27	3.32	3.49	3.47	3.89	4.32	3.9	4.34	4.9	4.76	4.68	4.95	**3.9**	**25**
Hungary	3.58	3.57	2.95	3.7	3.37	3.84	3.99	5.21	5.15	4.9	4.5	4.38	3.96	**3.96**	**25**
Romania	5.16	4.64	4.9	4.18	3.99	4.25	4.75	3.9	4.12	4.23	3.81	4.16	3.53	**4.18**	**25**
Croatia	5.74	6.79	7.3	6.1	5.75	5.95	6.39	6.65	5.26	4.83	4.77	5.64	4.72	**5.75**	**25**
Lithuania	8.64	7.54	6.52	6.5	4.57	5.58	6.53	7.56	7.88	7.25	7.24	6.75	6.95	**6.95**	**25**
Latvia	8.22	6.74	5.32	5.37	6.2	7.36	8.17	8	8.34	7.65	6.56	6.84	7.31	**7.31**	**25**
Cyprus	7.34	7.38	6.8	6.49	6.81	7.44	7.92	8.67	8.95	9.97	10.95	10.59	11.9	**7.92**	**25**
Slovenia	7.53	7.39	7.8	7.83	7.5	8.33	9.45	8.61	7.93	8.58	9.59	9.16	7.96	**7.96**	**25**
Estonia	7.15	6.87	6.77	6.81	6.28	8.49	8.82	8.95	8.24	8.3	7.62	8.55	8.66	**8.24**	**25**
Poland	12.4	11.72	10.85	10.7	9.25	8.66	8.72	8.32	8.5	7.72	7.1	6.41	5.95	**8.66**	**25**
Greece	5.9	6.38	7.43	7.69	7.93	8.5	8.91	9.9	9.79	10.33	11.15	11.12	10.96	**8.91**	**25**
Portugal	9.77	9.58	9.45	10.4	9.93	9.8	9.57	11.7	12.47	11.99	10.97	10.53	9.12	**9.93**	**25**
Malta	8.84	9.4	8.8	9.33	9.26	9.55	10.52	11.43	11.4	11.85	12.98	11.95	10.15	**10.15**	**50**
Spain	8.29	10.8	10.68	10.53	10.89	11.63	12.16	12.66	13.57	14.73	14.71	14.47	14.13	**12.16**	**50**
Finland	11.31	11.2	11.41	11.71	11.5	12.24	12.48	12.7	12.98	13.4	13.32	13.4	14.1	**12.48**	**50**
France	13.27	13.19	13.21	13.28	13.3	13.46	13.68	13.66	13.87	14.2	14.31	14.36	14.22	**13.66**	**50**
Sweden	14.43	13.53	13.43	14.36	14.37	14.65	14.5	14.31	14.26	14.29	14.22	14.14	13.8	**14.29**	**50**
Luxembourg	13.22	13.87	12.66	13.9	13.4	16.43	15.78	16.1	15.45	15.26	15.47	14.92	13.58	**14.92**	**50**
Italy	14.78	14.66	15.3	15.27	15.96	15.89	16.37	16.66	17.78	18.52	18.82	18.65	18.62	**16.37**	**50**
OECD - Total	**14.97**	**15.17**	**15.22**	**15.43**	**15.63**	**16.46**	**16.6**	**16.82**	**16.83**	**17.4**	**16.94**	**16.76**	**16.7**	**16.6**	**50**
Belgium	18.54	18.52	18.66	18.8	18.32	18.24	18.32	18.79	18.67	18.21	18.13	18.15	17.77	**18.32**	**50**
Denmark	17.5	17.35	17.87	17.27	17.82	18.78	19.15	19.2	19.38	19.2	19.7	20.3	21.72	**19.15**	**75**
Austria	15.33	16.43	16.96	17.35	17.84	18.69	19.17	19.2	19.44	19.86	20.94	21.3	20.89	**19.17**	**75**
Germany	20.1	21.46	21.84	21.98	21.78	21.86	21.84	22.27	22.24	22.57	22.33	22.4	22.8	**21.98**	**75**
Ireland	18.87	19.33	19.32	19.9	20.9	23.81	24.86	25.68	25.2	24.23	23.41	23.27	22.75	**23.27**	**75**
United Kingdom	23.41	22.93	23.9	22.88	22.96	23.93	24.63	24.67	24.97	24.64	24.1	23.97	23.81	**23.93**	**75**
Netherlands	35.04	35.57	35.36	35.92	36.06	36.67	37.15	37.02	37.62	38.55	38.31	38.52	37.7	**37.02**	**100**

the Czech Republic is caused by managers believing that flexible working hours could lead to insufficient control of working time. Access to the diversity of employees and the use of their potential have an impact on the competitiveness of the enterprise (Němcová et al., 2016), which, in the context of aggregate economic indicators, will be reflected in the performance of the whole region (Mikhaylova, 2016). This problem is closely connected with flexicurity. Flexicurity is a new way of looking at flexibility and security in the labour market, which has been endorsed by EU

leaders and the European Commission as a way of solving the Union´s employment problems (Černá, 2010, p. 49).

The main goal of this paper is to express the current situation in the labour market on a regional level in order to find out the key factors, which cause a low level of flexicurity among the labour force. According to a study by Couprie and Joutard (2017), who examined the impact of part-time employees during the great recession in France in relationship to the business cycle and Fialová (2017), who dedicated her research to the Central European labour

market and Fagan et al. (2013), who examined obstacles to part-time employment, it is therefore clear that such connections exist between the regions and ratios of part-time jobs.

Hence, it could conceivably be hypothesised that the trend would be observed in the Czech Republic and regional differences might be significant for evaluation as Urminský (2017) confirmed by its cluster analysis of the labour market. Results of primary research will provide further support for the inductive quantitative hypotheses that were set out according to the previous literature review:

When labour market has an specific behaviour according regional differences (Uminský 2017, Němcová et al., 2016 and Fialová 2017), it is necessary to examine dependence of the labour market structure by its decomposition into several relatively similar subsets, when the branch of the business would play significant role in that relationship (Fejfarová, 2016). We expect that business structure and its economical indicators in examined region could play the role in part time employment so we had formulated following hypotheses:

- Hypothesis 1 (H1): "The branch of business in examined region increases an offer of part-time employment."
- Hypothesis 2 (H1): "The company size exhibits an offer of part-time employment."
- Hypothesis 3 (H1): "The turnover volume brings an extension of offer of part-time employment in SMEs."

2 Methods

Primary quantitative research between SMEs was used to obtain relevant data. The theoretical background for the questionnaire structure was based on the VRIO (Barney, 1997) model, particularly for the evaluation of internal competitive advantage in the area of human resources. This approach was combined with the model of business flexibility, published by Slávik and Romanová (2005), followed up by the previous studies of Šebestová (2007) and Pawliczek et al., 2011 and Tvrdoň et al, 2015).

The questionnaire was used to collect data in a rather broad study (business environment, strategy and human resources) and in this paper we will focus on just one aspect of the study – flexibility of work places and part-time job offers in small and medium sized businesses. These businesses must fulfil the criteria of size and turnover according to EU requirements for classification of SMEs[1]. The respondents who fell within this definition of SMEs were business owners or managers, who agreed to a per-

sonal visit. SPSS statistical software was used for statistical analysis. The minimum sample size n was calculated by using the formula (Olaru et al., 2010):

$$n = \frac{t^2 \cdot p \cdot (1-p)}{\omega^2} (1)$$

where:

t....confidence level, corresponding to the probability with which the accuracy of the results will be guaranteed, from the statistical tables of the student distribution; p....prevalence, probability or proportion of the sample components that will explore the problem; ω....acceptable margin of error.

The questionnaire survey was conducted with owners and managers of small and medium sized businesses (fewer than 250 employees) in the Moravian-Silesian Region (NUTS II), operating between 2009-2013. The companies fulfilled the criteria of being designated as small and medium sized businesses with their number of employees – fewer than 250, operating a business in the area of the Moravian-Silesian Region and agreeing to a personal visit during autumn 2014. Data obtained from questionnaires was analysed through the SPSS statistical packet programme. Research was conducted in order to determine:

- Identification of factors determining business behaviour in the examined region (part A, 10 questions).
- Finding the interaction between the sector according to the type of business and employee structure (part B, 16 questions).

The results were confirmed through the assessment of scale reliability, construct validation and un-dimensionality of the research constructs. Cronbach's Alpha was used to assess the scale reliability of each construct in the research model. The alpha of every factor was greater than the suggested threshold value of acceptable reliability of 0.6. All survey questions utilised a 5-point Likert scale (1 - the best, 5 - the worst for non-numerical data).

Minimum Sample Size. Using equation (1), where the t value (sig. α = 0.05) was 1.645 and ω = 0.05 was the acceptable error limit of 5%. A prevalence value (*p*-value) was counted as the proportion of businesses, which were active in 2014 in the MSR (250,028 entities) to the total number of businesses in the Czech Republic (1,470, 929 entities), the p-value was 0.1699; then the minimum sample size was counted up to 153 respondents (Tvrdoň et al., 2015). A total of 285 questionnaires were taken from 400 contacted enterprises. Unfortunately, 70 individuals were excluded from the study on the basis of missing data, illogical answers, and contradictory responses. A statistical

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1 A SME entrepreneur is considered to be an entrepreneur who employs fewer than 250 employees and whose annual turnover does not exceed EUR 50 million or has an annual balance sheet total which does not exceed EUR 43 million (Recommendation 2003/361/EC)

evaluation was made for 215 valid responses, whereby the minimum sample size was respected.

The total internal reliability was measured using Cronbach's alpha, which had a value of 0.845, while the partial analyses internal reliability of data ranged around the value of 0.79, which satisfies the condition for further data analysis (Nunally, 1978).

To test basic statistical ties, variable methods were used. Cramer's contingency coefficient V, which represents the most appropriate measure of association between two nominal variables was one of the most important. Scale, introduced by Cohen (1988) for the correlation coefficient was used for coefficient interpretation. For predictive interpretation, the formulation that can be found in the work of Liebetrau (1989) was used, where the degree of significance between 0.25 and 0.5 means a factor in the causal linkage and the value between 0.7 and 0.9 makes it possible to predict the factor behaviour in the next period.

3 Analyses and Results

The Moravian-Silesian Region is one of 14 regions in the Czech Republic. It is located in the northeast of the Czech Republic and is one of its most peripheral parts. In the north and east it borders with Poland and in the southeast with Slovakia[2]. The cross-border character of this region provides opportunities for effective cooperation in the sphere of production, infrastructure development, environmental protection, cultural and educational activities and in the field of tourism. According to the European regional classification, the MSR is simultaneously classified as NUTS II and NUTS III (Čemerková et al., 2016)[3].

Since the 19th century, the MSR has ranked among the most important industrial regions of Central Europe. Its industry is concentrated in the Ostrava-Karvina industrial and mining basin. The MSR has 1,220,000 inhabitants and is the third most populous region in the Czech Republic. However, the MSR is one of the regions with the fewest municipalities. If we take the population in 1995 as a starting index of 100, then the population in 2012 only amounted to an index number of 94.5. The population decline is caused by the low birth rate since 1993 and, unlike the rest of the Czech Republic, also by migration. Despite the current slow-down of heavy industry and mining, more than a third of the total of 549.1 thousand persons is employed in the Czech economy with another 12% in trade and repairs of goods. (CSO 2015, MSK, 2017)

The Moravian-Silesian Region has been a region facing a number of problems for a long time. Within the Czech Republic, it is a region with a high unemployment rate. This is mainly structural unemployment because of the decline in the former coal mining and heavy industry. Total gross domestic product (GDP) has always been higher than the national average. However, if we focus our attention on GDP per capita, we can see that the strong position of the MSR disappears. The Moravian-Silesian Region, as the fourth largest regional economy according to a RIM Plus study (Čadil, 2014), generated 10.2% of the national GDP, and reached 97% of the national average of GDP in PPS per the employed, the second highest value in the Czech Republic. Despite the modernisation of many companies, the innovation activities in the business sector are rather below average. The Moravian-Silesian Region is traditionally considered a problematic region, in the past it underwent fairly major structural changes, which brought with them a higher unemployment rate and a higher proportion of long-term unemployment, compared with other Czech regions (Adámek et al., 2015). Since 2009, the number of newly formed businesses has continuously decreased, while the number of non-operational entities has grown. This problem in combination with the unsuitable qualification structure of the workforce illustrates the problems in the functioning of the labour market in the MSR as mentioned in Table 2, where regional value added (in comparison with the year 2007) significantly decreases. SMEs in the Czech Republic represent an important group of employers and therefore they need to be taken into account (Fejfarová and Urbancová, 2016, p.86). As a baseline for macroeconomic indicators we chose the year 2007 to be able to evaluate the full supporting period from EU funds (2007-2013) and their impact on the regional competitiveness of the region, specifically focused on human resources development and the adaptability of businesses, where the following formula (2) was used.

$$Index_{2007/2014} = \frac{Indicator_{2014} - Indicator_{2007}}{Indicator_{2007}} * 100 \, [\%] \quad (2)$$

The industrial structure of the MSR is currently causing many problems that are particularly associated with a higher proportion of unemployed persons. As seen from Table 2, the most striking result to emerge from the data is that the GVA change index decreased significantly. Many companies with high value added moved their main place of business outside of the region and the remainder are mostly connected with low value added production. The

2 http://www.msk.cz/, http://www.risy.cz/cs/krajske-ris/moravskoslezsky-kraj/verejna-sprava/spravni-cleneni/uzemni-cleneni-mapy/

3 The NUTS classification (Nomenclature of territorial units for statistics) is a hierarchical system for dividing up the economic territory of the EU for the purpose of: (1) The collection, development and harmonisation of European regional statistics, (2) Socio-economic analyses of the regions, where NUTS I: major socio-economic regions, NUTS II: basic regions for the application of regional policies, NUTS III: small regions for specific diagnoses, and (3) Framing of EU regional policies.http://ec.europa.eu/eurostat/web/nuts

Table 2: Significant Regional Macroeconomic Indicators 2007-2014. Source: CSO, 2015, author's calculations

Indicators	Index 2007/2014
GDP growth	8.5 %
Growth rate of regional gross value added (GVA)	-141.9 %
Employment rate	2.1 %
Unemployment rate	1.2 %
Migration rate change	-280 %
Population growth	-2.6 %
Business units	-69.1 %
Wages and Salaries	4.0 %

Table 3: Data Sample Description: Business Age. Source: own research

Age group (years)	Percentage share in the sample
3-5	10.7%
6-10	18.1%
11-15	22.3%
16-20	21.4%
21-25	24.2%
26-30	0.9%
More than 30 years	2.3%
Median (year)	1999
Percentiles (year) 25 50 75	 1993 1999 2005

results are rather surprising in the area of migration, where the ratio is negative it brings a positive effect – the migration rate was lower in 2014 than in 2007. Today, the MSR is the region with the second highest recorded unemployment rate in the Czech Republic. A very significant problem is the proportion of long-term unemployed (over 12 months) in the total number of unemployed, which in the MSR is above the national average. This situation is also reflected in the number of applicants per job vacancy (Čemerková, 2016).

3.1 Data Sample Evaluation

The data was collected throughout the whole of the Moravian-Silesian Region; the percentage of respondents in each district corresponds to the percentage proportion of economically active enterprises in this region, where companies with up to 9 employees dominate in the sample (46.05%), followed by companies with 10 to 49 employees (27.44%). On the other hand, companies without employees have a share of (11.63 %) and companies with 50 to

249 employees made up the rest of the sample (14.88%). Most of the companies were in a growth (49.77%) and mature (31.63%) phase of business, in contrast to established companies (15.81%). A minority of participants (0.93%) showed that they plan to wind up their business or are in a state of decline (1.86%).

In terms of legal form, the sample can be classified as follows: limited liability companies (45.6%) and self-employed persons (39.5%) make up the largest share, joint stock companies are in third place (12.1%). Other types of enterprises (public companies, non-profit organisations) are present only in small numbers (up to 1%). Other qualitative indicators, such as age and branch of business are summarized in Tables 3 and 4.

In the sample we can find both new companies (in existence up to 5 years) and enterprises that operated in the market even before the change of political regime in 1989. The enterprises created in the nineties (after 1990) are the predominant group, where ¼ of the companies were established before 1993.

The specialization of SMEs reflects regional macroeconomic profiles, where GVA significantly decreased (see Table 2).

Table 4: Structure of Company Specialization. Source: own research

Area of business	Percentage share
Agriculture	1.86 %
Industry	10.70 %
Construction	13.95 %
Public services	3.26 %
Trade	36.28 %
Services	33.95 %
Total	**100 %**

Table 5: Part-time Employment vs. Branch of Business. Source: own research

Area of business	Part-time employment offer				Total in business group
	No		Yes		
	abs.	%	abs.	%	
Trade	50	61.73%	31	38.27%	81
Industry	10	40.00%	15	60.00%	25
Services	47	70.15%	20	29.85%	67
Construction	16	55.17%	13	44.83%	29
Public services	6	66.67%	3	33.33%	9
Agriculture	3	75.00%	1	25.00%	4
Total	132	61.40%	83	38.60%	215

3.2 Part-time Job Offers on a Regional Level

The present study was designed to determine the effect of part-time job offers regarding other quantitative indicators. The first part of the analysis examines the percentage share of businesses supporting part-time jobs and these results are inputs for multidimensional analysis (based on the Cramer V coefficient for nominal values), where all factors, have an influence on the decision to change personnel policy in small businesses. Factor analysis presents the last part in finding the main factors, which could support or weaken the decision to create part-time jobs.

As is shown in the following Table 5, only 83 companies of the total number of 215 companies (38.6% of respondents) answered the question of whether they have part-time workers positively. On the other hand, 61.4% of respondents (132 enterprises) did not report any part-time work. In our sample, part-time employees formed 29.73% of the workforce on average.

Part-time employment has a dominant position in industrial enterprises – 60% of industrial enterprises use this "modern" form of employment. The construction industry occupies second place. Agriculture lies in last place (25%) when it comes to part-time job offers. Based on the legal

form of companies, limited liability companies occupy first place among the companies with part-time employees, where more than half of these companies have part-time workers. Self-employed entities are in second place, with 25% of their workforce being made up of part-time employees. Joint-stock companies occupy third place, where 38.46% of these businesses have responded positively to the questions about part-time employees. On the other hand, non-profit organizations and public companies do not have any part-time employees at all. The level of association between part-time employment and company size by number of employees is shown in Table 6.

To sum up, in terms of size by number of employees, part-time employment accounts for half of the total share – micro-enterprises with 40.4%, small with 44.07% and medium enterprises 50%. To gain a greater level of association, the relationship between part-time employment and turnover has been described (Table 7; exchange rate EUR 1 = CZK 28).

Part-time employment ranges in the sample from 36.36% to 66.67%, where the predominant group is made up of companies with a turnover of 35 – 350 thousand EUR per year. To clarify who the "potential" employer is, who prefers to mix part-time jobs with classic employment, we can see that (according to Tables 5-7): "*it is an industrial or construction company, in the legal form of a limited lia-*

Table 6: Part-time Employment vs. Number of Employees. Source: own research

Number of employees	Part-time employment				Total in size group
	No		Yes		
	abs.	%	abs.	%	
0	25	100.00%	0	0.00%	25
1-9	59	59.60%	40	40.40%	99
10-49	33	55.93%	26	44.07%	59
50-249	16	50.00%	16	50.00%	32
Total	132	61.40%	83	38.60%	215

Table 7: Part-time Employment vs. Turnover (EUR). Source: own research

Turnover (thousand €)	Part-time employment				Total
	No		Yes		
	abs.	%	abs.	%	
<35	35	63.64%	20	36.36%	55
35 – 350	47	62.67%	28	37.33%	75
350 - 3 500	37	61.67%	23	38.33%	60
3 500 - 9 000	6	50.00%	6	50.00%	12
9 000 - 35 000	6	60.00%	4	40.00%	10
>35 000	1	33.33%	2	66.67%	3
Total	132	61.40%	83	38.60%	215

bility company, it has between 50 to 249 employees in total and a turnover of 35 - 350 thousand EUR per year."

We will now turn to the hypotheses formulated in the introduction part of the paper, where H1 stated that: ""The branch of business in examined region increases an offer of part-time employment." . Unfortunately, Cramer's contingency test does not support the significant relation between the use of part-time jobs and the branch of business at the significance level α = 0.05 (Cramer's V = 0.192, Sig. 0.162), therefore the H1 hypothesis must be rejected. These findings were supported by the cross tab analysis made in Table 5, where only two of the six branches have a significant share of part-time employment, these being construction and industry.

Following on in that manner, hypothesis H2 was formulated as: "*The company size exhibits an offer of part-time employment.).*" This hypothesis (H2) must be accepted when the relationship between part-time employment and company size by number of employees in SMEs (explored by size group, Table 6) was confirmed at the significance level α = 0.05 (Cramer's V = 0.266, Sig. 0.002). This relationship is statistically significant, although the power of the "tie" between variables is rather small because of the existence of two significant groups in the sample (1-9 employees and 10 to 49 employees). Finally, hypothesis H3 was formulated as: "*The turnover volume brings an*

extension of offer of part-time employment in " (Table 7). This hypothesis (H3) must be rejected, because it did not find any significant relation between the use of part-time employment and turnover at the significance level α = 0.05 (Cramer's V = 0.092, Sig. 0.872). There is a dominating group of 60 enterprises with a turnover of 35 - 350 thousand EUR which plays a significant role in the sample. Taken together, these results suggest that there would be an association between other qualitative variables, which were included in the questionnaire. The next part, therefore, moves on to discuss the possibility of modelling other relationships between questionnaire variables, such as motivation to start up, labour force problems or other strategic issues.

3.3 Other Factors Influencing Part-time Employment on the Regional Level

To be able to clarify factors, which have an influence on part-time job offers, we used results from the questionnaire (parts A and B) with a multidimensional approach description (dependent on variables from previous parts: turnover, number of employees, age and branch of business; the business stage and business cycle were excluded from the list because there was no existence of a relationship in

Table 8: General Results of the Questionnaire. Source: own research

	Factor	Measure	Result
	ENTREPRENEURIAL MOTIVATION		
1	Main motivation to start-up	Percent. nominal	Necessity driven 17.3% Opportunity driven 72.7%
	EXTERNAL FACTORS – PROBLEMS OF LABOUR MARKET		
2	Barrier in lack of qualified employees	Binominal	Yes – 18.1% No – 81.9%
3	Quality of labour force	Likert scale (median value)	3.00
4	Amount of labour force in selected location	Likert scale (median value)	2.00
5	Available housing for employees	Likert scale (median value)	3.00
	INTERNAL FACTORS (BASED ON VRIO APPROACH)		
6	Strategy of development	Binominal	Yes - 30.7 % No - 69.3%
7	Part-time job places	Binominal	Yes - 38.6% No - 61.4%
8	Share of part time job places	Percent. nominal (median value)	10%
9	Qualification growth	Binominal	Yes - 32.1% No - 67.9%
10	Financial plan for qualification growth support	Binominal	Yes - 65.9% No - 34.1%
11	Own resources for qualification growth	Binominal	Yes - 52.6% No - 47.4%
12	Projects for qualification growth	Binominal	Yes - 15.3% No - 84.7%
13	Employee participation for qualification growth	Binominal	Yes - 8.4% No - 91.6%
14	Organizational changes as form of innovation	Binominal	Yes - 22.3% No - 77.7%
15	Student job places	Binominal	Yes - 19.5% No - 80.5%
16	Educational project (EU projects)	Binominal	Yes - 9.3% No - 90.7%

any indicator). We selected the data relevant to three main areas: (i) Entrepreneurial motivation (1 item), (ii) External factors – Labour market problems (4 items), and (iii) Internal factors (based on the VRIO approach, 11 items). General results were summarized in Table 8.

What is interesting about the data in this Table is that the quality of the labour force in the examined region is ranked as average (factor 3), but investment into human resource development is very weak (factor 9). Surprisingly, the average value of part-time jobs in companies on the regional level is 10% (in contrast to 3.9 % on the national level, Table 1). To distinguish the relationship between these factors a preliminary cross-tabulation matrix was used. This Table (Table 9) was evaluated by the Cramer V ratio.

Previous analysis declared the average validity of statistically significant ties between chosen variables (Cramer V near the value of 0.3), this could help to find areas, which need to be expanded in future research application:

- Entrepreneurial motivation – only the tie with the branch of business was established. It was significant in the branch of business of respondents.
- External factors – labour market problems – a low, but statistically significant relationship was proved in the indicator of "*available housing for employees*" in three areas - turnover, number of employees and branch of business. This factor could cause a decline in job demand due to a lack of housing near the place of business of the company, as Czech people are very mindful of the amount of time they spend commuting

Table 9: Relationship between Chosen Indicators and Four Dependent Variables. Source: own research, when sign" *" means significance level <0.05, sign"# " means significance level < 0.1

		Turnover		Number of employees		Age		Area of Business	
		Cramer	Sig.	Cramer	Sig.	Cramer	Sig.	Cramer	Sig.
	Entrepreneurial Motivation								
1	Main motivation to Start-up	0.211	0.578	0.221	0.402	0.357	0.946	0.271	**0.007***
	External factors – problems of Labour market								
2	Barrier in lack of qualified employees	0.157	0.381	0.282	**0.001***	0.379	0.468	0.194	0.153
3	Quality of labour force	0.167	0.223	0.193	**0.066#**	0.371	0.647	0.175	0.138
4	Amount of labour force in selected location	0.130	0.835	0.147	0.533	0.367	0.716	0.189	**0.041***
5	Available housing for employees	0.178	**0.100#**	0.216	**0.012***	0.383	0.426	0.179	**0.095#**
	Internal factors (based on VRIO approach)								
6	Strategy of development	0.341	**0.000***	0.303	**0.000***	0.377	0.488	0.123	0.661
7	Part-time job places	0.092	0.872	0.266	**0.002***	0.280	0.982	0.192	0.162
8	Share of part time job places	0.372	**0.009***	0.353	0.107	0.357	0.988	0.350	**0.078#**
9	Qualification growth	0.270	**0.001***	0.289	**0.000***	0.372	0.566	0.164	0.320
10	Financial plan for qualification growth support	0.294	**0.001***	0.335	**0.000***	0.378	0.527	0.206	0.818
11	Own resources for qualification growth	0.322	**0.000***	0.324	**0.000***	0.368	0.567	0.130	0.650
12	Projects for qualification growth	0.372	**0.000***	0.317	**0.000***	0.368	0.567	0.221	**0.063#**
13	Employee participation for qualification growth	0.124	0.655	0.119	0.388	0.428	0.145	0.092	0.874
14	Organizational changes as form of innovation	0.159	0.368	0.259	**0.002***	0.470	0.030*	0.149	0.442

Table 9: Relationship between Chosen Indicators and Four Dependent Variables. Source: own research, when sign" *" means significance level <0.05, sign"# " means significance level < 0.1 (continued)

		Turnover		**Number of employees**		**Age**		**Area of Business**	
		Cramer	Sig.	Cramer	Sig.	Cramer	Sig.	Cramer	Sig.
15	Student job places	0.230	**0.040***	0.234	**0.008***	0.362	**0.062**#	0.161	0.352
16	Educational project (EU projects)	0.138	0.533	0.180	**0.072**#	0.357	0.650	0.189	0.173

Table 10: Rotated Component Matrix. Source: own research

	Factor				
	Internal strategy	Investments	Local labour market	Employee involvement	Business environment
	1	2	3	4	5
Projects for qualification growth	.830				
Educational project (EU projects)	.769				
Strategy of development	.518				
Own resources for qualification growth		.893			
Amount of labour force in selected location			.789		
Quality of labour force			.736		
Employee participation for qualification growth				.901	
Qualification growth				.579	
Business Cycle					.870
Barrier in lack of qualified employees					-.491
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.					
Varimax Rotation converged in 5 iterations.					

to work, especially people in the MSR, who are classified as "local patriots" (Profesia, 2015).

• Internal factors – medium in strength but statistically significant ties were found in two factors – "*projects for qualification growth*", where these projects are dependent on turnover, number of employees and branch of business. On the other hand, "*student job places*" as a potential source of part-time jobs relates to turnover, number of employees and business age.

Finally, a factor analysis was provided, the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) was 0.629 (Approx. Chi-Square 291.953, Sig. 0.000),

where five factors were extracted (variance explained in 65.129%), where part-time job offers (in the form of the share of part-time places) were dependent on variables (Table 10).

Two-fifths of factors are from the external environment (factors 3 and 5), contrary to internal factors 1, 2 and 4, which have more impact on total variance explained. It explains that current behaviour is influenced by personnel strategy, willingness to change the current situation and willingness to invest in organizational change (in the form of part-time jobs). This model described the current situation in the region and the main forces, which pose obstacles (business environment, local labour market) and on

the other hand, opportunities, which arise from the internal environment (internal strategy, investments and employee involvement).

4 Discussion and Conclusion

Although the literature (Čadil, 2014, Dušková, 2005, Fejfarová, 2016, Fialová, 2017) states that part-time employment is not attractive to enterprises in the Czech Republic – they use it only to a small extent, survey results in the SMEs segment in the NUTS II Moravian-Silesian Region found out that SMEs use them considerably more. A total of 38.6% of enterprises answered the question of whether they have part-time workers affirmatively. Part-time employees form 29.73% of the workforce on average according to the survey results.

The survey also showed that all types of businesses use part-time workers; there is no fundamental difference between them. Significant areas were described, such as the area of internal investment into organizational change so as to be able to offer part-time jobs (factor 2, Local labour market - Table 10).

Being flexible is one of the prerequisites for success. This ability is reflected in many aspects. One of them is flexibility in active work with human capital. This flexibility allows the company to work with high-quality employees. These employees play a key role in each company´s life, which was confirmed by factor 4 (Employee involvement - Table 10).

Part-time employment is a flexible form of employment. Given the many problems faced by the Moravian-Silesian Region it was found that SMEs consider part-time employment to be very positive. If companies make good use of other forms of flexibility, they have a chance to be successful and contribute to the development of the region.

The presented study highlighted the local impact of entrepreneurship activity and willingness to support part-time jobs, which is also the main limitation of the presented study, when it is connected with the local labour market and the local quality of the labour force, when the effect of migration of the labour force was excluded. Consequently, motivation to invest in human resources must be taken as a starting point for understanding the issue of SMEs innovativeness, especially in the area of organizational innovations. Despite these limitations, the relationships between the type of business and activities leading to part-time jobs growth on the one hand and willingness to cooperate with employees on the other hand show the potential for motivation and support of cooperation.

Moreover, more systematic research and evaluation of part-time job forms is needed, not only on a central level, but on the local level to support bottom-up organizational innovations, not only centralized activities according to regional specialization. The structure of the labour force on the local level affected by an aging population, number of people with disabilities and changes in industry structure on the regional level – these are the challenges for part-time employment support as organizational innovation (Fagan, 2014).

Acknowledgements

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Zaposlitve s skrajšanim delovnim časom: priložnost ali ovira? Primer Moravsko-Šlezijske regije

Ozadje in namen: Zaposlitev s krajšim delovnim časom lahko obravnavamo kot sodobno obliko zaposlitve in kot vrsto inovativnih organizacijskih sprememb. Povprečni delež delovnih mest s krajšim delovnim časom na Češkem v opazovanem obdobju 2004-2016 je po OECD znašal 3,9%, v primerjavi s povprečno vrednostjo OECD 16,6%. Glavno vprašanje, ki se je pojavilo, je, ali obstajajo regionalne razlike? Predstavljeni zaključki temeljijo na regionalni študiji v Moravsko-Šlezijski regiji (MSR) na Češkem, kjer je srednja vrednost zaposlitev za krajši delovni čas 10%. Glavni cilj študije je oceniti regionalno raven ponudb za zaposlitev s krajšim delovnim časom in prepoznati glavne priložnosti in ovire za majhno število teh delovnih mest.

Zasnova / metodologija / pristop: Prispevek temelji na kvantitativni študiji, za katero smo podatke zbrali z anketo, na katero je odgovorilo 215 anketirancev - lastnikov malih in srednje velikih podjetij (MSP) v Moravsko-Šlezijski regiji. Vprašalnik je bil sestavljen iz 16 vprašanj s treh glavni področij: (i) podjetniška motivacija, (ii) zunanji dejavniki - težave s trgom dela in (iii) interni dejavniki. Za primerjavo rezultatov so bili uporabljeni sekundarni podatki, kot so rezultati prejšnjih študij in podatki z regionalnih vladnih spletnih strani. Vse spremenljivke primerjamo v okviru poslovne panoge, števila zaposlenih, prometa in starosti. Na koncu je bila uporabljena faktorska analiza, da bi našli pot, kako izboljšati ponudbo zaposlitev za krajši delovni čas.

Rezultati: Raznolikost podjetij in različnih regionalnih lokacij odpira prostor za razpravo o podpori za krajši delovni čas. Faktorska analiza je identificirala pet pomembnih dejavnikov, ki bi lahko vplivali na lokalni trg dela in ravnanje podjetij.

Zaključek: Dodana vrednost članka se kaže v identifikaciji dejavnikov, ki vplivajo na zaposlovanje s skrajšanim delovnim časom, kjer izstopa notranja pripravljenost za podporo zaposlitvi s krajšim delovnim časom in rast kvalifikacij kot tudi organizacijske spremembe.

Ključne besede: fleksibilnost; Moravska Šlezijska regija; zaposlitev s krajšim delovnim časom; mala in srednje velika podjetja

Regular and Temporary Employees in Project Organized Business Pay Different Attention to Preconditions for Learning

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Background and purpose: The purpose is to investigate whether regular and temporary staff differ in their perceptions of preconditions for learning and if there are some qualitative aspects that can be considered particularly significant in these differences.

Design/Methodology/Approach: The approach consists of a case study based on both quantitative and qualitative data collected via an online questionnaire and individual interviews.

Results: The paper question the understanding of the organization as a singular and more or less cohesive unit. On an organizational level, the project owner who hires staff does not care for competence transfer between regulars and temps, or between different groups of staff. At the individual level, temps are more focused on their specific task compared to regulars. Regulars' seems to safeguarding a community or an organizational perspective, while temps are looking for their own good.

Conclusions: There is a risk that one social unit differs, in attention payed to preconditions for learning, from another, when an organization use temporary staff. Therefore, the scientific value of this paper is that using temps may result in or be a consequence of a fragmented organization. The findings show no competence transfer in projects with both temps and regulars, and the project owner takes no active responsibility for human resource planning in terms of competence transfer between different groups of staff. The implications underline that long-term efficiency and rationality in an organization does not always have priority over organizational affiliation even with the hiring of expertise. When this happens, it may lead to a fragmented personnel group that is divided in thinkers/organizers and, performers/doers. When this happens, important practical skills fall outside of the organization, which in a metaphorical sense means that the hand is separated from the brain. Therefore, organizations with temporary staff need to plan for how to enable competence transfer between temporary and regular staff.

Keywords: competence transfer; inter-organization; project organization; temporary work

1 Introduction

As more and more organizations make use of temporary staff, complex versions of inter-organizational relationships will become more important to study. This paper deals with an inter-organizational based project organization and regular and temporary staff's (temps') learning in terms of interaction, knowledge, and motivations. Preconditions for learning may be related to a local organizational context with either positive or negative significance.

A special form of learning is associated with the concept of competence. Competence refers to "an individual's potential to act in relation to a certain task, situation or context," that is, "to successfully... do a job, including the ability to identify, exploit, and, if possible, extend the space of interpretation, action and measurement that the work tasks offer" (Ellström, 1992, p. 21). Based on the

concept of competence, it is valuable to study the nature of learning preconditions that may be associated with temps. Such a study may partly contribute to research on learning in project organizations (Packendorff, 1995) and partly illustrate the learning in terms of human resource planning as competence transfer between the regular staff and temps.

In the present paper competence transfer is equated with the "process through which organizational actors— teams, units, or organizations—exchange, receive, and are influenced by the experience and knowledge" (van Wijk, Jansen, & Lyle, 2008, p. 832). The authors show that work organizations are dependent on adding new knowledge, both for efficiency and for business development. Such knowledge transfer is a process where "one social unit learns from or is affected by the experience of another unit" (Argote & Fahrenkopf, 2016, p. 146). The social units in this case is personnel from a temporary agency or who have their own firm and is hired of a governmental organization with its regular personnel. The hired personnel are often persons with specific individual competences that are needed in the governmental organization.

Individual competences should not be confused with knowledge. IPMA (2015) sees individual competence as the application of knowledge, skills and ability in order to achieve a task. "Knowledge is the collection of information and experience that an individual possesses. … Skills are specific technical capabilities that enable an individual to perform a task. … Ability is the effective delivery of knowledge and skills in a given context" (p. 15). The difference between IPMA's definition of knowledge, skills and ability is that knowledge of, for example, a flow chart is about knowing what such a chart is, skills make it possible to create a separate chart and with ability it becomes possible to use the created chart within the framework of a project.

The study's specific level of analysis is the transfer of individual competences associated with or not associated with temps.

The purpose of this study is to analyze learning preconditions for personnel from different employers within a project organization. Two research questions will be answered. 1) Do regulars and temps in an inter-organizational based project organization differ in their perceptions of their learning preconditions in the project? If so, in what way? and 2) Are there any qualitative aspects in an inter-organizational based project organization that can be considered as particularly significant for the cooperation between regulars and temps? If so, which are they?

2 Competence Transfer in an Inter-organizational Context

Research on improving management efficiency of knowledge and expertise within organizations often assumes that competence transfer is desirable (Bartsch, Eber, & Maurer, 2013; Carlsson, 2003; Chen, Tong, & Ngai, 2007; Ragab & Arisha, 2013; Wagner & Buko, 2005). In this paper, although desirable, we show that this is not always the case. There seems to be obstacles in competence transfer in knowledge-intensive organizations that hire qualified experts.

Song, Almeida, and Wu (2003) examined "the conditions under which mobility is most likely to facilitate interfirm knowledge transfer through learning-by-hiring" (p. 361). One of their findings are relevant in this context and that is that the motives for hiring experienced engineers is when a firm "lack well-defined technological trajectories" (p. 361).

Huckman and Pisano (2006) studied "whether specific worker-firm combinations yield higher performance than others" (p. 475), and they found that "surgeon performance is not fully portable across organizations" (p. 484). They argue that this finding may refer to the surgeons familiarity with the actual organizational context. "[T]his relationship ... reflects the productive benefits associated with a surgeon's familiarity with critical assets of the hospital organization" (p. 485).

Other research shows that the project owner has a clear responsibility for knowledge transfer between project and parent organization (Bakker, Cambre, Korlaar, & Raab, 2011, p. 502). Further, research on project organizations reported tensions between project and parent organization (Scarbrough et al., 2004), social aspects (Bartsch et al., 2013), gender (Cartwright & Gale, 1995; Gale & Cartwright, 1995; Lindgren & Packendorff, 2006) and inter-project learning (Prencipe & Tell, 2001). The analysis level of our study covers differences in regulars and temps perceptions of preconditions for learning within an interorganizational project organization.

This paper is based on data from a study of a Swedish government agency, the Swedish Transport Administration (STA), which is responsible

for long-term planning of the transport system for road, rail, sea and air operations and for the construction, operation and maintenance of state roads and railways. STA also examines questions about state subsidies to Swedish shipping industry and promotes accessibility in public passenger traffic by procurement of contracts. (STA, 2015a)

The quote shows that the STA is a complex organization with different business areas. The STA is a Swedish administrative authority, which began its operations on April 1, 2010. With the authoritie's arrival, several authorities

within the Swedish transport system gathered in one authority. We estimate that STA's maturity level corresponds to number 3 in Mullaly's and Thomas' (2010) assessed levels of project management maturity. There is a complete project management process in place that seems to be consistently utilized on all projects within the organization, but we also estimate that something is missing because there is different access to information between regular and temporary employees.

The fields of activities involved in this study are primarily temporary project organizations developed and phased out based on their tasks (Turner & Müller, 2003). The study includes staff working on state roads and railways. This means that the organizational context consists of various more or less cohesive units, that is, it is not obvious to consider the STA as a cohesive organization. Instead, the STA is a project-based organization with both regular and temp staff.

The implication of the fact that the STA represents a project organizational context with both regulars and temps is that the STA is about both temporary organization and temporary employment (Bakker, 2010). First, each individual project within the STA is temporary in terms of limitations in "time, task, team and transition" (Lundin & Söderholm, 1995, p. 439) and context (Bakker, 2010). Moreover, the STA is characterized by a high degree of "action-based entrepreneurialism, fragmentation of a commitment-building, planned isolation and institutionalized termination" (Lundin & Söderholm, 1995, p. 445). Secondly, the STA differs from previous research on project organizations because the STA, to a high degree, often, but not always, bases projects on temps, from project managers over construction managers to administrators. This paper contributes to the existing literature by analyzing the organizing of transfer or lack of transfer of competence over time and between teams within an inter-organizational based project organization with regular and temporary employees.

3 Organizational Backgrounds and Dimensions of Learning

We have combined Martin's (2002) three versions of organization with Illeris (2007, 2011) three dimensions of learning. These two theoretical views will first be described separately and thereafter in combination. Martin (2002) describes three versions of organizational culture: integration, differentiation, and fragmentation. We will consider the organization as a background for individual projects that can be referred to when invoking various manifestations of participation that indicate preconditions for learning.

Integration, the first of three organizational backgrounds, has to do with the assumption that an organiza-

tion is characterized by consistency, that is, an organization-wide consensus and clarity. In this context, it means that the conditions for learning, that is, the increased "level of complexity... that is relevant in a given situation" (Illeris, 2007, p. 67) are related to one organizational background consisting of one or more organizational units. *Differentiation* also implies one organizational background consisting of overlapping and embedded units coexisting in the form of opinions that are in harmony, conflict, or indifference to one another. *Fragmentation* assumes that claims of clarity, consistency, and consensus are idealized simplifications that fail to capture the complexity of an organization. Instead of banning ambiguity, as integration does, or consigning ambiguities to the gaps between different organizational backgrounds, as differentiation, the fragmentation perspective considers ambiguity as a characteristic trait for organizational cultures. In this case, fragmentation makes it possible to convey an understanding of the inter-organizational preconditions for the current learning, that it exists in such a complex organizational environment with personnel from different organization, which cannot be described in a straightforward manner.

Although most of the studies, according to Martin (2002), use only one of the three perspectives, she believes that all organizations contain elements that are consistent with all three perspectives. In our case, if Martin's theory is true, this means that if the STA is studied deeply enough, the preconditions for unambiguous learning will manifest themselves in the form of a more or less organization-wide consensus, consistency, and clarity (integration). Meanwhile, other types of conditions for learning will be blended in different and ambiguous perceptions (differentiation). Finally, some conditions for learning will be difficult to interpret in a state of constant change, and therefore will generate multiple, but hopefully still reasonable, interpretations (fragmentation). The primary merit of the use of Martin's concepts is that they make it possible to empirically question the understanding of the organization as a singular and more or less cohesive unit.

Three key dimensions of learning will be related to the abovementioned organizational backgrounds (Illeris, 2007, 2009): Social Interaction, which refers to action, communication, and collaboration; Content, which is characterized by knowledge, understanding, and skills; and Incentive, associated with motivation, emotion, and will.

The *Social Interaction* dimension has to do with situated learning, that is, a social and context-bound learning (Illeris, 2007, p. 150). This learning can be linked to "perception, communication, experience, imitation, activity or participation" (p. 150). The important part of this learning is the possibility for "active involvement and codetermination, involvement in subjective relevant problematics, critical reflection and reflexivity, and social responsibility" (p. 150). Perception consists of impulses that affect learning processes (Illeris, 2011). Communication is associated

with transmission of certain messages or certain information. Experience is linked to a certain type of positive or negative learning in a particular situation. Imitation has to do with someone imitating someone else in the performance of a particular task. Activity emphasizes learning based on the perspective of the learner in the context of a commitment in goal-oriented activities (p. 26). Participation, finally, refers to learning that expresses "in a community of practice for an extended period of time" (p. 26). The meaning of the social interaction dimension is that social interaction includes interactions from "unmediated sense impressions" (p. 25) to long-term collaborations.

Within the *Content dimension*, learning can be acquired in four different ways: cumulatively, assimilatively, accommodatively and transformatively (Illeris, 2011). The cumulative learning is associated with a mechanical learning without any advanced thought and contextuality. For example, it may be about memorizing a PIN code. Assimilative learning corresponds to learning about something specific in relation to a particular context. The accommodative learning is characterized by a breakdown of something already known and a creative and largely independent restructuring of the disintegrated. The transformational learning, ultimately, involves a meta-learning in multiple areas, i.e. "decomposition of several schemes in a coherent process and their restructuring into a new coherent understanding and experience in relation to one or more significant areas of life" (Illeris, 2011, p. 18). This means that the content dimension extends from an automatic and context-free learning to an overall learning from different perspectives.

The *Incentive dimension* is connected to "the extent and nature of the mental energy invested in learning, that is, the motivation, the emotions and the will of the individual mobilizes in a learning situation or in a learning process" (Illeris, 2007, p. 119). Illeris (2007) describes the result as motivational, emotional, and volitional patterns. An important aspect is that the challenges in learning that the individual faces should not be overpowering but instead be tuned in relation to interests and preconditions. In other words, a person's learning depends on whether his motivation is higher or lower and if the will is strong or weak. Both motivation and will form the basis for whether the person is open to a particular learning or if he is opposed to it (Illeris, 2011).

These three dimensions, Social interaction, Content and Incentive is connected to competence through their qualities: the learner's personal sociability, functionality, and sensivity (Illeris, 2011). In combination they make it possible for the learner to build up his *sociality*, to "construct *meaning* and the *ability* to deal with the challenges of practical life", and "to secure the continuous *mental balance*" (Illeris, 2011, p. 62).

We consider learning a meaning-making process, partly in line with Jonassen and Land (2012) and partly in terms of Weick's (1995) unit of analysis: "cue + relationship + frame". (p. 110). The unit of analysis involves an empirical indication of preconditions for learning (cue) that is set against its (relationship) background (frame). The logic in this context is that manifestations in terms of Social Interaction, Content, and Incentive give rise to a particular type of mental associations (interpretations) when they are related to a particular organizational background, and it is these preconditions for learning that are analyzed in the present paper (see Table 1). Thus, the aim is to investigate whether regular and temporary staff differ in their perceptions of preconditions for learning and if there are some qualitative aspects that can be considered particularly significant in these differences.

Table 1 shows how Illeris's (2007, 2011) learning dimensions are combined with Martin's (2002) versions of organizational culture, here applied as organizational backgrounds. The learning dimensions highlight the situated, the conscious, and the proactive nature, while the organizational backgrounds distinguish the unambiguous, ambiguous, and split from one another.

Table 1: Analysis Model for the Relationship Between the Learning Preconditions and Organizational Backgrounds

Learning/organizational background	Social Interaction	Content	Incentive
Integration	1. Unambiguous situated/ context bounded learning	2. Unambiguous awareness of its personal and business environment	3. Unambiguous motivation, emotion, and desire
Differentiation	4. Ambiguous situated/context-bounded learning	5. Ambiguous awareness of its personal and business environment	6. Ambiguous motivation, emotion, and desire
Fragmentation	7. Split situated/context-bounded learning	8. Split awareness of its personal and business environment	9. Split motivation, emotion, and desire

4   Method

This is a case study of an organization that holds a number of business areas (Yin, 1994). The case is complex, and its responsibilities include long-term planning of the transportation system for all modes of transport; construction, operation, and maintenance of state roads and railways; implementation of theoretical and practical tests for driver's licenses and taxi licenses; theoretical tests for licensing and professional driving skills; and basic availability of interregional public passenger transport through procurement of traffic (STA, 2015b). This case concerned the construction, operation, and maintenance of state roads and railways.

The data collection was based on both quantitative and qualitative data collected via an online questionnaire and individual interviews. The reason for using mixed methods was to elucidate the complexity of renting personnel to a project organization (see Mertens, 2012; Ercikan & Roth, 2006).

4.1   Description and Analysis of Quantitative Data

The questionnaire used has been designed in collaboration by three project members and one of the authors of this paper. One of these members compiled and distributed the web link to the questionnaire to a key person within the STA, who in turn, in March 2011, forwarded the link in the organization.

The survey was sent to all staff groups linked to the STA: regular employees, agency workers, and temporary self-employed workers (F-tax). In total, the survey was distributed to 2,135 people, and the response rate was 51.3% (after two reminders). The response rate is due to a number of people dropping out of the employment or assignment; in addition, a number of staff did not respond to the questionnaire. The response rate for the groups, regular and temporary staff, was equivalent and thus, no post stratification or weights were considered necessary.

The respondents were between 18 and 71 years old, with a mean age of 47 years. A regular was defined as a person who responded that they were employed by the STA, and temps were those who answered that they were rented from temporary agencies, consulting firms, private companies, or other professionals. There were a total of 1,095 respondents, and 1,044 answered the question whether they were regulars or temps (51 missing). Two of these people did not specify their gender. The sample used in the analyses, which includes those who answered the questions about their position and gender, was 1,042 (see Table 2). The sample in the present analysis was not an independent random sample, and thus, the significance tests should be interpreted with caution. However, due to the large sample size, it can be assumed to give a reliable understanding of the workforce at the STA.

Table 2 shows that the analyses are based on 1,042 people and that 32% of these were women with an average age of 42 years. In all, 52% were regulars. This means that the questionnaire sample included a good proportion of temps (48%) and a reasonably high proportion of women (32%).

The collected survey data were statistically processed in SPSS. The analysis was preceded by the construction of indices, and the reliability of these indices was estimated. Thereafter logistic regression analysis was performed, using the three dimensions as predictors, in order to evaluate how much the different dimensions contributed to the odds of being an employee or a temp when gender, age, income, and education were accounted for. This is a well-suited method for predicting group membership, in this case regulars and temps. The models are stipulated with an outset in Illeris' (2007, 2011) learning dimensions and the association these dimensions are hypothesized to have with the two forms of employment, regular and temp, to contribute to the purpose of the study. The degree of model fit is estimated with the data collected in the present project.

The survey questions dealt with background information (e.g., age, education, and sex) as well as a number of areas such as working conditions, career development, and the perceived social climate of the workplace. A total of 35 themes were covered in the survey, and each theme included one to 12 questions.

In Table 3, 17 people have fallen away from the analysis compared with Table 2. Table 3 shows that the women who answered the survey are in the minority (33%), and that especially applies to the professions of engineers (19%), technicians/construction managers (13%), and project managers (27%).

Table 2: Personnel Group and Age Divided by Sex

	Female (percent)	**Male (percent)**
Number	338 (32%)	704 (68%)
Regular	197 (37%)	342 (63%)
Temp	141 (28%)	362 (72%)
Average age	42	50

Table 3: Respondents Divided by Occupation and Sex

Occupation	n	Percent	n Women (percent)	n Men (percent)
Engineers	357	34.8	70 (19%)	287 (81%)
Quality/data	66	6.4	20 (30%)	46 (70%)
Environment	68	6.6	37 (54%)	31 (46%)
Technicians/construction managers	118	11.5	15 (13%)	103 (87%)
Administrator/assistant	92	9	85 (92%)	7 (8%)
manager	20	2	3 (15%)	17 (85%)
Economist/purchaser	145	14.1	60 (41%)	85 (59%)
Project managers	154	15	42 (27%)	112 (73%)
Other	5	.48	2 (40%)	3 (60%)
Sum	**1,025**	**99.88**	**334 (33%)**	**691 (67%)**

Table 4: Items Included in the Three Dimensions of Learning Preconditions Note. The questionnaire was developed specifically for this project

Dimensions	Items	Variable value
Social Interaction	1. Do you think your boss cares about you as a person?	No, not at all; No, hardly; Yes, to some extent; Yes, greatly
	2. Do you think your boss encourages and supports you?	
	3. Do you think your boss will give you clear instructions on how the work should be carried out?	
	4. At my current workplace, cooperation does not work in a way that suits the performance of my duties.	Strongly disagree; Tend to disagree; Neutral; Tend to agree; Agree
	5. At my current workplace, it is difficult to know whom you can and cannot rwork with.	
Content	6. Through the work at my current job, I have learned skills that are sought after in today's job market.	
	7. I feel that I have developed as a person through my work at my current workplace.	
	8. There are good possibilities for development at my current workplace.	
	9. Do you get information from the people working at this workplace that is of importance for your work?	Very rarely or never; Quite rarely; Sometimes; Quite often; Very often
	10. Do you get tips or advice from colleagues who do the work easier?	
	11. I have a lot of freedom to decide how I will perform my duties.	Strongly disagree; Tend to disagree; Neutral; Tend to agree; Agree
	12. At my current workplace, a lot of my own thinking is required to perform my duties.	
Incentive	13. If I could, I would change my current workplace with someone else.	
	14. I do not feel comfortable with my current career choice.	
	15. The more I learn about my work tasks at my current workplace, the more fun it is to go to work.	
	16. At my current workplace, my skills are appreciated in a way that I think they deserve.	

Analyses of quantitative data include a total of 16 items on Social Interaction (5), Content (7), and Incentive (4).

Table 4 shows the items and values of the variables included in the different dimensions of learning preconditions. The term "learning preconditions" means that we have not studied learning per se but the respondents' perceptions of their opportunities for learning, also denoted as competence and competence transfer. The answers to the items were converted to indices by adding the variables chosen for the index. First, each variable was converted to a common scale ranging from zero to five. For example, the first three items in the dimension Social Interaction had four response alternatives coded from one to four (see Table 4). These were rescaled to zero to five as all the other items. The rescaling ensured that each item in the dimension contributes equally to the variance in that dimension. The index Social interaction ranges from 0 to 25, Content from 0 to 35 and Incentive from 0 to 20.

The variables are coded so that the higher the value, the more Social Interaction, Content, or Incentive. This means that if the average is higher, one has responded in a positive direction. For a negatively charged item such as No. 5 there has reversed encoded so that the original low value will be high and vice versa.

Based on the indices, an analysis of the differences between regulars and temps was carried out and a more detailed analysis of the dimensions based on a breakdown of the respondents in men and women was conducted.

4.2 Qualitative Data—Interpretation of Contextual Circumstances for Learning

Collected qualitative data were based on a sample from the same population (STA staff) as the quantitative, but the interviews were, to a larger degree, conducted from an organizational (contextual) perspective and in a more unconstrained and flexible manner than possible in a questionnaire. We could not influence the selection of the 21 interviewees, who were selected by staff within the STA. Of these, seven were regular, six were temp project managers, six were temp construction managers, one was a temp expert, and one was a temp administrator. Temps and regulars often work together in groups, but usually with complementary duties. In most cases, people in both categories have experiences that make it possible to assume that they possess corresponding competence. This sample consisted of 18 men and three women, that is, 14% women. Women have the code numbers 22, 38, and 95.

The primary purpose of the interview study was to study the regulars' and temps' ideas of the preconditions for learning in terms of competence and competence transfer. The concepts, competence and competence transfer, are most likely perceived in different ways among the interviewees and this was not seen as a validity issue in the present study as the interviews covered preconditions for learning that make competence transfer possible. Thus, the interviews were targeted to capture the mechanisms behind the concept of competence transfer. During the analysis of qualitative data, a reference was repeated in the interviewees' utterances that revealed a more complex organization than we originally expected. It is this complexity that is reported in terms of Integrated, Differentiated, and Fragmented organizational backgrounds, and this complexity is the qualitative data's unique contribution to the study in comparison with the quantitative data.

The qualitative data presented in this paper are based on a total of 75 utterances, of which 30 (40%) came from women. The analysis has been carried out in four steps. The first step was an unbiased reading of the transcribed interviews, regardless of the conceptual dimensions of Table 4. Thereafter, a systematic coding of the interviews was made based on the conceptual dimensions. After that, selected observations were sorted in different patterns, and during that sorting, the organizational qualities were discovered, which in a fourth stage were dimensionalized in terms of Integration, Differentiation, and Fragmentation. It is the results of these four analytical steps that are reported in this study.

The interviews were coded to make it possible to see the variations in the following categories: individual number; project manager (PM), construction manager (CM), expert (Exp), or administrator (Adm); employed (Emp) or temporary worker (Temp); and assignment connected to road (Road) or railway (Rail). The code "38, PM, Emp, Road/Rail" means the interview was conducted with individual No. 38, a project manager, employed by STA, and connected to both road and railway construction.

4.3 Reliability and Validity

As mentioned in the initial parts, the analysis is, among others, based on Illeris's (2007, 2009, 2011) theory that includes the dimensions of learning Social Interaction, Content, and Incentive. Based on the survey items, indices were created for each learning dimension (see Table 4). The reliability of the indices, estimated with Cronbach's alpha, ranged from 0.6 to 0.7 (see Table 5). Cronbach's alpha is an estimate of how well the items included in each index measures the same phenomenon (Pedhazur & Pedhazur Schmelkin, 1991) and the rule of thumb is to accept indices with alpha larger than 0.7. However, generally, a larger number of items gives a larger alpha and as the index Incentive only have four items an alpha estimate of 0.63 is considered acceptable (see e.g. Lowenthal, 2004).

Reliability and validity in the analysis of qualitative data were carried out by the authors by a) comparisons of analyses and interpretations of the same data with each other (internal reliability) and b) in collaboration, test-

Table 5: Reliability Test of the Four Indices Created

Index	Number of survey questions	Cronbach's alpha
Social Interaction	5	0.74
Content	7	0.70
Incentive	4	0.63

Table 6: Summary of logistic regression analysis for variables predicting regulars and temps, *p < .05
Note. Cox & Snell's R2 = .015, Nagelkerke's R2 = .02, n = 899.

Predictor	B	SE B	Wald's chi^2	Df	Odds ratio (e^B)
Social Interaction	-0.046*	0.018	6.3	1	0.955
Content	0.056*	0.022	6.9	1	1.058
Incentive	-0.044	0.024	3.2	1	0.957
Constant	0.276	0.452	0.4		1.318
χ 2		12.220			
df		3			

ed collected data against the dimensions of learning and organizational backgrounds (internal validity). We have made no attempt to find out if some of the respondents who answered the survey were included in the interviews.

5 Results

Below are the quantitative and the qualitative data analyses reported. The reason for the use of quantitative data is to present general results, and the purpose of using qualitative data is to present specific qualities in relation to the interviewees' understanding of competence and competence transfer and various organizational backgrounds.

5.1 Quantitative Data—Attitudes Toward Learning Conditions

In this section, the results from the logistic regression analyses of the quantitative data are presented, based on the three dimensions of Social Interaction, Content, and Incentive.

The first step in the analysis was to test a model with the three learning dimensions as independent variables. The model was statistically significant, indicating that the predictors distinguished between regulars and temps (chi square =12.22, p =.007 with df = 3). The Wald criterion demonstrated that the Content dimension and the Social interaction dimensions made significant contributions to the prediction. The Incentive dimension was not a significant predictor. A person has a 55 per cent probability of belonging to the regulars if reporting a maximum on all three dimensions (see Table 6):

Logit (ln o) = 0,276 (=constant) -0,046*25 (social interaction=25) + 0 ,056*35 (content=35) -0,044*20 (incentive =20). The antilog is calculated and thereafter the probability is computed (p = o/(1+o)). Table 6 shows that the odds for being a regular decrease with .05 if the variable Social interaction increases with 1. The odds for being a regular increase with .06 for every one-unit increase in the Content dimension. The Incentive dimension is not statistically significantly different from zero.

In a second step, a number of control variables were added, namely gender, age, education, and income. A test of the full model against a constant only model was statistically significant, indicating that the predictors as a set, reliably distinguished between regulars and temps (chi square =60.6, p = .000 with df = 7). The Wald criterion demonstrated that the Content, Social dimension, and the Incentive dimension made significant contributions to the prediction when gender, age, education, and income were taken into account. The odds for a person to belong to the group regulars decreases with 0.05 for every one-unit increase in the Social interaction dimension as well as the Incentive dimension. The odds of being a regular increase with 0.06 for every one-unit increase in the Content dimension. A longer education contributes most of all variables with increased odds of being a regular (0.4).

The results suggest that, with human resource planning in mind, the regulars and temps differ in their perceptions of learning conditions regarding these dimensions. In addition, it can be noted that gender and income were not significant predictors for regulars and temps.

Table 7: Summary of logistic regression analysis for variables predicting regular and temps, controlling for background variables, *p < .05
Note. Cox & Snell's R^2 = .074, Nagelkerke's R^2 = 0.10, n = 899.

Predictor	B	SE B	Wald's chi^2	Df	Odds ratio (e^B)
Social Interaction	-0.046*	0.019	5.5	1	0.955
Content	0.063*	0.023	7.3	1	1.065
Incentive	-0.054*	0.026	4.4	1	0.947
Gender	0.131	0.173	0.6	1	1.140
Age	0.035*	0.009	16.8	1	1.036
Education	0.401*	0.078	26.2	1	1.494
Income	0.182	0.123	2.2	1	1.200
Constant	-3.682*	0.763	23.3		0.025
$\chi 2$		60.6			
df		7			

5.2 Qualitative Data—Interpretation of Contextual Circumstances for Learning

This section is about the learning dimensions Social Interaction, Content, and Incentive in relation to the organizational backgrounds Integration, Differentiation, and Fragmentation (see Table 1). The number before each textual subheading refers to a cell in Table 1. After each heading are the number of utterances that belong to the current cell reported, how many utterances came from women (wo), and finally how many interviewees (IP) commented.

5.3 Social Interaction

The Social Interaction dimension is marked by the staff members' wish to work together toward common goals based on fairly shared and complementary bases.

5.3.1 1 Integration (10 utterances [9 wo], 3 IP).

Ideas of the common basis for knowledge emerge in the following quote:

Whoever hires temps should say that when you are here with us, then you get to share with you. And at the same time, if you are unsure about something, you should go and ask. (38, PM, Emp, Road/Rail).

The above quotation emphasizes an expectation of social interaction from temps, which can be interpreted to support the results from the survey in Table 6.

5.3.2 4 Differentiation (9 utterances [5 wo] 4 IP).

The above wish for social interaction in terms of integration needs to be supplemented with a differentiated form of social interaction. The differentiated form emphasizes the presence and needs of different but complementary conditions for different groups of staff:

Take the peaks with consultants. Then you have both (46, PM, Emp, Road).

This quote refers to a parent organization with undersized regular staff that, when necessary, is filled with temps. Differentiation may also provide support for the fact that the regulars' and temps' perceptions of social interactions differed in the questionnaire study (see Table 6).

5.3.3 7 Fragmentation (12 utterances [4 wo], 6 IP).

Social interaction is characterized by some kind of community or commonality of substance. The fragmented version may be interpreted as a negation of this. An regular project manager underlines the difference between temp and regular staff:

Sometimes, I notice that both our specialists and other departments... are not prepared to give service to a temp that calls and wants information or wants to order or something. Without that, there may be irritation: "Why does this temp call me and want a decision?" The project manager, the real project manager... should do that. (38, PM, Emp, Road/Rail).

The quote above confirms the existence of a hierarchy between temps and regulars.

An important consequence of this is that the STA is

...very poor to absorb the temps' knowledge, in that they do not get to be on our team meetings... (22, PM, Emp, Rail).

Taken together, the above quotes about fragmentation explain perceived differences between regulars and temps. This may be a consequence of differentiation, that is, that regulars seem to be more privileged in terms of Social Interaction and thus are perceived to have something that many temps probably feel is lacking.

5.4 Content

Content is associated with knowledge and an awareness of both oneself and the immediate and broader context.

5.4.1 2 Integration (12 utterances [1 wo], 8 IP).

Integration emphasizes the need for knowledge and an awareness that seeks cohesion of various kinds. A temp project manager connects integration perspective with regulars:

There is a societal perspective that is stronger in regular staff than in temps (49, PM, Temp, Rail).

The quote shows that the regulars are perceived to represent a (integral) consciousness about a societal whole and not only the defined task, compared Bakker's (2010) "task-orientation" (p. 477).

The significance of this is developed below.

And then I don't understand why we do not have that in our own organization, which I would have been able to bring with me [the most experienced] and say, "These I want to have with me..." (96, PM, Emp, Road/Rail).

In the above quote, a regular project manager is questioning why there is not access to specific competence internally. Compare Bakker's (2010) "repeated collaboration" (p. 479) and Prencipe and Tell's (2001) "barriers to learning" (p. 1374). Between the lines, it is possible to deduce that the questioning comes from the difference between perceived security and insecurity in having or not having access to skilled regular staff.

5.4.2 5 Differentiation (8 utterances [2 wo], 6 IP).

The meaning of Differentiation is the existence of different suborganizational backgrounds in the context of an overarching organizational background. However, there are limits to the extent to which it should occur.

I want to have a lot more regular construction managers and project managers... We have so incredibly many temps, even among construction managers, where we think we lose skills. Then they step out of the projects... It's more about the next step, what you learn and what knowledge you leave with, and there is my firm belief that one should have more regulars. (92, PM, Emp, Road/Rail).

The above quote expresses a regular project manager's dissatisfaction with difficulties within the parent organization over time to keep and implicitly develop skills. Compare Bakker's (2010) "knowledge dispersing" (p. 477). The logic is that the more temps, the greater the risk that competence is lost from the parent organization. The above quotation confirms the need for a strategic limitation of differentiation in the STA.

5.4.3 8 Fragmentation (12 utterances [6 wo], 7 IP).

Fragmentation legitimizes the existence of ambiguity within an organization. This means that one cannot expect any kind of uniform consensus in knowledge and awareness. Instead, we must expect the existence of unforeseeable and disparate perceptions and understandings.

As a project manager, one is very lonely. One has their own project, the group. And then we need to talk more with each other and help each other. It worked really well as long as we sat together. But now... true, we still help each other, but it involves much longer routes, and when you come in here now, from the outside, it will be very much more difficult to find contacts and find who can help you. (22, PM, Emp, Rail).

The above quote from a regular project manager confirms that the STA's Content dimension can be perceived as fragmented. Also, compare with Table 7. Project manager is a lonely job and has over time come to be seen as increasingly isolated.

In this context, it is valuable to raise the question of whether the parent organization has difficulty obtaining access to relevant information?

With experience feedback, if you had been working on a little more systematized way to make use of the experience that arises in the projects... The experience disappears out of [parent organization] so that it instead ends up with us temps. For me, this is an education. I rise in value every day I work here, and that value goes, of course, to me... Next time they want me in a project, I will cost more. (91, PM, Temp, Road).

The temp project manager's answer to the question before the quote above is a definite no! On the contrary, he asks for a systematic competence transfer from the parent organization's side. This despite the fact that he risks losing in it. Compare Bakker's (2010) "career capabilities" (p. 479).

5.5 Incentive

Incentive concerns the motivations, the emotions, and the will that the individual connects with learning.

5.5.1 3 Integration (3 utterances [1 wo], 2 IP).

In terms of Incentive to learn from an Integration perspective, this is attributed solely to regulars. A regular project manager is clear that "you do not have the same stability as if you are a regular" (22, PM, Emp, Rail). Regulars are perceived as more unambiguous and stable in what drives them compared to temps.

It is not in the mission, not the goal. Bang, we disregard it. We are going there (49, PM, Temp, Rail).

This quote shows that temps have a clear limit on what is included in the specified mission, thereby driving them, and what lies beyond the mission and driving force.

5.5.2 6 Differentiation (2 utterances [0 wo], 1 IP).

Differentiation is based on some form of organizational division or subdivision. It is therefore important to ask the question of which incentive may underlie the differentiation within the organization. The following brief excerpt from a verbal exchange about the STA between the interviewer (I) and interviewee (IP) can provide a tentative answer to this question:

It seems as though the STA retains the regulations but releases the technique and practice… (I)
Yes. (IP, 48, Exp, Temp, Rail).

From this verbal exchange, it is not only clear that there is a differentiation between rules, technology, and practice within the parent organization but also what the differentiation consists of. Knowledge of and insight into the regulatory framework are protected in the STA, while technology and practice can be released and, if need be, rented. If this is true, it means that the temp project manager has a primary responsibility for technology and practice, which could explain why the temps in the survey differ from the regulars in the dimensions of Social Interaction and Incentive (see Table 6).

5.5.3 9 Fragmentation (7 utterances [2 wo], 5 IP).

The presence of ambiguity means that a uniform consensus about learning preconditions is likely to be replaced with unforeseeable and incompatible interpretations and perceptions.

Present order can affect project managers' motifs at the planning stage.

Maybe you had planned differently. In some cases, you might even have chosen another solution if you had the right skills from the beginning. Because you may want to avoid procuring... In our case, I have construction managers in five different areas of expertise that often are four or five different people... And to procure five different construction managers very early when you just need a little bit, it is not easy either. (22, PM, Emp, Rail).

The quote shows the risk of developing ambivalence toward whether to procure competences temporarily or not. This can be seen as a clear need for continuity of immediate access to certain competences.

Quantitative data show that temps give attention to preconditions for learning in the workplace to a greater degree than the regular personnel. Qualitative data suggest a need for a more effective organization of Social Interaction between regulars and temps. When it comes to Content, regulars are ascribed with a more all-embracing project and societal responsibility than temps and a need to have access to internal competences without procurement. Regulars are also attributed with a stronger Incentive for adoption of an overall perspective, while temps largely are perceived to stick to the formal mission statement.

6 Discussion

This study is about learning in terms of Social Interaction, Content, and Incentive among regular and temp personnel in a project organization. Learning in terms of competence transfer refers to preconditions that can be related to human resource planning a local organizational context

with either positive or negative significance. The aim is to investigate whether the regulars and temps differ in their perceptions of these preconditions for learning and if there are some qualitative aspects that can be considered particularly significant in these differences.

The study is based on a case study with mixed methods in a government agency with a number of business areas (Yin, 1994). Data were collected via an online survey and individual interviews.

Analyses of quantitative data and thereof the answer on the first research question about potential differences between regulars and temps' perceptions of learning conditions in an inter-organizational based project organization, is that regulars are demanding preconditions for the Content dimension of learning to a greater extent than temps (see Table 1, cell 2). This is in line with Illeris (2007) definition of the Content dimension; learning is based on a "general dedication of the cultural and societal context which we are a part of" (p. 98). Obviously, the regulars are more integrated and rooted in the STA context, which may facilitate their learning in that respect. Also, Huckman and Pisano (2006) finds a critical aspect of context boundedness when surgeons moves between different organizational contexts. Analyses also indicate that temps pay attention to the Social Interaction and Incentive dimensions of learning to a higher degree than regulars (see Table 7). As the temps need to accommodate to new settings regularly and adopt to different work environments as they are changing workplaces they probably need to pay attention to the Social Interaction dimension of learning to a larger degree than regulars (see Table 1, cell 4).

The answers to the second research question about particularly significant qualitative aspects for the cooperation between regulars and temps are threefold. The analysis of qualitative data about Social Interaction shows regulars' interest in developing a professional environment that is characterized by context-bound competences and of an organization-wide consensus (see Table 1, cell 1). Furthermore, there are utterances of differentiation, showing that regulars are perceived to have their own area of responsibility, "their" organization, including colleagues and shared goals (see Table 1, cell 4). This is compared with temps, who mainly have their own interests, their specific tasks, and their specific assignment to complete (see Table 1, cell 4). In addition, examples of socially constructed distinctions between the working conditions for the regulars and for the temps were found.

The results from the aspect of Content show that there are beliefs that emphasize the importance of certain competences that are stationed within the parent organization and that these competences also are filled with experiences from temps (see Table 1, cell 5). The competences that are especially expressed are overall societal perspective and internal tasks such as accounting and orders. In addition, this also emphasizes the importance of an effective communication and information network that includes temps. This view of competence can be linked to IPMA's (2015) understanding of individual competence, ie. individuals' knowledge and experience that they use to successfully carry out their duties in a particular organizational context.

The analysis of Incentive confirms that temps are found to perceive lower motives than regulars to take into account both the organizational and societal contexts (see Table 1, cell 9).

These findings suggest that human resource planning in terms of competence transfer between temps and regulars is not desirable in the STA. Similarly, the project owner, the STA, takes no responsibility for competence transfer between these staff groups. This responsibility is delegated to the individual project. In addition, valuable competences can to some extent be missing during the planning stages of a new project. In addition, temps tended to be more focused on their specific task, compared to regulars. These examples reflect the integration, differentiation, and fragmentation within the STA and its projects.

6.6 Conclusions and implications

Against this background, it is possible to draw the following three conclusions and implications. First, there is a difference between how regulars and temps pay attention to preconditions for learning. This conclusion is important to follow up for future research because it emphasizes partly in contrary to previous research, that competence transfer between regulars and temps are not satisfying, partly the risk that different personnel groups in the STA is likely to be divided into, on the one hand, thinkers/organizers and, on the other hand, performers/doers. If this happens, important practical skills fall outside of the organization, which in a metaphorical sense means that the hand is separated from the brain.

Second, temps express defects in the transfer of information due to temps not having the same organizational legitimacy in the STA. The conclusion implicates in contrary to previous research, that the project owner does not seem to take responsibility for any kind of competence or knowledge transfer between regulars and temps which entails the risk that temps may end up in an organizational vacuum where they neither have access to important information or the opportunity to share their skills. This can seriously weaken the organizational learning and job quality in STA.

Third, regulars are expected to embrace an organizational and social perspective on other terms than temps. This conclusion implicate the risk of a dequalification of temps ability to place their duties in an organizational and societal context, which in turn may lead to that others (the regulars) than the expert (the temp) on the performance of the work is responsible for the work content. This potential dequalification need to be followed up by future research

because it indicates that STA's regular staff is not experts on their organization's core business. Instead, the expert (the temp) is located outside the STA, which can seem unfortunate for a tax-funded agency with such a strategically important national-wide function as STA.

Expressed on the basis of the analysis model in Table 1, the results show a contradiction within the organization. Regulars' safeguarding a community or an organizational perspective, while temps are looking for their own good. This can be seen as evidence of the existence of a fragmented organizational background that regulars in the STA appears to be unreflective about. Regulars are demanding integration but experiences fragmentation. These results and implications are valid for the STA but we believe that they could also be relevant for other similar project-based organizations with temporary staff. Therefore, the scientific value of this paper is that using temps may result in or be a consequence of a fragmented organization. Thus, an implication is that organizations using temporary staff needs to take extra precaution in building a structure for competence transfer between temporary and regular staff.

It would be interesting to, in the future, study the consequences for competence transfer, as the disparate organizational legitimacy between regulars and temps in a project organization may affect the development of competences between and within individual projects under a parent organization. This also includes an analysis of temps' and regulars' (overall) societal and organizational perspective in the individual project organization. A final future research topic is to investigate the impact of a project in the planning stage that does not have access to necessary competences without previous procurement.

Acknowledgement

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Redno in začasno zaposleni v projektno organiziranem delu posvečajo različno pozornost predpogojem za učenje

Ozadje in namen: Namen naše študije je raziskati, ali se redno in začasno osebje razlikuje po dojemanju predpogojev za učenje in ali obstajajo kvalitativni vidiki, ki se pri teh razlikah lahko štejejo za posebej pomembne.

Zasnova / metodologija / pristop: Pristop je študija primera, ki temelji na kvantitativnih in kvalitativnih podatkih, zbranih prek spletnega vprašalnika in posamičnih intervjujev.

Rezultati: Prispevek postavlja pod vprašaj razumevanje organizacije kot edine in bolj ali manj povezane enote. Na organizacijski ravni lastnik projekta, ki zaposluje osebje, ne skrbi za prenos pristojnosti med redno in začasno zaposlenimi ali med različnimi skupinami zaposlenih. Na individualni ravni so začasno zaposleni bolj osredotočeni na svojo specifično nalogo kot redno zaposleni. Zdi se, da redno zaposleni ščitijo neko skupnost ali organizacijsko perspektivo, medtem ko začasno zaposleni iščejo svoje dobro.

Zaključek: Kadar organizacija uporablja začasno zaposleno osebje, obstaja tveganje, da se ena socialna enota glede pozornosti, namenjeni predpogojem za učenje, razlikuje od druge. Zato je znanstvena vrednost tega prispevka ugotovitev, da lahko angažiranje začasno zaposlenih povzroči razdrobljeno organizacijo ali je posledica razdrobljene organizacije. Ugotovitve kažejo, da pri projektih z redno in začasno zaposlenimi ni prenosa kompetenc med redno in začasno zaposlenimi, lastnik projekta pa ne prevzema nobene odgovornosti za načrtovanje človeških virov v smislu prenosa kompetenc med različnimi skupinami zaposlenih. Posledično dolgoročna učinkovitost in racionalnost v organizaciji nimata vedno prednosti pred organizacijsko pripadnostjo, tudi pri najemanju strokovnega znanja. Ko se to zgodi, lahko povzroči razdrobljeno kadrovsko skupino, ki je razdeljena na mislece / organizatorje in delavce / izvajalce. Ko se to zgodi, pomembne praktične spretnosti ostajajo zunaj organizacije, kar v metaforičnem smislu pomeni, da je roka ločena od možganov. Zato morajo organizacije z začasnim osebjem načrtovati, kako omogočiti prenos kompetenc med začasno in redno zaposlenim osebjem.

Ključne besede: *prenos kompetenc; med-organizacija; organizacija projekta; začasno delo*

The Influence of Teachers' Perceptions of School Leaders' Empowering Behaviours on the Dimensions of Psychological Empowerment

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Background and Purpose: School leader has an effect on teachers in divergent ways. If school leader wants their teachers to be successful and satisfied, he or she must have the potential to prompt work conditions that build up teachers' psychological empowerment. Main aim of our research was to empirically test the relations between teachers' perceptions of school leaders' empowering behaviours and all dimensions of psychological empowerment (meaning, competence, self-determination and impact).
Design/Methodology/Approach: We tested four hypotheses in one structural model by using structural equation modelling (SEM). The quantitative data was collected through an online survey on a sample of 525 primary school teachers in Slovenia by using two already validated questionnaires, The School Leader Empowering Behaviours (SLEB) and Psychological Empowerment Questionnaire (PEQ).
Results: Findings show that teachers' perceptions of school leaders' empowering behaviours are positively and statistically significantly related to all dimensions of psychological empowerment (meaning, competence, self-determination and impact).
Conclusion: Knowledge of psychological empowerment can be beneficial for school leaders, because with this comprehension they can strengthen apprehension and potential in exercising empowering behaviours towards their teachers to maximize their psychological empowerment.

Keywords: HRM; leadership; psychological empowerment; SEM

1 Introduction

Empowering school leaders are regularly capable of fostering encouraging conditions, that increase teachers' psychological empowerment, intrinsic work motivation, work commitment and effect on greater work results (Arnold, Arad, Rhoades & Drasgow, 2000; Konczak, Stelly & Trusty, 2000). Teachers, who are feeling empowered also believe, that they are important and influential in the organization and they feel greater sense of commitment (Kark, Shamir & Chen, 2003). Owing to the fact, that psychological empowerment has a big influence on teachers' professional development and psychological well-being, school leaders should pay more attention on strengthening

apprehension and potential in exercising empowering behaviours towards their teachers to maximize their psychological empowerment (Lee & Nie, 2014). In our research, we have focused on how school leaders' empowering behaviours relate to all four dimension of psychological empowerment, being impact, self-determination, competence, and meaning (Spreitzer, 1995b).

2 Literature Review

This paragraph will provide the review of the scientific literature and previous research related to the teachers' perceptions of school leaders' empowering behaviours and psychological empowerment.

2.1 Teachers' perception of school leaders' empowering behaviours

School leaders' behaviour is a crucial component in creating an effective work environment that influences teachers' behaviour (Bass, 1985). Past research has shown the most effective school leadership styles to be such as: transformational leadership, instructional leadership, authentic leadership, servant leadership and distributed leadership (Dimmock, 2011; Ng & Ho, 2012; Owusu-Bempah, Addison & Fairweather, 2014; Shatzer, Caldarella, Hallam & Brown, 2014); but none of those make clear, which are the crucial segments of leaders' behaviour, that empower workers.

In the past decade, the interest in researching the relation between school leaders' empowering behaviours and teachers' psychological empowerment is becoming greater. Researchers are interested in how can school leaders empower teachers with their own behaviour (Lee & Nie, 2013; Vecchio, Justin & Pearce, 2010; Wan, 2005). But it is not only school leaders' empowering behaviour, that influences teachers' psychological empowerment, teachers' perceptions and interpretations of school leaders' empowering behaviour is crucial as well (Lee & Nie, 2014).

Studies and measures of school leaders' empowering behaviours are relatively new. Arnold, Arad, Rhoades & Drasgow (2000) developed a scale for evaluating the communal perception of school leaders' organizational empowering behaviours and on the other hand, Konczak, Stelly & Trusty (2000) developed a scale for evaluating individual perceptions of school leaders' empowering behaviour. These authors found, that empowering school leaders are regularly capable of fostering encouraging conditions, that increase teachers' psychological empowerment, intrinsic work motivation, work commitment and have an effect on greater work results. Teachers, who are feeling empowered also believe, that they are important and influential in the organization, and they feel a greater sense of commitment (Kark, Shamir & Chen, 2003).

Lee and Nie (2013) developed The School Leader Empowering Behaviours (SLEB) to measure teachers' perceptions of school leaders' empowering behaviours. SLEB is composed of seven dimensions: delegation of authority, providing intellectual stimulation, giving acknowledgement and recognition, articulating a vision, fostering collaborative relationships, providing individualized concern and support and providing role-modelling. Therefore, it is essential for school leaders to enhance awareness and capacity in exercising empowering behaviours towards their teachers to maximize their work potential (Lee & Nie, 2013). School leaders should give bigger emphasis on high-ranking work tasks, have every confidence in teachers' capabilities and give anticipation of affirmation in their work environment. Only by giving tasks, that are important for teachers, together with giving authority and trust, will the teachers feel more psychologically empowered (Spreitzer, Kizilos & Nason, 1997).

2.2 Psychological empowerment

School effectiveness and also indirectly students' outcomes are influenced by the teacher's motivation and commitment to the organization (Hamid, Nordina, Adnanb & Sirunc, 2013). Therefore, the knowledge of psychological empowerment, as one of the important motivational factors (Edalatian Shahriari, Maleki, Koolivand & Meyvand, 2013), is important for school leaders.

Psychological empowerment is an emotional state, which makes individuals confident, that they will achieve goals successfully (Zhang, Ye & Li, 2018). First definitions have defined empowerment unidimensional as self-efficacy or with other words as a process that strengthens individuals' feelings of their own effectiveness among other members of an organization (Conger & Kanungo, 1988). Psychological empowerment is in recent literature defined as a multidimensional concept, which has four dimension: self-determination, meaning, competence and impact (Thomas & Velthouse, 1990; Spreitzer, 1995b). These four dimensions reflect a proactive orientation to one's work role (Spreitzer, Kizilos & Nason, 1997).

Meaning or the meaning of work is the mechanism through which individuals get energized about work (Spreitzer, Kizilos & Nason, 1997). For meaning it is important, that work responsibilities are in accordance with the beliefs, attitudes and values of an individual (Spreitzer, 1995b). Individuals, who perceive their work as important, have a greater sense of commitment to the organization (Thomas & Velthouse, 1990) and will make more effort to solve problems (Gilson & Shalley, 2004).

Competence is an individual's perception of the ability to successfully perform and accomplish work tasks (Spreitzer, 1995a; Quiñones, Van den Broeck & De Witte, 2013). Without a sense of confidence in the workplace, individuals will feel inadequate, and will therefore not feel

empowered (Conger & Kanungo, 1988). An individual feels competent when he is self-confident about his ability to perform well or successfully complete all of his work tasks (Quinn and Spreitzer, 1997) and is able to cope with different work situations (Spreitzer, 2008).

Self-determination represents the individual's autonomy in performing work and work tasks, and the ability to choose their own behaviour in different situations, without feeling that he is under constant control (Spreitzer, 1995b). Those individuals who have a high sense of self-determination, will show a more constructive response to stressful situations (Goodale, Koerner & Roney, 1997), will be more flexible, creative, initiative, persistent and will have more self-control (Thomas & Velthouse, 1990).

Impact represents the level of individuals' feeling of making a difference in their organization (Spreitzer, Kizilos & Nason, 1997) and the influence they have over the outcomes in the organization (Spreitzer, 1995b). Impact also refers to the ability of an individual to attract others to listen to his ideas (Quinn & Spreitzer, 1997). With other words, impact is the control over an individuals' work environment (Thomas & Velthouse, 1990).

Similar as the previous explanation of psychological empowerment, Edalatian Shahriari, Maleki, Koolivand and Meyvand (2013) expose the main dimensions of psychological empowerment to be: self-efficiency, self-determination, acceptance of personal consequence, meaningfulness and trusting others. Self-efficiency means that the person believes that he/she has the necessary skills, competence and abilities to successfully perform a task. Self-determination refers to the individual's experience of having a choice in personal performing and independently organizing their activities. Acceptance of personal consequences means, that individuals try to maintain their dominance and control on what they see instead of having a reactive behaviour against their environment. Meaningfulness refers to the value of job goals and objections, which are judged in relation to personal standards, and the last dimension, trusting others, refers to the interest, competence, openness and confidence in others.

2.3 Relations between teachers' perceptions of school leaders' empowering behaviors and dimensions of psychological empowerment

Research in the area of the relations between teachers' perceptions of school leaders' empowering behaviours and the dimensions of psychological empowerment (meaning, competence, self-determination, impact) is relatively new. Studies have shown, that there is a positive relation between teachers' perceptions of school leaders' empowering behaviours and psychological empowerment (Lee &

Nie, 2013). Based on written above, we formulated four hypotheses to determine relations between teachers' perceptions of school leaders' empowering behaviours and dimensions of psychological empowerment. Proposed hypotheses were tested in the proposed model (Figure 1). The hypotheses are:

- H1: Teachers' perceptions of school leaders' empowering behaviours are positively related to meaning.
- H2: Teachers' perceptions of school leaders' empowering behaviours are positively related to competence.
- H3: Teachers' perceptions of school leaders' empowering behaviours are positively related to self-determination.
- H4: Teachers' perceptions of school leaders' empowering behaviours are positively related to impact.

3 Research methodology

3.1 Participants

The participants in the research were primary teachers from Slovenia. The full set of questionnaires was completed by a total of 525 teachers, of whom 40 (7.6%) were men and 485 (92.4%) were women. The average age of respondents was 44.7 years. In average teachers have 19.9 years of work experience. According to the marital status, 336 (64.0%) were married, 109 (20.8%) were in relationship, 44 (8.4%) were single, 26 (5.0%) were divorced and 10 (1.9%) were widowed.

3.2 Instruments

The School Leader Empowering Behaviours (SLEB) was used for measuring teachers' perceptions of school leaders' empowering behaviours developed by Lee and Nie (2013). The 21-item scale is composed of 7 dimensions: delegation of authority, providing intellectual stimulation, giving acknowledgement and recognition, articulating a vision, fostering collaborative relationships, providing individualized concern and support and providing role-modelling. The response scale was a five-point Likert scale ranging from 1 (completely disagree) to 5 (completely agree). The coefficient of reliability (Cronbach's alpha) was 0.93, respectively.

Psychological Empowerment Questionnaire (PEQ) was used for measuring dimensions of psychological empowerment developed by Spreitzer (1995b). The 12-item scale is composed of 4 dimensions: competence, self-determination, meaning and impact. The response scale was a five-point Likert scale ranging from 1 (completely disagree) to 5 (completely agree). Evidence of the internal consistency of the psychological empowerment has been

reported in numerous studies (Faulkner & Laschinger, 2008; Seibert, Silver & Randolph, 2004; Spreitzer, 1995b). The coefficient of reliability (Cronbach's alpha) was 0.93, respectively.

3.3 Data collection

For the purpose of this research, we conducted an online survey in May 2017, which was sent to all primary schools in Slovenia. Email addresses were selected from official internet site of *Ministry of Education, Science and Sport, Slovenia.* The survey was translated and presented to the participants in Slovenian language. Before completing the surveys, teachers were assured that all answers provided would be kept anonymous. The survey consisted from measure of teachers' perceptions of school leaders' empowering behaviours, psychological empowerment, career satisfaction and demographics. After conducting online research, primary data was controlled and edited. For processing and analysing data, we used IBM SPSS Statistics 24.

4 Results

The descriptive statistics for the items of the teachers' perceptions of school leaders' empowering behaviours are presented in Table 1.

The descriptive statistics for the items of psychological empowerment are presented in Table 2.

In continuation, we present a method to test the model by applying structural equation modelling (SEM), which is used for testing structural relations between constructs. That operation was made by building a model in Lisrel 8.80 software package, which is an analytical statistics program, which allows the testing of multiple structural relations at once (Prajogo & McDermott, 2005). It combines factor and regression analysis by which it tests the proposed model by which we can assess the significance of hypothesized cause-and-effect relations among the variables (Diamantopoulos & Siguaw, 2000). The standardized solutions and t-values for the hypotheses tested in the

Table 1: Means and standard deviations for the items of school leaders' empowering behaviours

Item	N	M	SD
Gives me the authority to make changes necessary to improve things.	525	3,79	0,95
Gives me the authority I need to make decisions that improve work processes and procedures.	525	3,7	1,03
Delegates authority to me that is equal to the level of responsibility that I am assigned.	525	4,1	0,83
Asks questions that prompt me to think.	525	3,82	0,96
Stimulates me to rethink the way I do things.	525	3,62	1,02
Challenges me to re-examine some of the basic assumptions about my work.	525	3,43	1,05
Always gives me positive feedback when I perform well.	525	3,8	1,14
Gives me special recognition when my work is very good.	525	3,92	1,12
Personally compliments me when I do outstanding work.	525	3,98	1,11
Paints an interesting picture of the future for our school.	525	3,68	1,04
Is always seeking new opportunities for the school.	525	3,98	1,00
Inspires staff with their plans for the future.	525	3,49	1,06
Fosters collaboration among staff members.	525	3,88	1,05
Encourages staff members to be team players.	525	3,97	0,97
Gets staff members to work together for the same goal.	525	3,82	1,01
Treats me as an equal.	525	3,81	1,12
Takes the time to discuss my concerns patiently.	525	3,87	1,08
Stays in touch with me.	525	3,94	0,96
Works as hard as anyone in my school.	525	4,01	1,00
Sets a good example by the way they behave.	525	3,82	1,07
Leads by example.	525	3,81	1,07

Table 2: Means and standard deviations for the items of psychological empowerment

Item	n	M	SD
I am confident about my ability to do my job.	525	4,41	0,66
The work that I do is important to me.	525	4,61	0,61
I have significant autonomy in determining how I do my job.	525	4,33	0,75
My impact on what happens in my department is large.	525	4,31	0,74
My job activities are personally meaningful to me.	525	4,3	0,73
I have a great deal of control over what happens in my department.	525	4,15	0,76
I can decide on my own how to go about doing my own work.	525	4,25	0,75
I have considerable opportunity for independence and freedom in how I do my job.	525	4,28	0,78
I have mastered the skills necessary for my job.	525	4,36	0,66
The work I do is meaningful to me.	525	4,33	0,75
I have significant influence over what happens in my department.	525	4,12	0,78
I am self - assured about my capabilities to perform my work activities.	525	4,35	0,67

model are presented in Figure 1.

Standardised solution weights between the teachers' perceptions of school leaders' empowering behaviours and dimensions of psychological empowerment are presented in the model in Figure 1. We can therefore with the use of structural equation modelling confirm positive relations between the researched constructs in our hypotheses:

- H1: Teachers' perceptions of school leaders' empowering behaviours are positively related to meaning. (Standardized solution = 0.41, t-test = 8.44)
- H2: Teachers' perceptions of school leaders' empowering behaviours are positively related to competence. (Standardized solution = 0.29, t-test = 5.88)
- H3: Teachers' perceptions of school leaders' empowering behaviours are positively related to self-determination. (Standardized solution = 0.58, t-test = 11.91)
- H4: Teachers' perceptions of school leaders' empowering behaviours are positively related to impact. (Standardized solution = 0.43, t-test = 9.29)

Based on the standardized solutions we found that the relations are positive.

Table 3 presents model fit indices, reference values and model fit according to individual indices (Hooper, Coughlan & Mullen, 2008; Kenny, 2014) for our researched model.

Whereas most of the model fit indices show a very good model fit, there are five indices which show a bad fit, which is a result of a smaller than recommended sample (Moss, 2009; Kenny, 2014). χ^2 is troublesome in cases where the sample is too large or too small (Hooper, Coughlan & Mullen, 2008; Iacobucci, 2010) and almost always when used in such cases shows a bad model fit (Jöreskog

& Sörbom, 1993); since there is no unilateral agreement on the marginal value that provides a good or bad model fit (Hooper, Coughlan & Mullen, 2008). The same problem arises when it comes to all indices which are derived from it (χ^2/df, RMSEA and SRMR), since they are sensitive to sample size in can consequently lead to an unjustified rejection of the model (Bearden, Sharma & Teel, 1982; Diamantopoulos & Siguaw, 2000; Hu & Bentler, 1999; Sharma, Mukherjee, Kumar & Dillon, 2005). Model fit indices therefore confirm a good model fit and strong, positive and statistically significant relations.

5 Discussion

Research in the area of school leaders' behaviour is relatively new, studies have shown how teachers' perceptions of school leaders' empowering behaviours are linked with higher levels of psychological empowerment (Lee & Nie, 2013) and based on our research, we can add to these studies the effect on psychological empowerment.

With the proposed hypotheses, which were based upon a previous research and an in-depth study of relevant literature, we have tested the relations between teachers' perceptions of school leaders' empowering behaviours and the four dimensions of psychological empowerment (meaning, competence, self-determination and impact). Teachers' perceptions of school leaders' empowering behaviours play an important role in adding to all four dimensions of psychological empowerment, as we have found by testing our hypotheses.

Limitations of this study need to be considered before interpretations of the results can be explored. The whole research was focused mostly on how teachers' perceptions of school leaders' empowering behaviours relate to the
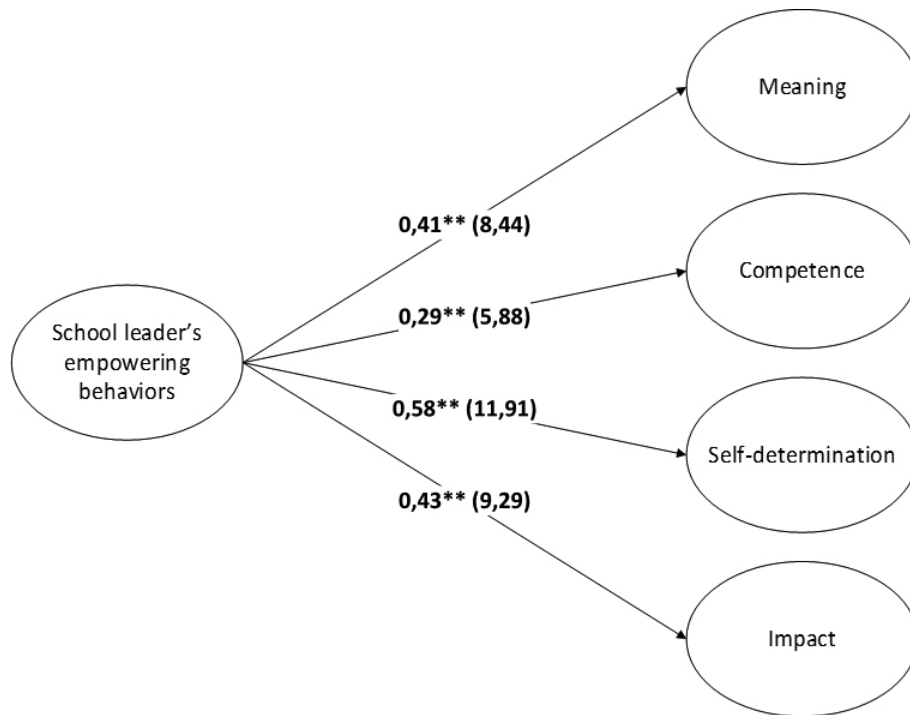
Figure 1: Conceptual model with the standardized solutions (and t-test) for the hypotheses. Source: Own research.

Table 3: Model fit indices

Notes: χ2/df = chi square divided by degrees of freedom, RMSEA= Root Mean Square Error of Approximation, NFI= Normed Fit Index, NNFI= Non-Normed Fit Index, CFI= Comparative Fit Index, IFI= Incremental Fit Index, SRMR= Standardized Root Mean Square Residual.

Bookmarks:
*Hu & Bentler, 1999; Hooper, Coughlan & Mullen, 2008; Kenny, 2014.
**Problems with sample size (Sharma, Mukherjee, Kumar & Dillon, 2005; Moss, 2009; Iacobucci, 2010).
*** Williams & O'Boyle, 2011.

Fit indices	Value for the model	Reference value*	Model fit according to individual indices *
χ2/df	10.33	≤ 2 or ≤ 5	Bad fit**
RMSEA	0.13	< 0.08	Bad fit***
NFI	0.92	≥ 0.90	Very good fit
NNFI	0.92	≥ 0.95	Bad fit
CFI	0.93	≥ 0.93	Very good fit***
IFI	0.93	≥ 0.95	Bad fit
SRMR	0.13	< 0.08	Bad fit**

four dimensions of psychological empowerment, whereas other determinants were not considered. As mentioned, teachers' perceptions of school leaders' empowering behaviours are not the only determinant of psychological empowerment, therefore we can only propose that teachers' perceptions of school leaders' empowering behaviours in part affects the dimensions of teachers' psychological empowerment, whereas there are also other factors involved in the process.

The theoretical contribution of this study is to the existing research of teachers' perceptions of school leaders' empowering behaviours and psychological empowerment in the aspect of advancing previous research by empirically examining the relations between both of them. The practical contribution is in the presented results that school leaders influence teachers with their behaviour.

For further research, we suggest investigating the effects of the determinants omitted or to put in other words not included in our study. These determinants could be divided into those influencing teachers besides their school leaders' behaviour, such as situational and other attributive determinants.

6 Conclusion

Understanding the importance of school leaders' empowering behaviour and psychological empowerment is of great importance for school leaders, because with this comprehension they can strengthen apprehension and potential in exercising empowering behaviours towards their teachers to maximize their psychological empowerment (Lee & Nie, 2013). Furthermore, school leaders should give bigger emphasis on high-ranking work tasks, have every confidence in teachers' capabilities and give anticipation of affirmation in work environment. Only with giving tasks that are important for teacher together with giving authority and trust, teacher will feel more psychologically empowered (Spreitzer, Kizilos & Nason, 1997).

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Vpliv učiteljeve zaznave ravnateljevih vedenj, ki opolnomočijo na dimenzije psihološkega opolnomočenja: primer slovenskega vzorca

Ozadje in namen: Ravnatelj na različne načine vpliva na učitelje. Ravnatelj, ki si želi uspešnih in zadovoljnih učiteljev, je sposoben ustvariti delovne pogoje, ki vplivajo na povečanje psihološkega opolnomočenja učiteljev. Glavni cilj naše raziskave je bil empirično preveriti razmerje med učiteljevimi zaznavami ravnateljevih vedenj, ki opolnomočijo in dimenzijami psihološkega opolnomočenja učiteljev (pomen, kompetentnost, samodoločenost in vpliv).
Oblikovanje/Metodologija/Pristop: S pomočjo strukturnega modeliranja (SEM) smo testirali štiri hipoteze v enem strukturnem modelu. Podatke za raziskavo smo zbrali s pomočjo spletne ankete, ki je bila izvedena med 525 slovenskimi učitelji, zaposlenimi v osnovnih šolah. Za merjenje učiteljevih zaznav ravnateljevih vedenj, ki opolnomočijo smo uporabili vprašalnik SLEB avtorjev Lee in Nie, za merjenje dimenzij psihološkega opolnomočenja pa Spreitzerin PEQ.
Rezultati: Rezultati raziskave kažejo, da učiteljeva zaznava ravnateljevih vedenj, ki opolnomočijo, pozitivno in statistično značilno vpliva na vse dimenzije psihološkega opolnomočenja učiteljev (pomen, kompetentnost, samod-oločenost in vpliv).
Sklep: Poznavanje psihološkega opolnomočenja je za ravnatelje izjemnega pomena, predvsem pa je ključno, da ravnatelji ozavestijo svoje veščine vodenja in s povečanjem vedenj, ki opolnomočijo učitelje, ustvarijo delovno okolje, ki bo učitelje še bolj opolnomočilo. Raziskave na področju ravnateljevega vodenja so dokaj nove, zato je opravljena raziskava prispevala nova spoznanja na področju vodenja v vzgoji in izobraževanju ter področju psihologije dela.

Ključne besede: HRM; vodenje; psihološko opolnomočenje; SEM

Factors Affecting the Intentions to Use RFID Subcutaneous Microchip Implants for Healthcare Purposes

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Background and Purpose: While there are many studies regarding the adoption of Radio Frequency Identification Devices (RFID), only a few of them deal with RFID subcutaneous microchip (RFID-SM) usage by individuals. After the first *in vivo* tests conducted on volunteers from 1998 to 2000, the use of RFID-SM in healthcare remains limited. This study examines the likelihood of adopting RFID-SM in healthcare from the end user's point of view.

Design/Methodology/Approach: The aim of this paper is to develop and evaluate the model for analysing the acceptance of RFID-SM adoption. An extended Technology Acceptance Model (TAM) for RFID-SM adoption is proposed and empirically tested in a cross-sectional study. Online survey was conducted using a convenience sample of 531 respondents. In addition to the three original components of TAM (Perceived Usefulness, Perceived Ease of Use, and Behavioural Intentions to Use), three external variables (Health Concerns, Perceived Trust, and Age) were also included in the model. The model was validated with confirmatory factor analysis and structural equation modeling techniques.

Results: Perceived Usefulness has a significant impact on behavioural intentions to adopt RFID-SM in the future, while the influence of Perceived Ease of Use is not significant. The most influential external variable is Perceived Trust, indicating the lack of confidence in personal data security ensured by the state and other institutions. As expected, Health Concerns factor has a negative effect on the Perceived Trust and Perceived Usefulness of RFID-SM.

Conclusion: The results of the empirical study prove that all external variables considered in the model significantly influence the RFID-SM adoption. The Perceived Ease of Use is irrelevant to the attitude towards the RFID-SM adoption. In addition to the proposed model, the analysis of gathered data shows that the positive attitude toward the use of RFID-SM in healthcare is rising.

Keywords: healthcare; microchip; RFID, TAM, SEM, Slovenia

1 Introduction

The healthcare sector faces a constant pressure to improve its service and provide error-free processes with patient-centred approaches on a daily basis. Even though the expertise, management, and technology are prepared for the implementation of advanced technological solutions, issues of individual perception and willingness to adopt new technologies remain. Radio Frequency Identification Devices (RFID) chip implants for humans are no longer a notion from science fiction. Despite the lack of informa-tion (Ip, Michael, & Michael, 2008) and traceability issues (van Oranje-Nassau et al., 2009), RFID microchips have been used for various purposes (Alghamdi, Van Schyndel, & Khalil, 2014; Liao, Lin, & Liao, 2011; Meyer, Chansue, & Monticelli, 2006). General willingness to adopt an RFID implant is slowly rising (Perakslis, Michael, Michael, & Gable, 2014). Healthcare issues were among the first to have legitimate reasons to introduce and test the RFID system for human identification (Cheng-Ju et al., 2004), where the highest acceptance of RFID implant applications is for lifesaving purposes (Rotter, Daskala, & Compano, 2008).

Most of researches on RFID adoption are focused on organizational perspectives, as well as management and employee readiness (Cao, Jones, & Sheng, 2014; Chong & Chan, 2012a; J. a Fisher & Monahan, 2008; Lee & Shim, 2007; Lu, Lin, & Tzeng, 2013; Matta, Koonce, & Jeyaraj, 2012; Yazici, 2014). Only a few studies focus on individual or end user perspectives (Katz & Rice, 2009), therefore individual's perception of the RFID usage and an individual's willingness to adopt the RFID microchip implants seem to be neglected in the literature.

In this paper, the main viewpoint is focused to the end user, and it is argued that personal attitudes influence the acceptance of RFID subcutaneous microchip (RFID-SM) technology. The aim of the study is to investigate the attitude of potential RFID-SM users and applicability of a modified Technology Acceptance Model (TAM) to predict the individual's intention to use RFID-SM for healthcare purposes. According to previous studies on RFID acceptance, the basic TAM model was extended with three additional external variables, Health Concerns (HC), Perceived Trust (PT) (Garbarino & Johnson, 1999; Mou & Cohen, 2016; Smith, 2008; Suh & Han, 2002; Tung, Chang, & Chou, 2008; I.-L. Wu & Chen, 2005) and Age (Burton-Jones & Hubona, 2006; Morris & Venkatesh, 2000).

2 RFID benefits, challenges and adoption in healthcare

RFID-enabled healthcare applications have been an interesting area of research in recent years (Fosso Wamba, Anand, & Carter, 2013; Yao, Chu, & Li, 2012). Organizations in the healthcare industry are applying the technology to gain a competitive over their competitors (Chong & Chan, 2012b). Two major trends in usage of human RFID microchip implants in healthcare exist (Bauer, 2007): (a) improving of independent living and continuum of care, and (b) more proactive and less reactive healthcare system.

RFID enables and supports processes in different areas of healthcare, drug administration system (Peris-Lopez, Orfila, Mitrokotsa, & van der Lubbe, 2011), medical tool tracking (Parlak, Sarcevic, Marsic, & Burd, 2012), patient and staff management (Hu, Ong, Zhu, Liu, & Song, 2014; Z.-Y. Wu, Chen, & Wu, 2013) and alternative healing techniques (Lin & Lin, 2013); where each has it own significant benefits and issues. The most promising RFID applications in healthcare are (van Oranje-Nassau et al., 2009): (a) tracking assets and people (Basham, 2014; Bergmann et al., 2012; Farra et al., 2012), (b) identification of patients (J. A. Fisher & Monahan, 2011), (c) automatic data collection and transfer (Amendola, Lodato, Manzari, Occhiuzzi, & Marrocco, 2014; Talpur & Shaikh, 2014; Tsirmpas, Rompas, Fokou, & Koutsouris, 2015), (d) sensors for monitoring of patients (Occhiuzzi, Vallese, Amendola, Manzari, & Marrocco, 2014).

RFID technology enables different beneficial usages, from being a memory storage device, enabling quick scanning, and processing large amounts of data (Mehrjerdi, 2011), to higher level advantages, such as time saving or optimization of processes (Adhiarna, Hwang, Park, & Rho, 2013) or even to study social network interactions (Pachucki, Ozer, Barrat, & Cattuto, 2015). Despite its benefits, ethical, security and privacy issues should be considered (Gasson & Koops, 2013; Masters & Michael, 2007; Monahan & Fisher, 2010) in order to achieve a higher level of RFID acceptance in healthcare applications (Safkhani, Bagheri, & Naderi, 2014; Z.-Y. Wu et al., 2013).

The basic TAM has been used to identify the level of RFID acceptance in diverse healthcare applications (Carr, Zhang, Klopping, & Min, 2010; Zailani, Iranmanesh, Nikbin, & Beng, 2014). The TAM model is the most frequently used theoretical approach to study societal responses to novel technologies (Venkatesh & Davis, 2000). Despite its relative simplicity, TAM accounts for 30 – 40% of information technology (IT) acceptance and predicts a substantial portion of the use or acceptance of health IT (Holden & Karsh, 2010). Recently, attempts to extend UTAUT (Venkatesh, Morris, Davis, & Davis, 2003), the upgraded version of TAM, to research the individual's viewpoint of technology adoption are presented (e.g. Nysveen & Pedersen (2016).

3 Methods

3.1 Study design and participants

The cross-sectional study was performed as a web survey used to collect data about attitudes toward RFID-SM usage in Slovenia. In the period from January to March 2014 we received 649 responses. Two different channels were used to reach respondents: a) an email was sent to members of researchers' social networks (22% of responses) and b) an invitation was posted on the faculty web page and the web pages of several public media organizations (78% of responses). To include younger and older respondents, a primary school and a retirement home were also invited to participate. The age of respondents ranges from 12 to 90 years.

3.2 Questionnaire development and variables

The TAM-based extended model presented in Figure 1 was used as a basis for questionnaire development. The extended model includes all three basic components of TAM (Venkatesh & Davis, 2000): Perceived Ease of Use (PEU), Perceived Usefulness (PU) and Behavioural Intention to Use (BIU) and adds the personal factors of Perceived Trust
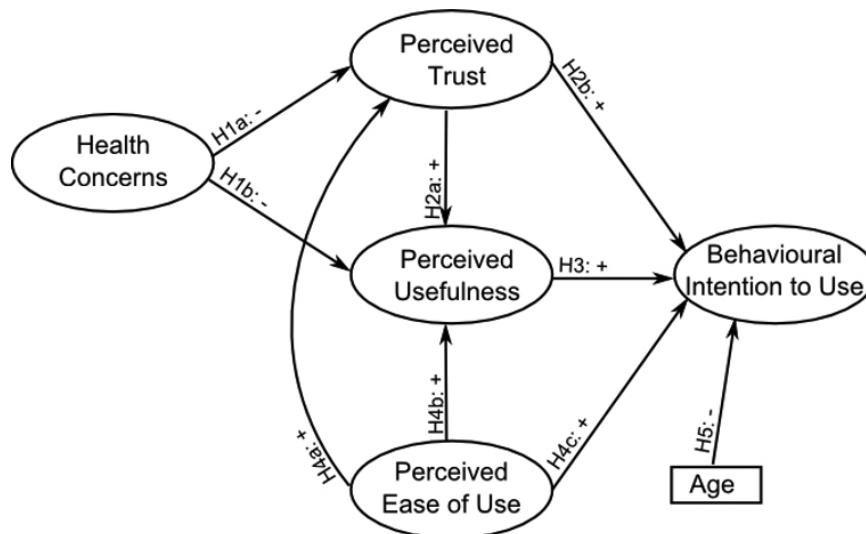
Figure 1: The extended TAM for analysing the behaviour intentions to adopt the RFID-SM

(PT) and Health Concerns (HC). In Figure 1, the hypothesized relationships among variables are presented with arrows, where a plus sign (+) represents positive impact and a minus sign (-) negative impact.

The questionnaire items were proposed based on the literature review and introduced during interviews with 10 volunteer candidates (6 of the volunteers were prone to RFID-SM implants, and 4 were not in favour). The items included in the final questionnaire items be found in Table 1. The item "implanting RFID-SM is a painful procedure" within the external variable HC was removed from the model, based on a standard loading lower than 0.5 in Confirmatory Factor Analysis (CFA).

Items of HC, PT, and PEU, as well as the last item of PU, were measured on a 5-point scale of agreement ("strongly disagree" to "strongly agree"), while the first six items of PU were measured on a 5-point scale of acceptability ("very bad idea" to "very good idea").

Proposed based on several medical research papers (Foster & Jaeger, 2007; Katz & Rice, 2009; Rotter et al., 2008; van der Togt, Bakker, & Jaspers, 2011), the component HC refers to four possible threats of RFID-SM usage: the possibility of movement in the body, affect on emotional behaviour, health threats due to possible allergies, and health threats because of impacts on the nervous system. Although a number of factors ifluences individual's trust (Bansal, Zahedi, & Gefen, 2015), items of the component PT were restructured from previous research (Smith, 2008). PT refers to an individual's trust that the state, banks and healthcare systems will be able to ensure security and protection of human rights in the fields of identification, tracking and archiving of personal data, financial transactions, and patient data on treatments and organ donation. The items of PEU (proposed based on

previous research (Davis, 1989)) were: a) the continuous availability of RFID-SM, b) the microchip cannot be lost or stolen (according feedback from the interviews), and c) microchip can simultaneously integrate multiple functions. Five items of PU were adopted from previous research (Katz & Rice, 2009), while two items, on storing information about organ donation and a general statement on saving lives in different medical conditions, were added. BIU (defined according to the feedback from the interviews) included items regarding whether respondents would have an RFID-SM inserted for healthcare purposes, for identification purposes, for shopping and payment, and for everyday home usage. Special attention was given to the assurance that the microchip would not allow GPS positioning and tracking. Age was included in the model as a predictor variable of BIU since younger people are more prone to adopt new technologies (Burton-Jones & Hubona, 2006; Morris & Venkatesh, 2000), while in general older people tend to use healthcare facilities more often (Srakar, Hren, & Prevolnik Rupel, 2016).

3.3 Statistical methods

First, data were screened for missing patterns, since not all of 649 responses were suitable for the analysis. Namely, 44 respondents did not answer any of the questions , while 74 respondents did not answer any of the sociodemographic questions or at least one construct. This means that our sample consists of 531 respondents, where 475 of them were completely observed on variables of interest.

The percentages of missing data for individual variables vary from 1% to 5%, while the percentages of casewise missingness rates range from 0% to 73% with the

average percentage equalling 3%. Since missing data can result in severe bias and misleading results in the study (Horton & Kleinman, 2007) multiple imputations (MI) were used to improve the validity of the results (Mackinnon, 2010).

Furthermore, the type of missing mechanism was assessed with Little's test (Little, 1988) carried out in R-package *BaylorEdPsych* (Beaujean, 2012). The result ($x^2 = 624.253$, $df = 619, p = .433$) show that data on 531 respondents appear to be Missing Completely At Random (MCAR). Even in the case of MCAR, the MI method is more efficient than complete case analysis (White & Carlin, 2010).

MI ($m = 20$) were used in the analysis of the dataset with missing values, which is a multistep procedure, where (a) missing data were imputed multiple times, (b) CFA and the Structural Equation Modeling (SEM) model was run on all imputed data sets, and (c) results were combined. All analyses were performed using R. MI were performed using the *Amelia* package (Honaker, King, & Blackwell, 2011), while CFA and SEM were conducted using *semTools* (Pornprasertmanit et al., 2015) and *lavaan* (Y Rosseel, 2012) packages. All variables from the model, including sociodemographic questions, were used to impute missing data. According to a comparison of the mean values and standard deviations of the complete dataset (not reported here) and the imputed one (Table 1) an assessment of imputation integrity was confirmed.

Cronbach's alpha coefficients were calculated for each of the five subscales in our TAM on imputed datasets: 0.849 for HC; 0.928 for PT; 0.884 for PEU; 0.932 for PU, and 0.920 for BIU. All the values exceeded the level of 0.8 (Kline, 2011), which indicates that the subscales of the survey questionnaire exhibited high internal reliability.

The construct validity of each scale was assessed using CFA and was evaluated via the convergent validity and the discriminant validity. The convergent validity should be examined based on three concepts (Fornell & Larcker, 1981; Koufteros, 1999):

- Estimates of the standardized factor loadings should exceed 0.5 (or even 0.7).
- Composite Reliability (*CR*) for each latent variable should exceed 0.7.
- Average Variance Extracted (*AVE*), which measures the amount of the common variance between the indicators and their construct in relation to the amount of variance attributable to measurement error for each latent variable, should exceed 0.5.

In order to investigate the discriminant validity of the measurement model, the square root of *AVE* of each latent variable was compared to the correlations between the latent variables, where the values of the square root of *AVE* for the corresponding latent variable have to be greater than corresponding correlations between latent variables

to confirm discriminant validity. In addition, to confirm that the two scales do not correlate, the correction for attenuation of the correlation due to measurement error was calculated (Crocker & Algina, 2008), where (according to rule of thumb) values below 0.85 indicates that discriminant validity exists between two scales.

In the final step, SEM was used to test the predicted relationships among the constructs of the extended TAM. Since there are endogenous (dependent) binary variables in the model, the robust Weighted Least Squares Mean and Variance-adjusted (*WLSMV*) estimation in the *lavaan* package was used to test the proposed SEM hypotheses. The *WLSMV* estimator uses Diagonally Weighted Least Squares (*DWLS*) to estimate the model parameters and the full weight matrix to compute the robust standard errors, mean-adjusted and variance-adjusted test statistics (Yves Rosseel, 2014).

The sample size of 531 is more than sufficient to achieve the statistical power necessary for SEM with three or more measured items per latent variable. It also clearly satisfies Loehlin's rule of thumb (Siddiqui, 2013), which states that the sample size should be at least 50 more than eight times the number of measured items in the model (which is equal to 242 in our case). An ideal sample size-to-parameters ratio would be 20:1 (Kline, 2011). Our sample size meets this stricter criterion since the ratio of our sample size-to-parameters is 22:1.

In order to assess the fit of the measurement model and the structural model, the overall fit was examined based on various sets of commonly-used fit indices. Since x^2 statistics itself is sensitive to the sample size, the ratio of x^2/df, which should be lower than 3 (Teo & Zhou, 2014), was used. The values of the Tucker Lewis Index (*TLI*), also known as Non-Normed Fit Index (*NNFI*), and Comparative Fit Index (*CFI*) should be at least 0.9 (Koufteros, 1999). The Root Mean Square Error of Approximation (*RMSEA*) value should be below 0.06 (Teo & Zhou, 2014), while the more precise interpretation of the *RMSEA* suggests that the values below 0.05 are declared as "good" and the values below 0.08 as "mediocre" (MacCallum, Browne, & Sugawara, 1996).

The values of standardized path coefficients (*β*) and corresponding *z*-values reflect the relationships among the latent variables in terms of the magnitude and statistical significance. For every endogenous latent variable, the coefficient of determination R^2 is also calculated, for which the predictive capability of the model is satisfactory if R^2 is more than 0.1 (Escobar-Rodriguez & Monge-Lozano, 2012).

4 Results

The sample consists of 57% of females and 43% of males. Among the respondents, 12% are in the primary school, 11% are in the secondary school, and 12% are at the university. More than half of the respondents (51%) are employed, while 7% are pensioners, and 7% are unemployed. The age of the respondents ranges from 12 to 90 years, with an average age 33.6 years (SD = 15.1).

4.1 Descriptive statistics

First, descriptive statistics were calculated for five model components as well as for 23 measured items. The results of MI are listed in Table 1.

It can be seen from Table 1 that the means of MI items measured on the 5-point scale ranged from 2.396 to 3.810. Standard deviations of all MI items are in the range from 1.157 to 1.417, indicating a fairly narrow spread of scores around the means. The standard deviations of the model components vary from 1.014 to 1.221. The values of skewness are in the interval from -1.158 to 1.359, while the values of kurtosis are in the range from -1.950 to 0.699, indicating that data are fairly normally distributed (not reported here).

The means of three components are 3.216 for HC, 3.613 for PEU, and 3.334 for PU, which indicate that the overall response could be classified as positive. The mean of PT is equal to 2.572, which indicates that the average perceived trust on security issues assured by state, banks, and healthcare system is rather low.

Five items of BIU were measured as dichotomous variables. Therefore, in Table 1 only the percentage of the respondents that answered positively on the individual item are presented. The highest proportion of the respondents (44%) would insert an RFID-SM for health care purposes, such as identification, storage of medical data, information on organ donation, etc.

4.2 Analysis of the measurement model

The unstandardized and standardized factor loadings together with corresponding z-values for each measured item are presented in Table 2. All standardized factor loadings for MI exceed a threshold of 0.5 for convergent validity, while 91% exceed the stricter threshold of 0.7. The examination of z-values reveals that they exceed the critical value at the 1% significance level for each of the estimated factor loadings.

The values of CR and AVE for all five latent variables of the model are presented in Table 3. All values of CR easily fulfil the criterion that CR has to be greater than 0.7, since the lowest CR value for MI equals 0.802 (for the latent variable HC). The AVE values for all five latent varia-

bles are above the desired threshold of 0.5, since the lowest value of AVE is equal to 0.508 (for the latent variable HC). The obtained results prove the convergent validity of the set of latent variables and corresponding measured items in the measurement model.

All the values of the square root of AVE for the corresponding latent variable are greater than corresponding correlations between latent variables (not reported here). The correlations corrected for attenuation (presented in the lower triangular part of the right panel of Table 3) among the latent variables are all lower than 0.85. We can conclude that the measured items have more in common with the latent variable that they are associated with than they do with other latent variables of the model. Therefore, the discriminant validity can be confirmed.

In our measurement model, the obtained value of χ^2/df = 1.715 (χ^2 = 377.340, df = 220) is lower than 3, and both TLI = 0.940 and CFI = 0.948 are greater than 0.9. The $RMSEA$ is equal to 0.037, and the upper bound of 90% confidence interval of $RMSEA$ (0.030, 0.043) is lower than 0.05. Based on the whole set of the calculated fit indices, it could be concluded that the measurement model fits the sample data reasonably well.

4.3 Evaluation of the structural model and results of hypotheses testing

The structural model was tested based on the MI dataset, which provides more accurate and less biased results in comparison to the complete case dataset. The results and conclusions of both datasets are consistent. Therefore, details of the model based on complete cases are not reported here. First, the goodness-of-fit of the SEM was tested. The results show that the model has a good fit according to the following indices: χ^2/df = 1.752 (χ^2 = 425.677, df = 243), TLI = 0.933, CFI = 0.941, and $RMSEA$ = 0.038 with its 90% confidence interval (0.032, 0.044).

Figure 2 shows the evaluated structural model: values of standardized path coefficients (β) (and corresponding z-values), which reflect the relationships among the latent variables in terms of the magnitude and the statistical significance. For every endogenous latent variable, the coefficient of determination (R^2) is also calculated.

The predictive capability of the model is satisfactory because all the values of R^2 are higher than 0.1 (the smallest value is 0.294 for the variable PT). Based on the values of the standardized path coefficients and the corresponding z-values, each of the nine hypotheses (graphically represented in Figure 2) was supported or rejected.

According to the TAM theory, three positive relationships exist: the positive impact of both PU and PEU on BIU (hypotheses H3 and H4c in our model), and the positive impact of PEU to PU (H4b). Our results show that we can support the hypotheses H3 and H4b, while we cannot

Table 1: Descriptive statistics of the model components for MI

Model component	Item		MI ($m = 20$, $N = 531$)		
			Mean	*SD*	
Health Concerns	Subcutaneous microchips can be threatening to my health because of the possibility of movement in my body. (HC1)		3.067	1.228	
(HC)	Subcutaneous microchips may affect my emotional behaviour (control of human behaviour, etc.). (HC2)		3.270	1.344	
	Subcutaneous microchips can be threatening to my health because of possible allergies. (HC3)		3.289	1.187	
	Subcutaneous microchips can be threatening to my health because of their impact on the nervous system. (HC4)		3.269	1.164	
Perceived Trust	The state will ensure the security and the protection of human rights (security of identity documents, passport, identity theft, tracking via GPS, no records should be archived without the consent of the person observed). (PT1)		2.396	1.310	
(PT)	Banks will provide security (payment, discretion of operation, transactions, etc.). (PT2)		2.600	1.308	
	The healthcare system will provide security (personal data, medical data, information on treatments, organ donation, etc.). (PT3)		2.729	1.337	
Perceived Usefulness	Subcutaneous microchips could be used:				
	for monitoring the health of the user, e.g. pulse or blood pressure. (PU1)		3.594	1.227	
(PU)	for warning about potential health problems or complications (e.g. diabetes). (PU2)		3.779	1.157	
	for storing medical info for accident or emergency. (PU3)		3.215	1.305	
	for personalized health info. (PU4)		3.810	1.157	
	for storing information about organ donation. (PU5)		3.424	1.314	
	Users of the subcutaneous microchips should have lower health insurance premiums. (PU6)		3.591	1.338	
	Subcutaneous microchips may save your life (e.g. unconsciousness, cardiac pacemaker, sugar detector, insulin dispenser, etc.). (PU7)		3.460	1.352	
Perceived Ease of Use	Subcutaneous microchips are always available. (PEU1)		3.077	1.308	
	Subcutaneous microchips cannot be lost. (PEU2)		3.179	1.344	
(PEU)	Subcutaneous microchips cannot be stolen (high-security protection). (PEU3)		3.037	1.417	
	Subcutaneous microchips can integrate multiple functions at the same time. (PEU4)		3.572	1.235	
	Would you insert a subcutaneous microchip:		Percentage of positive responses		
Behavioural Intention to Use	for healthcare purposes (identification, storage of medical data, information on organ donation, etc.)?		44%		
	for identification purposes (ID card, passport, driving licence, etc.)?		28%		
(BIU)	for shopping and payment (debit cards, credit cards, profit cards, etc.)?		22%		
	for everyday home usage (unlocking house or apartment, car, computer, mobile phone, etc.)?		26%		
	if you were assured that GPS positioning and tracking were not possible?		35%		

Table 2: Parameter estimates, error terms and z-values for the measurement model (based on MI)

-[a] Indicates a parameter fixed at 1 in the original solution.

Fit indices: $x^2 = 377.340$, $df = 220$, $x^2/df = 1.715$, $TLI = 0.940$, $CFI = 0.948$, $RMSEA = 0.037$, 90% confidence interval for RMSEA = (0.030, 0.043)

Latent Variable	MI ($m = 20$, $N = 531$)			
	Unstd. Factor Loading	Std. Error	z-value	Std. Factor Loading
Health Concerns (HC)	1	-[a]	-[a]	0.731
	1.358	0.130	10.461	0.907
	1.098	0.096	11.422	0.830
	0.779	0.082	9.544	0.601
Perceived Trust (PT)	1	-[a]	-[a]	0,792
	1.174	0.075	15.666	0.932
	1.254	0.088	14.268	0.973
Perceived Ease of Use (PEU)	1	-[a]	-[a]	0,856
	0.949	0.064	14.875	0.861
	0.880	0.078	11.319	0.708
	0.946	0.062	15.148	0.859
Perceived Usefulness (PU)	1	-[a]	-[a]	0.849
	1.040	0.050	21.001	0.867
	1.094	0.072	15.126	0.902
	0.980	0.068	14.426	0.836
	0.945	0.073	13.001	0.785
	0.870	0.087	10.018	0.685
	0.875	0.068	12.952	0.790
Behavioural Intention to Use (BIU)	1	-[a]	-[a]	0.905
	1.023	0.038	26.926	0.926
	0.999	0.040	25.252	0.905
	1.023	0.037	25.918	0.926
	0.962	0.039	24.545	0.871

Table 3: Composite Reliability (CR), Average Variance Extracted (AVE), square root of AVE (on the diagonal) and correlations corrected for attenuation among the latent variables of the model

Constr.	MI ($m = 20$, $N = 531$)						
	CR	AVE	Correlations corrected for attenuation				
			HC	PT	PEU	PU	BIU
HC	0.802	0.508	**0.713**				
PT	0.883	0.718	-0.405	**0.847**			
PEU	0.847	0.582	-0.494	0.480	**0.763**		
PU	0.888	0.533	-0.517	0.596	0.710	**0.730**	
BIU	0.959	0.822	-0.491	0.628	0.464	0.596	**0.907**
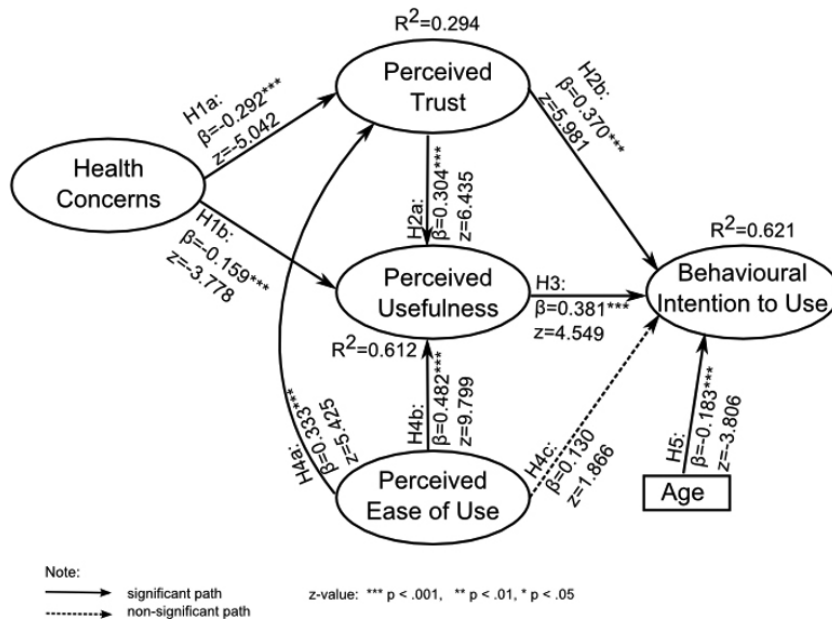
Figure 2: The structural model of relationships among the TAM model components (for MI)

support the hypothesis H4c.

According to the value of β, the impact of PEU on PU is the strongest in the model. The variable PU has three significant predictors that can explain 61% of its total variance: PEU, PT and HC. Furthermore, it was determined that PU, PEU together with the external variable PT explain 62% of the total variance of BIU.

Hypotheses H1a and H1b assumed a negative impact of HC on PT and PU. According to the results, both hypotheses (H1a and H1b) can be confirmed. In addition, HC have a higher negative impact on PT than on PU.

Based on the results we can also confirm that, in contrast to HC, PT has a positive impact on PU (H2a) as well as on BIU (H2b).

According to the confirmation of the hypothesis H5 we can also conclude that age, the additional external variable, has a negative impact on the BIU.

5 Discussion

The aim of the study was to research the attitude of potential RFID-SM users, and further, to study the applicability of a modified TAM to predict the individual's intention to use RFID-SM for healthcare purposes. For several years, there have been no technological barriers keeping this technology from being introduced in Europe. Nevertheless, concerns among potential users about privacy issues, personal data security, implants' impact on health and similar concerns persist. To include all of these issues, and to determine the "important others" of the RFID-SM acceptance, as suggested by previous research (Holden & Karsh,

2010), we have extended the original TAM model with three external variables, i.e. Health Concerns, Perceived Trust and Age.

The results of the model evaluation with SEM showed that our extended TAM meets all the criteria of both the data and the objective pursued. Except one, all proposed hypotheses were accepted.

The highest proportion of the respondents from the MI dataset (Table 1) would primarily consider using the RFID-SM for healthcare purposes (44%), rather than for personal identification (28%), home use (26%) or shopping and payment (22%). With the assurance that there is no possibility of GPS positioning and tracking, the number of potential users increases (35%). This indicates that traceability and privacy issues influence their decision and are therefore a vital factor to consider.

Perceived Trust has a positive impact on Perceived Usefulness and on Behavioural Intention to Use RFID-SM. From the perspective of RFID-SM introducers and/or manufacturers, this is one of the most important factors, because it is difficult to increase or improve the Perceived Trust. The respondents (Table 1) declare that they do not trust that the state ($M = 2.396$) the banks ($M = 2.600$) and healthcare system ($M = 2.729$) can provide the appropriate level of safety and security related to RFID-SM usage. This could be explained by negative experiences of individuals (stolen identity, credit card scanning, frauds etc.) or situations in which state authorities used methods of monitoring people without their knowledge for state security reasons. In addition, most citizens do not realize that new passports already have installed RFID micro-

chips with their fingerprints or even more personal data, depending on the state of origin. Our results on Perceived Trust are similar to Chong & Chan (2012a), who found that confidence is relevant in the case of RFID introduction in the healthcare sector, although their study was focused on employees' viewpoints. In the research of the Near Field Communication (NFC) adoption Dutot (2015) confirmed a positive influence of Trust on Perceived Usefulness, while positive impact on Perceived Ease of Use was not confirmed. Here, we would like to emphasize that we confirmed the proposed (reverse) positive impact of Perceived Ease of Use on Perceived Trust which was stated due to the simplicity of RFID-SM usage. The influence of Perceived Ease of Use on Behavioural Intention to Use is not statistically significant. We could explain this deviation from original TAM with the fact, that the RFID-SM is a technology that does not require any interference of the user once implanted; therefore, the Perceived Ease of Use is not a relevant for the intention to use RFID-SM for healthcare purposes.

While previous research (Carr et al., 2010) found no relationship between the factors Perceived Ease of Use and Intention to Use, our results show that Perceived Ease of Use positively influences Perceived Usefulness as well as Perceived Trust. Similar to Perceived Trust, the strong influence of Perceived Ease of Use on several other variables could indicate its general importance for the acceptance of the proposed technology.

Health Concerns negatively influence the Perceived Usefulness and Perceived Trust. In the concept of Health Concerns, dangers and fears that potential users perceive as threats to their health from the use of RFID-SM, are included. Although the Food and Drug Administration (FDA) approved the use of RFID-SM in 2004 (FDA Approves Implantable Chip, 2004), the majority of the respondents remain sceptical and afraid of negative side effects. The sceptisizm and fear could be aligned with previous research by Albrecht, Pramann, & von Jan (2014), which emphasizes the side effects of the RFID microchip implants.

The relationship of Age to the Behavioural Intention to Use an RFID-SM was analysed. Our results showed that Age has a negative impact on Behavioural Intention to Use RFID-SM. The older a potential user is, the less likely he/she is to consider the possible use of RFID-SM. Young people are always in favour of new technology and ignore the possible side effects, while older potential users are more critical toward innovations and are more concerned about their health.

5.1 Limitations

From 649 respondents, 82% provided answers to the items in the proposed model. Since not all of the responses were complete, we included all those respondents who provid-

ed at least sociodemographic characteristics and response to at least one construct and used MI to simulate missing data. For non-respondents, we cannot determine the reasons for not completing the survey.

Although, a part of respondents was recruited through authors' social networks, we believe that the impact of authors' social network can be neglected due to the relatively small percentage of those responses (22%). In addition, two thirds of authors of this paper are not prone to RFID-SM implants.

We assumed differences among respondents depending on their age, and the analysis of the research model confirmed that. The new research design should take special care to include more a representative sample of older people, e.g. a paper survey for those who have no internet access or personal interview could be included.

On some job positions, the use of RFID-SM can be obligatory (e.g. special police forces for narcotics with access to highly secured data) in order to control access and ensure traceability. Therefore, the attitude of those employees toward RFID-SM usage have to be explored.

To the best of our knowledge, RFID-SM is not included in any law on medical implants in Europe, but its usage was approved in USA by FDA in December 2004 (FDA, 2004). Three years later, a bill was signed by governor of California, prohibiting forcing employees to receive RFID-SM implants against their will (Jones, 2007). Since legislation issues were not the aim of this paper is not to study, we propose that more studies from this perspective should be conducted.

6 Conclusions

This study has proposed an extended TAM model to examine the intentions to use RFID-SM implants in healthcare. The results of SEM tests confirmed all our hypotheses except one, which indicates, that the Perceived Ease of Use is not a relevant predictor of RFID-SM usage for healthcare purposes. There is a pool of potential users that supports the possibility of implementing RFID-SM in healthcare since almost half of participants in our study indicated their intention to use microchips for healthcare reasons. According to previous studies (Smith, 2008), almost a quarter of students agreed that they would be implanted with RFID-SM; the share of potential users in our study is double that. Our study indicates that a lack of trust presents a significant obstacle for adoption. Therefore, effort must be focused on gaining the trust of potential users. Laws and the general culture among providers must be raised to such level that the trust in state and healthcare system would be not problematic. The obligatory use of microchips cannot be considered. It should be the free choice of users that accept such technology. More research must be done to prove the reliability and harmlessness of RFID-SM and its technical possibilities to enhance patients'

health. New secured systems must be developed to secure the use of microchip and prevent the possibility of its unconventional use or misuse. In our opinion, future research should be focused on the willingness to adopt the RFID-SM technology for joint general identification (ID card, passport, driver's licence, health insurance), which would replace the diversity of identification cards currently used. Technology and knowledge are obviously not a limit.

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Ali smo pripravljeni uporabiti RFID podkožni mikročip za zdravstvene namene?

Ozadje in namen: Obstajajo številne študije, ki obravnavajo sprejetje naprav z radiofrekvenčno identifikacijo (RFID), vendar le nekatere od njih obravnavajo mnenja posameznikov o uporabi RFID podkožnega mikročipa (RFID-SM). Po prvih testih na prostovoljcih, ki so se izvajali med letoma 1998 in 2000, je uporaba RFID-SM v zdravstvene namene ostala dokaj omejena. V raziskavi ugotavljamo verjetnost sprejetja RFID-SM v zdravstvene namene z vidika končnega uporabnika.

Oblikovanje / metodologija / pristop: Cilj prispevka je razviti in ovrednotiti model sprejetja RFID-SM. Predlagamo razširjeni model sprejetja tehnologije (TAM) za sprejetje RFID-SM, ki ga v okviru raziskave testiramo. Preko spletne ankete smo pridobili primeren vzorec 531 anketirancev. Poleg treh osnovnih dejavnikov TAM (zaznana uporabnost, zaznana enostavnost uporabe in odnos do uporabe), so bile v model vključeni tudi trije zunanji dejavniki (skrb za zdravje, zaznano zaupanje in starost). Model smo preverili s konfirmatorno faktorsko analizo in tehniko strukturnega modeliranja.

Rezultati: Zaznana uporabnost ima statistično značilen vpliv, medtem ko vpliv zaznane enostavnosti za uporabo nima statistično značilnega vpliva na odnos do uporabe RFID-SM v prihodnosti. Najbolj vpliven zunanji dejavnik je zaznano zaupanje, kar kaže na pomanjkanje zaupanja v zaščito osebnih podatkov, ki naj bi jo zagotavljala država in ostale institucije. Po pričakovanjih ima skrb za zdravje negativen vpliv na zaznano zaupanje in zaznano uporabnost RFID-SM.

Zaključek: Rezultati empirične študije so pokazali, da vsi zunanji dejavniki predstavljeni v modelu, pomembno vplivajo na sprejetje RFID-SM. Zaznana enostavnost uporabe ni pomembna pri odnosu do sprejetja RFID-SM. Poleg predlaganega modela pa analiza zbranih podatkov kaže, da pozitiven odnos do uporabe RFID-SM na področju zdravstva raste.

Ključne besede: zdravstvo, mikročip, RFID, TAM, SEM, Slovenija

The Challenges of SME Business Transfers: The Evidence from Croatia and Finland

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Background and Purpose: In the life cycle of a firm, business transfer represents the critical stage of development. Underestimating the complexity and longevity of this process can have negative implications for firms, their owners and wide network of stakeholders. The aim of this paper is to compare the attitude towards business transfer of entrepreneurs aged 55 and more in Croatia and Finland and provide policy recommendations for improvement of the national business transfer ecosystems.

Methodology/Approach: Both surveys targeted entrepreneurs aged 55 and more using the same questionnaire, with some adjustments to Croatian business transfer ecosystem. Finish barometer was conducted through web-based survey among members of Federation of Finnish Enterprises. Survey in Croatia was conducted with combination of CATI and CAWI collection method by a professional data collection agency. Data collected was compared based on a demographic criterion, industry background, experience in business transfer, expected future of the company, support needed and biggest challenges.

Results: The research results indicated a growing number of entrepreneurs in Croatia who will be interested in selling their firm once they withdraw from the business and less than expected family business successions. In Finland the most important challenges are related to business valuation and finding a successor or a buyer.

Conclusion: For further development of business transfer ecosystem in Croatia it is recommended to focus on awareness raising activities, channels for matching sellers and buyers, promotion of takeover entrepreneurship and consultancy support for micro enterprises. In Finland results indicate the importance of investing continuous efforts in raising the effectiveness of the measures implemented.

Keywords: SMEs; business transfer; business transfer ecosystem

1 Introduction

Small and medium enterprises have significant importance in the global economy, and they are considered the backbone of the European economy. In 2015, almost 23 million SMEs generated €3.9 trillion in value added and employed 90 million people (Muller et al., 2016), which indicates the importance of ensuring their sustainability.

In the life cycle of a firm, in addition to start-up and growth, business transfer represents the third critical stage of development. Underestimating the complexity and longevity of the business transfer process can have significant negative implications for firms, their owners, as well as for a wide network of stakeholders – employees, firm owner's family members, suppliers, buyers, banks, local business dynamics and the national economy in general.

It is estimated that each year in the European Union around 450,000 firms with around 2 million employees go

through the business transfer process. The issue of business transfer is not adequately approached in approximately 150,000 firms, which jeopardizes around 600,000 jobs (European Commission, 2011). It is of crucial importance for national economies to ensure the sustainability of such companies and avoid the losses that may arise because of forced closure due to inability to find new owners (Singer et al., 2015).

Since 1994, the European Commission has been providing recommendations on the business transfer of small and medium-sized enterprises, where it invites the member states to take the necessary steps to facilitate the transfers of small and medium-sized enterprises and to ensure their survival and safeguard the jobs which depend upon them. In 2013, the European Commission issued a report which outlined the importance of small and medium-sized enterprises transfers for national economies and the massive numbers of business transfers that are to be expected in future years. European Commission expands this topic outside the framework of family entrepreneurship and indicates a tendency of increase in the number of business transfers to persons outside the family circle (Grant Thornton, 2005; CSES, 2013).

Previous studies have identified the key components of business transfer ecosystem which are contributing to preparation and implementation of business transfer process (van Teeffelen, 2012) and significant differences in national business transfer ecosystems in European countries (Singer et al, 2015). The aim of this paper is to compare the attitude towards business transfer processes of entrepreneurs aged 55 and more in Croatia and Finland and provide policy recommendations for further improvement of the national business transfer support systems, especially in Croatia which is lacking behind the best European practice in supporting SME business transfer processes. In this paper, both family and non-family transfers are encompassed within the business transfer concept and are considered as equally relevant entrepreneurial exit strategies.

2   Business transfer as a research topic

Business transfer as a research topic was introduced through the issue of business succession planning in 1980s, primarily by researchers focused on family entrepreneurship. Family business researchers addressed the issue of succession planning as one of the most important reasons why many first-generation family firms do not survive their founders (e.g. Lansberg, 1988). In the 1990s, researchers continued to focus on the issue of succession and survival through the creation of model of succession determinants (Morris et al., 1997), and in the 2000s through the creation of integrative model of the succession process (Le Breton-Miller et al., 2004).

In 2010, Van Teeffelen defined business transfer as a change of ownership of any firm to another person or legal entity assuring the continuous existence and commercial activity of the enterprise when more than 50% of assets or shares are transferred. The definition encompasses different kinds of business transfers – to family and non-family members.

In recent years, business transfer as a research topic is increasingly arising the interest of entrepreneurship researchers. It has been effectively embedded into wider management literature and it encompasses topics such as leadership planning, change management, human resources and other areas involving business change (Ip and Jacobs, 2006). Business transfers provide an opportunity to trade otherwise non-marketable resources and to buy or sell resources in bundles (Wernerfelt, 1984). Research results indicate that transferred businesses outperform start-ups with respect to survival, turnover, profit, innovativeness and employment (Van Teeffelen 2012). The survival rate of start-ups after five years generally ranges between 35-50%, depending on the economic climate, while the survival rate of transferred firms is 90-96% (Geerts et al., 2004; KfW 2009). Business transfers also support business growth (Penrose 1959; Barkema and Schijven 2008; Uhlaner and West 2008).

Business transfers have also been studied outside Europe. For example, Battisti and Okamuro (2010) in New Zealand studied the determinants of entrepreneurial intention on exit modes: selling, passing on or closing. Among the entrepreneurs who prefer exit within five years, 71% intend to sell their firms to a third party, 20% intend to have succession (with family members or core employees) and 7% plan to close the firm.

The issue of business transfer is primarily associated with aging entrepreneurs and the question of sustainability of the firm once the owner is retired. Successful business transfer processes ensure employment preservation.

3   Business transfer ecosystem

3.1 The building blocks of business transfer ecosystem

"Entrepreneurial ecosystem" refers to the interaction that takes place between a range of institutional and individual stakeholders so as to foster entrepreneurship, innovation and small business growth (Mazzarol, 2014). It was first brought up by Isenberg (2010), who states that ecosystem is not a static concept, but rather a dynamic one, with the constant need to improve the ecosystem, bearing in mind the interconnectedness of its components. The fundamental hope behind ecosystems thinking is to expand the capabilities of individual actors beyond their own boundaries through collaboration (Adner, 2006). Ecosystems repre-

sent a network of interacting populations of actors residing in an environment (Singer et al., 2015).

To ignite venture creation and growth, governments need to create an ecosystem that sustains entrepreneurs (Isenberg, 2010). Government policy settings, as well as legal and regulatory frameworks, along with infrastructure, financial sector, education and research are the components of entrepreneurial ecosystems (World Economic Forum, 2013; SEAANZ, 2014).

Business transfer ecosystem is the setting in which business transfers occur. In 2012, Van Teeffelen identified the main parties and circumstances involved in SME business transfers: sellers, buyers, advisors, financial institutions, market and economic conditions, and tax and capital conditions (Figure 1), where, according to Van Teeffelen, sellers and buyers represent the key actors. The function of other components of the ecosystem is to provide support and increase the level of success of the key actors in the implementation of the business transfer process. The term 'seller' is frequently used for both the sellers in transfers to external parties and the predecessors in family successions, and the term 'buyer' for both the successors and the external buyers (Viljamaa et al., 2015).

Buyers and sellers often lack the necessary knowledge and experience to implement the business transfer process. Majority of them go through this process only once in a lifetime, which is often the case with aging entrepreneurs. Advisors and financial institutions can make a significant positive impact on the quantity and quality of business transfer processes as their role is to provide advisory support to buyers and sellers in solving organizational, financial, tax, legal and emotional issues (European Commission, 2011). In the context of business transfer ecosystems, market and economic conditions together with tax and

other legal frameworks make up the environment in which buyers and sellers, the key actors of business transfer act (Viljamaa et al., 2015).

In 2014, Varamäki et al. added awareness raising as another component of the business transfer ecosystem and emphasized that the business transfer process consists of three phases: before the business transfer takes part (preparation phase), business transfer itself, and post transfer phase (Figure 2).

According to Varamäki et al. (2014), awareness raising activities are considered to be an essential part of the ecosystem, since they are aimed at promoting earlier planning, thus increasing entrepreneurs' preparedness for business transfers. Awareness raising activities also contribute to the strengthening of business transfer culture and the promotion of business transfer as a common strategic action of firms (Varamäki et al., 2016). Awareness raising activities should be targeting all the actors of business transfer ecosystems (Viljamaa et al., 2015) in order to increase the frequency and quality of business transfer processes, thus making business transfers a common business practice and the preferable exit option compared to closing the business.

3.2 Comparison of business transfer ecosystem in Finland and Croatia

Business transfer ecosystem plays an important role in the transfer of business where developed ecosystems support facilitation of transfer of businesses more efficiently.

The objective of this paper is to compare the entrepreneurs' attitude towards business transfer processes in Croatia and Finland and provide policy recommendations for further improvement of the national business trans-
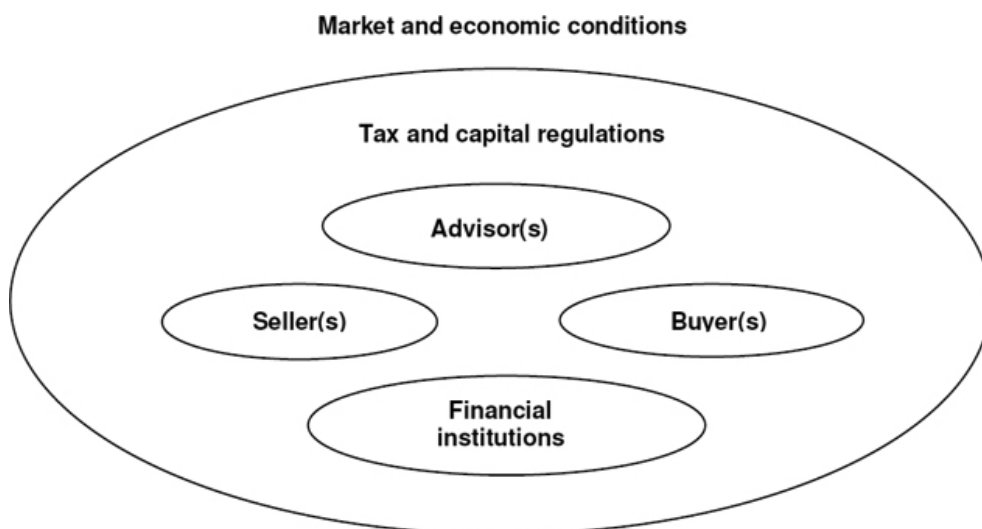
Figure 1. Main parties and circumstances involved in SME business transfers. Source: Van Teeffelen (2012)
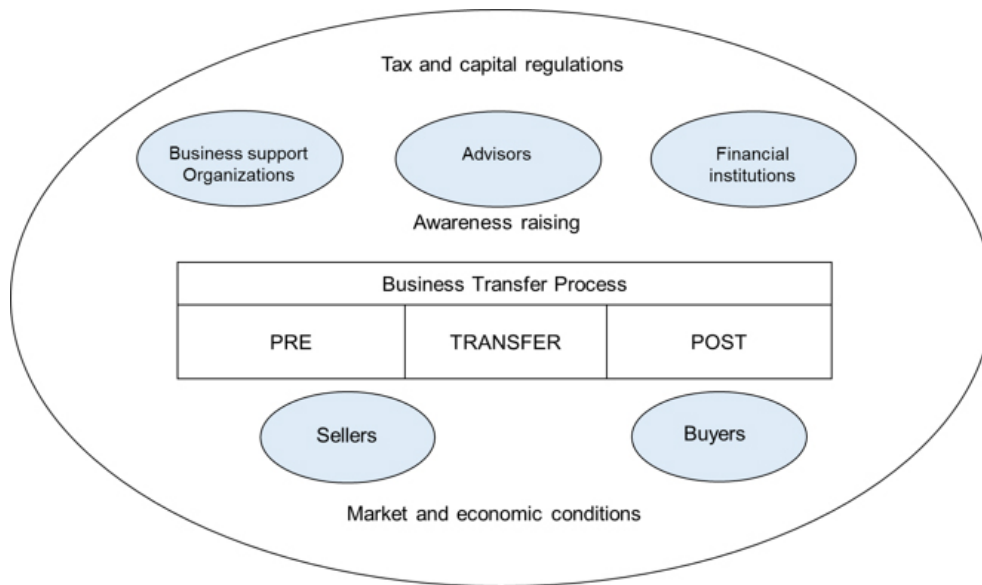
Figure 2. The key elements and content of the business transfer ecosystem. Source: Varamäki, E.; Viljamaa, A.; Tall, J., Lansi-luoto, A. (2014) adapted from Van Teeffelen, L. (2012)

fer support system in Croatia. Therefore, it is important to understand the differences in the stage of development of ecosystems in which transfers take place. The analysis of national business transfer ecosystems in five European countries[1] (Finland, Sweden, Spain, France and Croatia) conducted in 2015 identified significant differences between developed countries (e.g. Finland or France) compared to Croatia, where the vast majority of entrepreneurial activity emerged in the beginning of 1990s with the transition to market economy (Singer et al., 2015). Following are the results of the comparative analysis of the main components of Finish and Croatian business transfer ecosystems.

Tax and capital regulation, as external factors, play an important role in facilitating successful business transfers. Both in Croatia and Finland legislation and tax laws do not represent a barrier for business transfer.

Market and economic conditions, along with legislation, have great significance since the market and economic situation and its impact on certain sectors greatly influence the number of firms coming to the market (Meijaard in Van Teeffelen, 2012). In Finland, a number of matching platforms is available, although the volumes of offers are not great, opposite to Croatia in which there are no matching platforms for business transfer of SMEs. Both Croatia and Finland do not have public databases with transparent data on the number of buyers and sellers in the market.

Financial institutions involved in business transfers are one of the crucial elements of the business transfer eco-system because many buyers often lack their own capital and need external financing. In Croatia, there are no public financial institutions supporting the process of business transfer. In Finland, the state-owned financing institution Finnvera is providing loans and guarantees for buying a business. It is involved in about 50% of business transfers in the country. On the other hand, private equity financing is not very well developed and it is rarely available for business transfers in both countries.

Availability of expert advice in these countries is very different. When looking at the situation in Croatia, there is little expertise available that is focused specifically on SME business transfers. Advisors with expertise and experience in dealing with SME business transfer issues are lacking and only the Big Four consultancy companies provide expert services, but they are focused on large and medium-sized enterprises. In contrast to Croatia, external advisors in Finland are important stakeholders in business transfers for both sellers and buyers, but entrepreneurs often underutilize competent experts, and seek expertise at a too late phase of the business transfer process.

Business support organizations in Croatia did not identify business transfer as a relevant topic and they are not offering services related to business transfer. Only a few support organizations offer services related to business transfers. In Finland, there is a variety of business support organizations dealing with business transfer. There is also some cooperation and coordination apparent among local actors.

Awareness raising activities were also analysed in these two countries. Awareness raising activities in Croatia are still at a very low level. Annual conferences on family businesses and round table discussions are held, but mainly with the focus on family businesses. In 2015, the first national research on business transfers was conducted in Croatia, focusing on aging entrepreneurs. On the opposite side, business awareness activities are very well developed in Finland. There is a variety of activities, such as national Business Transfer Barometer research targeting aging entrepreneurs, activation letters that are being sent out to entrepreneurs, events, calls and visits focused on both sellers and buyers.

Comparison of these two ecosystems enabled an understanding of the setting in which transfer of business occurs in these countries.

In Croatia, there is a lack of matching platforms, public financing agents, business transfer expert services and business support organizations highlighting the importance of SME business transfers. In Finland, there are a number of matching platforms, Finnvera – state agency specialized in funding business transfers, some expertise available for business transfers, and the Federation of Finnish Enterprises, focusing on business transfers at the national level. In both countries, there is need for a systematic and long-term approach in planning and implementing business transfer awareness raising activities.

Based on business transfer ecosystem comparison it can be concluded that Finland has developed business transfer ecosystem. On the other hand, Croatian business transfer ecosystem is still in its development phase and requires significant improvements related to the number and quality of actors in the business transfer ecosystem, as well as of their interactions.

In 2015 based on the Business Transfer Barometer research results CEPOR – SMEs and Entrepreneurship policy center identified policy recommendation for the improvement of business transfer ecosystem in Croatia through six key recommendations (Alpeza et al, 2015): (1) Launching awareness raising campaigns about the complexity of the business transfer process and the importance of timely preparation; (2) Co-financing of training and advisory services for entrepreneurs in that process; (3) Enhancing the quality of counseling support, especially for micro firms; (4) Statistical monitoring of family businesses in Croatia, and developing of special programs for successful generational transfer; (5) Promotion of business takeover as a model for starting entrepreneurial activity, and creation of financial instruments for business takeover; (6) Development of a national virtual market to facilitate matching of buyers and sellers of small and medium-sized enterprises.

In 2013, based on the Finish Business Transfer research results, three key policy recommendations were identified for further development of national business transfer ecosystem in Finland: (1) awareness raising activities are effective in the long run - there is a need for a national advisory board on business transfers in order to coordinate awareness raising activities; (2) business transfers should be tax neutral - less taxes on business transfers and more simple tax regulations; (3) there should be business transfer service development focusing into micro sized firms (Varamäki et al, 2013).

4 Comparison of business transfer barometer research results from Croatia and Finland

4.1 The objective of Business Transfer Barometer research in Croatia and Finland

In 2012, a group of researchers from the Seinäjoki University of Applied Sciences in Finland conducted the Business Transfer Barometer research at the national level. The objectives of this research were: (1) to investigate the business transfer potential in firms owned by entrepreneurs in the age group of 55[2] years or more, (2) to study the attitudes of the potential sellers towards succession inside the family, (3) to study the business transfer related challenges experienced by the potential sellers and the need for external advisors in the business transfer processes, (4) to investigate how the entrepreneurs aged 55 or more develop their firms in general, and whether the development efforts are correlated with the business transfer potential of the firm, and (5) to study the potential roles of sellers after the transfer (Varamäki et al., 2013). The research results were used for preparation of policy recommendations for improving the business transfer ecosystem and for creation of awareness raising activities.

In 2015, CEPOR – SMEs and Entrepreneurship Policy Centre from Croatia identified a gap in the entrepreneurship support system in Croatia related to the issue of business transfer of small and medium-sized enterprises. Based on secondary research, it was established that in 2014 there were 16,590 limited liabilities firms[3] owned by the entrepreneurs aged 55 or more years. These firms employ 179,087 employees, which is a 16.1% share in the total number of people employed in limited liability

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2 According to numerous studies (e.g. Varamäki, 2013), 55 years of age is considered as a turning point in which it is necessary to start preparation for business transfer, since it is a process that usually takes several years. In case of Finland, most entrepreneurs retire and exit from their business before the age of 65.

3 Taking into account only those that have at least 1 employee and at least EUR 13,300 of annual income.

companies, and they generate revenue of EUR 15.2 billion (18.9% of the total revenue generated by all limited liability companies in Croatia).

In order to raise awareness among aging entrepreneurs and policy makers and promote the importance of implementation of the European Commission's policy recommendations for the development of national business transfer ecosystems, CEPOR conducted the first Business Transfer Barometer research in Croatia. The objectives of the Business Transfer Barometer survey in Croatia were to: (1) determine the number of enterprises in Croatia, which, with regard to the age of the majority owner (55 years and older) and their attitude towards business transfer represent a risk group; (2) determine the way in which they plan to conduct business transfer, and the need for support in that process (Alpeza et al., 2015).

The Business Transfer Barometer research in Croatia adopted the same methodology as the Finish Barometer research implemented by researchers from the Seinäjoki University of Applied Sciences, with several adjustments to the Croatian context. In both studies, the survey was conducted among owners of small and medium-sized enterprises aged 55 or more years.

Comparison of the business transfer ecosystems of Croatia and Finland in combination with the comparison of the research results of entrepreneurs' attitude towards business transfer in these two countries will provide the insight into future development path of the business transfer ecosystem in Croatia. Data collection process of the Business Transfer Barometer research in both Croatia and Finland, as well as research results will be discussed in more detail.

4.1.1 Methodology of Business Transfer Barometer research in Croatia

The survey was conducted on a random sample of 200 majority owners of small and medium-sized enterprises aged 55 and over. The sample of respondents was representative regarding the geographical criteria and the size of the company. Based on the secondary data analysis, it was determined that the share of enterprises whose owners belong to the 55+ generation amounts to 31% of the total number of enterprises in Croatia. Data was collected through a combination of CATI and CAWI collection methods, by a professional data collection agency. The database of all the SME owners in Croatia aged 55 and more years with 16,590 contacts represented the framework for data collection. For the purpose of data collection in total 2,118 SME owners were contacted. The questionnaire from Varamäki et al. research from 2012 from the Seinäjoki University of Applied Sciences, Finland was used, and adjusted to the specific Croatian context.

4.1.2 Methodology of Business Transfer Barometer research in Finland

The data collection for the Business Transfer Barometer research in Finland was conducted through a web-based survey distributed to the members of the Federation of Finnish Enterprises. The target group consisted of entrepreneurs in the age group of 55 years or more. A total of 14,355 questionnaires were sent out. During the data collection process, one reminder was sent to the entrepreneurs. Finally, 2,843 responses were received, the response rate being 19.8% (Varamäki et al., 2013). According to previous experience, mail survey would result in an even higher response rate, but it would be much less cost-effective. The questionnaire has been developed in a number of regional surveys, but this was first time that the survey was implemented at the national level.

4.2 Comparison of Business Transfer Barometer research results in Croatia and Finland

4.2.1 Demographic data

The first level of comparison was conducted on demographical data of surveyed entrepreneurs. In Croatia, the age of respondents ranged from 55 to 81 and in Finland from 55 to 93 years. The average age of 62 years in Croatia was similar to the average age of 61 years recorded in Finland.

There were no significant differences in gender structure between the two countries. In Finland, 73% of respondents were men and 27% were women entrepreneurs, while there were 74% men and 26% women entrepreneurs in Croatia.

Looking at the educational background of respondents, the results differed for the observed countries. Surveyed entrepreneurs in Finland mostly had vocational degrees (43%), while fewer respondents in Croatia (37.5%) had the same degree. On the other hand, 61.7% of surveyed entrepreneurs in Croatia had a higher education degree, in contrast to Finland, where there were 35% of those with the same degree level.

Aside from the demographic data and personal characteristics of entrepreneurs, the research results provided more detailed information about the firms that entrepreneurs aged 55 and more years are running in both countries. Table 1 shows the comparison of the share of the firms owned by aging entrepreneurs by the number of employees in each country.

Based on this comparison, it can be concluded that the majority of entrepreneurs aged 55 and more years in both countries have 1-4 employees: 63.1% in Croatia and 70% in Finland. Table 2 provides the basis for the comparison

of the industries aging entrepreneurs are operating in, in both countries.

The industry background comparison indicates that the majority of aging entrepreneurs in both countries are operating in the service sector. In Croatia, more firms are manufacturers than in Finland, while in Finland more firms owned by aging entrepreneurs are operating in the retail trade industry than in Croatia.

It is important to emphasize that 64% of respondents in Finland consider their firm as a family business, while Croatian research indicated only 38% of family firms in the sample. This is not surprising, since Finland has longer tradition of entrepreneurship and private ownership, while Croatia is a relatively young economy in the phase of the first wave of succession of the firms that were founded in the 1990s.

Among Finish entrepreneurs, 76% were founders, 14% bought their firms and 10% were family business successors. In Croatia, 93% of entrepreneurs that participated in the research were founders, 5% bought their firms and only 2% inherited the firms from the previous generation. In Croatia, majority of firms owned by the entrepreneurs aged 55 and more years were established in the 1990s (76%), their owners are still managing their companies (in 88% of the cases), and have no personal experience of participation in the business transfer process (93%). The comparison of these data indicates that 24% of entrepreneurs in Finland had previous experience in business transfer process, while only 7% of entrepreneurs in Croatia have experienced business transfer.

4.2.2 Business transfer potential

Aging entrepreneurs in both Croatia and Finland were asked to project the future of their companies once they have withdrawn from the business. Table 3 shows the comparison of their answers.

When asked about the expected future of the company after the owner's withdrawal, 65% of owners in Croatia expect that the company will continue its operations, and more than half of them (61%) believe that they are going to be replaced by a family member. Only 6% of owners in Croatia are planning to sell the company to an outside buyer once they retire. This is the biggest contrast to the Finish research results where 39% of aging entrepreneurs plan to sell the company to an outside buyer.

It is important to emphasize that only 20% of owners in Finland believe that they will find a successor within the family (comparing to 40% in Croatia). The worrying part is the number of companies whose owners are planning to close down the business once they retire in both countries: 28% in Finland and 17% in Croatia.

According to Finish Barometer, a large number of aging entrepreneurs in Finland start preparing for the business transfer too late. Finding a buyer and implementation of the business transfer process takes time, which is difficult to predict, so preparation for the process is supposed to be initiated in the earlier stage. Finnish Business Transfer Barometer results also indicate that, as they become older, entrepreneurs express pessimism about the business transfer outcome and that family entrepreneurship setting positively affects the future outlook for business transfer.

Croatian Barometer results show that 32% of company

Table 1: Comparison of the share of the firms owned by aging entrepreneurs by the number of employees in Croatia and Finland. rSource: Adapted from Alpeza et al., 2015 and Varamäki et al., 2013

Company size	Croatia	Finland
One-person-enterprise	20.9%	37%
2-4 employees	42.2%	33%
5-10 employees	20.4%	17%
11-20 employees	8.5%	7%
More than 20 employees	8%	5%

Table 2: Comparison of the share of the firms owned by aging entrepreneurs by industry in Croatia and Finland. Source: Adapted from Alpeza et al., 2015 and Varamäki et al., 2013

Industry	Croatia	Finland
Manufacturing	23%	12%
Services	54%	54%
Retail trade	9%	20%
Construction	14%	14%

Table 3: The expected future of the company after the owner's withdrawal in Croatia and Finland – owners' perspective. Source: Adapted from Alpeza et al., 2015 and Varamäki et al., 2013

The expected future of the company after the owner's withdrawal – owners' perspective	Croatia	Finland
The company will continue its operations	65%	30%
The company will be sold	6%	39%
The company will be closed	17%	27%
Something else or the owner hasn't thought about the future of the company after his/her withdrawal	12%	3%

owners that are 55 or more years old are not aware of the inevitability of change of their role in the management and ownership function in the company's future. Another concerning fact is that 22% of entrepreneurs in the Croatian survey underestimate the duration of the business transfer process and believe that less than a year is enough time for the transfer to take place, while 50% believe that it would take 1-3 years. With regard to awareness of the complexity of the business transfer process, Croatian research results show that more than 5,300 firms with about 57,000 employees represent a risk group whose owners underestimate the complexity and length of duration of the business transfer process.

4.2.3 Challenges in the business transfer process

Croatian research results indicate that a significant number of entrepreneurs (65%) expect support in the business transfer process, primarily regarding the technical implementation of the business transfer (43%), business valuation (42%) and harmonization of enterprise and family interests when making the decision on the future of the business (36%).

The two biggest challenges according to the respondents of the Barometer conducted in Finland were finding a successor or a buyer, and business valuation. This is consistent with previous research (e.g. Thornton, 2002; Van Teeffelen, 2012). Almost half of the respondents (48%) viewed finding a successor or a buyer as a very significant or significant problem, while firm valuation was rated the same by more than one-third of respondents (36%). Following these, other challenges were transfer of knowledge from predecessor to successor, taxation and financing.

5 Discussion, conclusions and policy recommendations

Comparison of the research results from Business Transfer Barometer in Croatia and Finland showed that about one-third of all entrepreneurs in both countries are about to retire within the next ten years. This group of aging entrepreneurs in these two countries represents a risk group because of their impact on the economy and employment, as well as growth perspectives of the SME sector in general.

There are many challenges that entrepreneurs are facing while going through the business transfer process. The complexity of business transfer is the result of legal, financial, tax, organizational and psychological aspects of this process. Business transfer requires thorough and timely preparation of owners, as well as of their companies. For that reason, it is of critical importance to develop a support system and main institutions and professionals that will be able to provide quality support to SME owners in this process.

The comparison of research results from Croatian and Finish Business Transfer Barometer provided information on similarities and differences in the profiles and attitudes towards business transfer among SME owners that are 55 and more years old in these two countries. The similarities are in the size of the companies owned by aging entrepreneurs (mostly 1-4 employees), the share of women entrepreneurs (approx. one quarter), sector in which majority of entrepreneurs operate (service sector) and valuation of the company being identified as the most important challenge in the business transfer process.

The differences among entrepreneurs in Croatia and Finland are more apparent in the level of education of the entrepreneurs (more highly educated in Croatia), share of family businesses (significantly more in Finland), more entrepreneurs with experience in business transfer in Finland, more entrepreneurs expecting their companies to be sold after their retirement in Finland, and more entrepreneurs planning family business succession in Croatia, more entrepreneurs planning to close down the business once they retire in Finland. The biggest challenge aging entrepreneurs are facing in Finland is finding a successor

or a buyer, while in Croatia it is the technical implementation of business transfer.

Based on the results of the analysis of the business transfer ecosystem in Finland and business transfer barometer survey the policy recommendations for further development of ecosystem in Finland were developed. Most important recommendations are directed toward raising the level of effectiveness of the already existing awareness raising activities. The practical implementation of this recommendation includes establishing of the national advisory board on business transfers to coordinate different awareness raising activities. Further recommendations emphasize the importance of tax relief for business transfers and more simple tax regulations as well as development of specialized support for micro-sized enterprises.

Based on the comparison and analysis of the similarities and differences between profiles and attitudes of aging entrepreneurs in Croatia and Finland, together with the comparison of the development of the business transfer ecosystem in Croatia, the following *conclusions* can be drawn about the future needs of aging entrepreneurs in business transfer processes in Croatia:

- There will be a growing number of family businesses in Croatia in the future, and the share of family business in the SME sector will become increasingly important. The increase in the share of family business will be the result of the withdrawal of the first generation entrepreneurs who founded their companies in the 1990s and who are going to retire in the next 5-10 years' time
- There will be a growing number of entrepreneurs with personal experience in the business transfer process, obtained either through inheritance of a family business or through sale of a firm
- Despite the continuous development of the business transfer ecosystem, a certain number of firms will be lost in this process
- There will be a growing number of entrepreneurs who will be interested in selling their firm once they withdraw from the business
- There will be less family business successions than projected by aging entrepreneurs – despite their vision to transfer the firm to the next generation of the family – in many cases this scenario will not take place
- The most critical challenges for aging entrepreneurs in Croatia related to business transfer will be business valuation and finding a successor or a buyer.

Based on these conclusions, the following *recommendations* for further development of the business transfer ecosystem in Croatia can be proposed: 1) Emphasis on understanding family businesses – how they operate, grow, employ, transfer knowledge and cope with challenges – through formal education and policy measures; 2) Initiating and supporting awareness raising activities in order to foster timely preparation of owners for business transfer, thus minimizing the number of closed businesses in this process; 3) Establishing channels for matching of aging entrepreneurs who are interested in selling their companies with potential buyers on the national level. These may include: on-line platforms for matching sellers and buyers of micro and small firms, matchmaking events, promotion of takeover entrepreneurship among potential entrepreneurs; 4) Ensuring quality consultancy support related to company valuation for entrepreneurs.

The above identified recommendations represent further development of the policy recommendations provided by CEPOR in 2015. These new recommendations are based on results of the comparison of Business Transfer Barometer research results in Croatia and Finland and the comparison of national business transfer ecosystem support in both countries.

The recommendations are aligned with the European Commission recommendations for the development of a national support system for business transfer processes of SMEs from 2013.

Based on the conclusions and recommendations of this research, new insight for defining measures and policies at the national level was created, which will enable prevention and resolution of problems in the process of business transfer of small and medium-sized enterprises in Croatia. In order to ensure sustainability and growth of small and medium-sized enterprises, involvement of competent ministries and other relevant institutions is necessary in creation of an appropriate support system for owners of small and medium-sized enterprises in successfully dealing with the challenges of the business transfer process.

6 Limitations

A comparison of the results of Business Transfer Barometer surveys implemented in Croatia and Finland was conducted in the paper. Although there are differences in the methodological aspect of the research conducted in two countries and the time period when the research was implemented, it was important to compare the results of these two studies in order to identify similarities and differences in the attitudes of entrepreneurs aged 55 and more years towards business transfer in these two countries. Additionally, comparison of business transfer ecosystems, which was also presented in this paper, provided a framework for understanding the wider context in which business transfers in these two countries occur. For further research, it would be important to ensure higher consistency in methodology and time frame for implementation of the survey in two countries (preferably parallel surveys with the same questionnaire and controlled consistency in samples), in order to raise the reliability of the data and research results, which, at this point, researchers consider as limitations of this paper.

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Izzivi prenosa lastništva malih in srednjih podjetij: primerjava med Hrvaško in Finsko

Ozadje in namen: V življenjskem ciklu podjetja prenos poslovanja podjetja predstavlja kritično stopnjo razvoja. Podcenjevanje kompleksnosti in dolgotrajnosti tega procesa lahko negativno vpliva na podjetja, njihove lastnike in široko mrežo zainteresiranih partnerjev. Cilj tega prispevka je primerjava odnosa do prenosa lastništva podjetnikov, starih 55 let ali več, na Hrvaškem in na Finskem, in oblikovanje priporočil za izboljšanje nacionalnih ekosistemov za prenos lastništva podjetij med generacijama.

Metodologija / pristop: Populacija, ki smo jo raziskovali, so podjetniki, stari 55 let in več. Uporabili smo vprašalnik, ki je bil naprej uporabljen na Finskem in ga delno prilagodili za hrvaški podjetniški ekosistem.. Raziskava na Hrvaškem je potekala s kombinacijo metode CATI in CAWI s strani profesionalne agencije za zbiranje podatkov. Zbrane podatke so primerjali na podlagi demografskega merila, industrijskega ozadja, izkušenj pri prenosu podjetij, pričakovane prihodnosti podjetja, potrebnih podpore in največjih izzivov.

Rezultati: Rezultati kažejo na vedno večje število podjetnikov na Hrvaškem, ki bodo zainteresirani za prodajo podjetja, ko se bodo umaknili iz poslovanja, in razmeroma malo tistih, ki pričakujejo, da bodo družinski dediči prevzeli podjetje. Na Finskem so najpomembnejši izzivi povezani z vrednotenjem podjetij in iskanjem primernega naslednika ali kupca.

Zaključek: Za nadaljnji razvoj poslovnega transfernega ekosistema na Hrvaškem priporočamo, da se osredotočimo na dejavnosti ozaveščanja načinov, ki bi olajšali prodajalcem najti primerne kupce, spodbujanje podjetništva pri prevzemih in svetovanje mikro podjetjem. Rezultati na Finskem kažejo, da je pomembno vlagati stalna prizadevanja za povečanje učinkovitosti že izvajanih ukrepov.

Ključne besede: *mala in srednja podjetja; poslovni prenos; ekosistem za poslovni prenos podjetij*

Impact of Fear of Identity Theft and Perceived Risk on Online Purchase Intention

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Background and Purpose: Online activities are present in almost every aspect of people's daily lives. Online purchases are also increasing each year and therefore it is important to investigate what influences online purchase intentions. Online purchase intentions are among everything else, influenced by the fear of identity theft and perceived risk.

Design/Methodology/Approach: The online survey was conducted among 190 participants from Slovenia. The relations between the constructs of fear of financial losses, fear of reputational damage, perceived risk and online purchase intention were investigated.

Results: The research showed that the relations between the constructs of fear of financial losses, fear of reputational damage, perceived risk are positive and the relation between the constructs of perceived risk and online purchase intention were negative. All of the relations were statistically significant.

Conclusion: Understanding the impact of fear of identity theft and perceived risk on online purchase intention can be helpful for online sellers, because with these findings they can manage this fear and perceived risk to increase online purchase intention and address the risks accordingly. Online sellers should therefore regard new findings from the field of online sales. If an online store wants to have success in sales, they should consider all sides of customers' desires as well as their restraints.

Keywords: e-commerce; fear of identity theft; online purchase intention; perceived risk; SEM

1 Introduction

The development of information and communication technology has been fast and furious, which has resulted in the deep infiltration of technology use in almost every aspect of people's daily lives, such as banking transactions, entertainment, and business trade (Cai, Fan & Du, 2017; Park & Lee, 2011). It has increased interactions in the online environment (Blažun Vošner, Bobek, Kokol & Javornik Krečič, 2016) and has expanded from a technical level to commercial together with a social level (Zhu, Wang, Wang & Wan, 2016). Internet has emerged, not just as network for sharing information, but also as a useful

marketing tool to serve as a platform for domestic and international transactions (Lim, Osman, Salahuddin, Romle & Abdullah, 2016).

This new technological environment has generated a significant change in the behaviour, habits and trends of consumers, which leads to the increase of e-commerce (Fortes & Rita, 2016; Gerrikagoitia, Castander, Rebón & Alzua-Sorzabal, 2015). The growth of e-commerce is not likely to abate (Chen, 2012; Lai, 2014; Liao, Lin, Luo & Chea, 2016; Guritno & Siringoringo, 2013; Pei, Paswan & Yan, 2014; Shiau & Luo, 2012; Sin, Nor & Al-Agaga, 2012; Zhou, 2012), because consumers find it more economical and more convenient to shop online (Hong & Cha,

2013).

The growth in online transactions in e-commerce also brings worries, because it is endangered by the rise of cybercrime (Hille, Walsh & Cleveland, 2015), which can cause anxiety of online customers before conducting online purchases. Individual's personal data (name, date of birth, credit card number, etc.) constitute a person's unique online identity (Hille, Walsh & Cleveland, 2015), and they are needed every time we want to conduct an online purchase. Consumers' sense of vulnerability due to identity theft can lead to changes in their online behaviour (Milne, Labreque & Cromer, 2009).

After a consumer's realization that he or she will probably not experience online identity theft, he or she has to face another important shopping behavioural facet – perceived risk. According to Forsythe and Shi (2003), perceived risk is defined as "the subjectively determined expectation of loss by online customers in contemplating a particular online purchase." Previous studies on online consumer behaviour research demonstrated that higher perception of perceived risk results in a decrease of online purchasing (Cho, Bonn & Kang, 2014; Egeln & Joseph, 2012).

The research presented here will focus on how the fear of identity theft and perceived risk influence the online purchase intention.

2 Literature Review

2.1 Fear of identity theft

Identity theft is a term used to categorize the fraudulent use of an individual's personal information for criminal purposes and without their agreement (Reyns, 2013). Online identity theft is an online fraud and describes crimes that involve the duplication of digital information or the high-jacking of online accounts for the purposes of committing identity fraud against individuals or businesses (Wall, 2013). It is a growing problem which affects individuals all over the world (Reyns & Henson, 2016).

Fear is one of eight primary emotions of humans which also include anger, joy, sadness, acceptance, disgust, expectancy, and surprise (Plutchik, 1980). Hille, Walsh and Cleveland (2015) defined fear of online identity theft as *"an emerging negative consumer emotion activated through consumers' cognitive appraisal/own thoughts regarding the possibility of the theft of personal and financial data when conducting transactions online, which can also be generated by external stimuli (e.g., media reports thereof), which can then influence consumers' online behavioural outcomes"*. Authors have proposed two dimensions of fear of online identity theft: fear of financial losses and fear of reputational damage.

The fear of financial losses dimension is defined as the fear of illegal or unethical appropriation and usage of personal and financial data by an unauthorized entity with aim to get financial benefits (Hille, Walsh & Cleveland, 2015). Financial losses occur, when a victim's stolen personal and financial data is used for purchasing products at the victim's expense (Almousa, 2011).

The fear of reputational damage is defined as fear of misuse of illegally acquired personal data with the aim of impersonation which can cause reputational damage to the victim (Hille, Walsh & Cleveland, 2015). Reputational damage occurs, when the identity thief uses a victim's credit card to fraudulently shop or to buy embarrassing products (Hille, Walsh & Cleveland, 2015), and it can cause a damaged name, hurt career opportunities or even being innocently accused of a crime committed by the identity thief (Miri-Lavassani, Kumar, Movahedi & Kumar, 2009).

2.2 Perceived risk

Although Internet offers consumers a number of benefits, there are some uncertainties involved with any online purchase process (Masoud, 2013). The importance of perceived risk in online shopping continues to be identified (Chen, 2010; Nepomuceno, Laroche & Richard, 2014; Aghekyan-Simonian, Forsythe, Kwon & Chattaraman, 2012). Perceived risk can be viewed as a major factor affecting the online shopping (Chiu, Wang, Fang & Huang, 2014), but it has been also recognized as one of the key motivators in consumer behaviour (Hong, 2015).

Perceived risk theory tries to help marketers to realize the world through consumer-based thought (Chen, 2010), where they can use risk analysis in marketing decisions (Mitchell, 1999). Perceived risk is an influential tool to explain consumers' behaviour because consumers are more often forced to avoid mistakes than to maximize efficacy in purchasing (Mitchell, 1999).

It can also be seen as *"the extent to which using the Internet to make purchases is perceived as risky in terms of credit card fraud, privacy of information and general uncertainty about the Internet environment"* (Martin, Mortimer & Andrews, 2015). Consumer behaviour involves some risk in any of consumer's action, which leads to consequences that he or she views with some uncertainty (Bauer, 1960); it will result in estimated outcomes, but some of them will not likely to be desirable (Forsythe, Liu, Shannon & Gardner, 2006; Liao, Lin & Liu, 2010). Therefore, they develop ways to reduce the risk perceived when participating in a transaction by searching for information that enables them to act with some confidence under uncertainty (Bauer, 1960). Perceived risk can be seen as the amount of money at stake in a purchase, and the consumer's subjective feelings of certainty about the favourableness of purchase consequences, focusing on loss and uncertainty (Cox, 1967).

Previous studies have revealed that perceived risk negatively influenced willingness to act a risky behaviour (Nicolaou & McKnight, 2006). Perceived risk reduces the willingness of consumers to buy goods over the internet (Barnes, Bauer, Neumann & Huber, 2007), for the reason that the risk related to probable cost from the online transaction compared to traditional ne is higher (Aldás-Manzano, Lassala-Navarre, Ruiz-Mafe & Sanz-Blas, 2009).

2.3 Online purchase intention

Purchase intention is defined as the decision to act or as a mental stage in the decision making process where the consumer has developed an actual willingness to act towards an object or brand (Wang & Yang, 2008; Wells, Valacich & Hess, 2011). Customer online purchase intention is one of the intensive research areas in e-marketing and e-retail literature (Kwek, Tan & Lau, 2015).

Online purchase intention is the strength of a consumer's intentions to perform a specified purchasing behaviour via Internet (Hsu, Chang & Chen, 2012) in the future (Wu, Yeh & Hsiao, 2011), and it can be classified as one of the components of consumers' cognitive behaviour on how an individual intends to buy a specific brand (Kwek, Tan & Lau, 2015). Online purchase intention is defined as the situation when a customer is willing and intends to become involved in an online transaction (Pavlou, 2003), and it is led by their emotions (Ha & Lennon, 2010). An increase in purchase intention means an increase of the possibility of purchasing (Schiffman & Kanuk, 2007), but the final decision on accepting to buy a product, or rejecting it, depends on the consumers' intention (Madahi & Sukati, 2012; Wang & Tsai, 2014).

2.4 Connection between the fear of financial losses, fear of reputational damage and perceived risk

Research in the area of connection between the fear of financial losses, fear of reputational damage and perceived risk is relatively new. Based on studied literature and previous research, it has been indicated that two dimensions of fear of online identity theft – fear of financial losses together with fear of reputational damage, should be positively related to perceived risk, which should in the end negatively influence on online purchase intention. We formulated three hypotheses to determine relations between the three constructs. Proposed hypotheses were tested in the proposed model (Figure 1). The hypotheses are:

- H1: Fear of financial losses is positively related to perceived risk.
- H2: Fear of reputational damage is positively related to perceived risk.
- H3: Perceived risk is negatively related to online purchase intention.

3 Research methodology

3.1 Participants

The full set of questionnaires was completed by a total of 190 online participants, which represent our sample, of whom 98 (51.6%) were men and 92 (48.4%) were women. According to the marital status of respondents: 60 (31.6%) were married, 2 (1.1%) were widowed, 5 (2.6%) were divorced, 70 (36.8%) were 19 (10.0%) were single and 34 (17.9%) were in life partnerships. According to the employment status of respondents: 74 (38.9%) were students, 7 (3.7%) were self-employed, 46 (24.2%) were employed in public sector, 59 (31.1%) were employed in private sector, 1 (0.5%) was retired and 3 (1.6%) were unemployed.

According to the educational level of respondents: 1 (0.5%) was without primary education, 1 (0.5%) was with primary education, 2 (1.1%) finished secondary vocational education, 4 (2.1%) finished technical secondary education, 42 (22.1%) received high school diploma, 4 (2.1%) finished vocational college, 28 (14.7%) finished professional higher education, 66 (34.7%) received bachelor's degree, 27 (14.2%) received master's degree, and 15 (7.9%) received with doctoral degree.

The average age of respondents was 29.7 years. On the average they have been shopping online for 7.7 years, and they made 10.4 online purchases in the past year. The survey was conducted online and the majority of our sample consists of younger people who are also most involved in online activities. The students involved in the survey did jet not complete their studies and therefore stated their last completed level of education, which lowers the education levels in our sample.

3.2 Instruments

Fear of online identity theft scale (FOIT) was used for measuring consumer fear of online identity theft, developed by Hille, Walsh and Cleveland (2015). The 12-item scale is composed of 2 dimensions: fear of financial losses (e.g., "I am afraid that somebody could steal my money while I am transferring my personal data online"), and fear of reputational damage (e.g., "I am worried about my reputation being damaged due to the illegal use of my personal data online"). The response scale was a 5-point Likert scale ranging from 1 (completely disagree) to 5 (completely agree). The coefficient of reliability (Cronbach's alpha) was 0.98 for fear of financial losses, and 0.94 for fear of reputational damage, respectively. The descriptive statistics for the items of the *Fear of online identity theft* scale (FOIT) are presented in Table 1.

Perceived risk was measured on scale developed by Chen, Yan, Fan and Gordon (2015) (e.g., "I am worried about the value of the product I received does not meet its

Table 1: Means and standard deviations for the items of Fear of online identity theft scale (FOIT)

Item	n	M	SD
Fear of financial losses			
I am afraid that somebody could steal my money while I am transferring my personal data online.	190	1,91	1,205
I am scared that a criminal could use my bank account number to do online shopping in my name.	190	2,03	1,258
I am scared that a criminal could use my credit card account number to do online shopping in my name.	190	2,03	1,230
I am frightened that somebody could do online shopping at my expense.	190	2,03	1,238
I am worried about an unauthorized person making online purchases using my personal data.	190	1,98	1,224
I am scared that when I have to give my credit card number to shop online that it could be misused.	190	2,09	1,326
I am scared that when I have to give my bank account number to shop online that it could be misused.	190	2,11	1,343
The thought that a stranger could gain access to my customer's account at an online store by using my personal data frightens me.	190	2,06	1,273
Fear of reputational damage			
I am frightened of somebody using my personal data on the Internet in order to run me down.	190	1,81	1,120
I am very worried that the unauthorized use of my personal data online could damage my reputation.	190	1,75	1,013
I am worried about my reputation being damaged due to the illegal use of my personal data online.	190	1,83	1,046
The thought that a stranger could damage my reputation by using my personal data online scares me.	190	1,83	1,085

price"). The response scale was a 5-point Likert scale ranging from 1 (completely disagree) to 5 (completely agree). The coefficient of reliability (Cronbach's alpha) was 0.87, respectively. The descriptive statistics for the items of the *Perceived risk* are presented in Table 2.

    Online purchase intention was measured on a three-item scale developed by Salisbury, Pearson, Pearson and Miller (2001) (e.g., "I would use the Internet for purchasing a product"). The response scale was a 5-point Likert scale ranging from 1 (completely disagree) to 5 (completely agree). The coefficient of reliability (Cronbach's alpha) was 0.94, respectively. The descriptive statistics for the items of the *Online purchase intention* are presented in Table 3.

3.3 Data collection

Empirical research on fear of online identity theft, perceived risk and online purchase intention was performed by survey method. To obtain data, we designed an online questionnaire, which was sent via e-mail in winter 2017.

We have used convenience sampling, which is the most common (Etikan, Abubakar Musa, Sunusi Alkassim, 2016), where people from all over Slovenia were invited via e-mail and social media to participate in our survey. After conducting online research, primary data was controlled and edited. For processing and analysing data, we have used IBM SPSS Statistics 24 and Lisrel 8.80.

4 Results

Table 4 shows the number of respondents, means, standard deviations, minimums and maximums for researched constructs. According to the mean value, the respondents have more fear of financial losses (M = 2.03) than reputational damage (M = 1.81), although the scores show considerably low fear of online identity theft. The respondents do not perceive online shopping as risky (M = 1.82) and they are very keen toward online purchase intention (M = 4.36).

    In continuation, we present a method to test the model by applying structural equation modelling (SEM), which is used for testing structural relations between constructs.

Table 2: Means and standard deviations for the items of Perceived risk

Item	n	M	SD
I am worried that the price online may be higher than in the mall (price).	190	1,64	0,948
I am worried that purchasing online may take me too much time, including choosing products from wide selection and delay in shipment (time loss).	190	1,58	0,915
I am worried that the commodity sold online is a fake, smuggled, or reprocessed product (quality).	190	1,94	1,171
I am worried that the products I bought online do not meet my expectations due to being unable to touch it or give it a trial (lack of good feel of product).	190	2,13	1,309
I am worried about after-sale services (after-sale service).	190	1,93	1,115
I am worried about the value of the product I received does not meet its price (value).	190	1,99	1,101
I am worried that online shopping does harm to my physical and psychological health (health).	190	1,47	0,695
I am worried that my private information will be leaked (privacy).	190	1,88	1,094

Table 3: Means and standard deviations for the items of Online purchase intention

Item	n	M	SD
I would use the Internet for purchasing a product.	190	4,32	0,853
Using the Internet for purchasing a product is something I would do.	190	4,40	0,815
I could see myself using the Internet to buy a product.	190	4,37	0,868

Table 4: Descriptive statistics for researched constructs

	n	*M*	*SD*	*Min.*	*Max.*
Fear of Financial Losses	190	2.03	1.26	1	5
Fear of Reputational Damage	190	1.81	1.07	1	5
Perceived Risk	190	1.82	1.04	1	5
Online Purchase Intention	190	4.36	0.85	1	5

That operation was made by building a model in Lisrel 8.80 software package, which is an analytical statistics program, which allows the testing of multiple structural relations at once (Prajogo & McDermott, 2005). It combines factor and regression analysis by which it tests the proposed model by which we can assess the significance of hypothesised cause-and-effect relations among the variables (Diamantopoulos & Siguaw, 2000). The standardized solutions and t-values for the hypotheses tested in the model are presented in Figure 1.

Standardised solution weights between the constructs representing fear of financial losses, fear of reputation-

al damage, perceived risk, and online purchase intention are presented in the model presented in Figure 1. We can therefore with the use of structural equation modelling confirm our hypothesised relations between the researched constructs as follows:

- H1: Fear of financial losses is positively related to perceived risk. (Standardized solution = -0.55, t-test = 6.86)
- H2: Fear of reputational damage is positively related to perceived risk. (Standardized solution = 0.36, t-test = 4.90)
- H3: Perceived risk is negatively related to online pur-
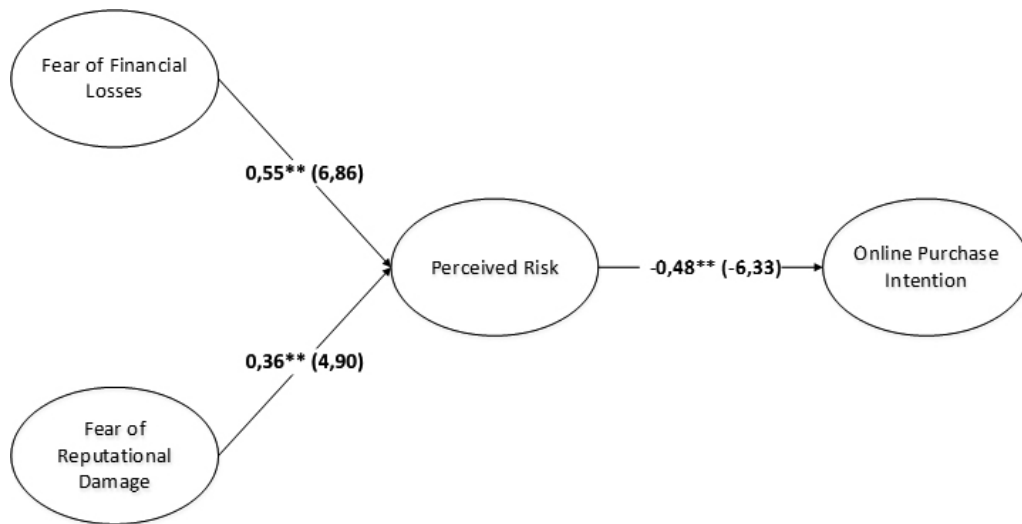
Figure 1: Conceptual model with the standardized solutions (and t-test) for the hypotheses

chase intention. (Standardized solution = -0.48, t-test = -6.33)

Based on the standardised solutions we found that the relations are as hypothesised and all of them are statistically significant. Table 5 presents model fit indices, reference values and model fit according to individual indices (the reference values are according to: Hooper, Coughlan & Mullen, 2008; Hu & Bentler, 1999; Kenny, 2014) for our researched model and present a very good model fit with a P-value of 0.0000. Model fit indices, as presented, confirm a good model fit.

5 Discussion and implications

Online purchases are increasing, but there are still doubts and restraints among potential customers. We have therefore explored perceptions of customers and potential customers on which opinions are based. Greater perception of risk on the part of consumers, acts as a deterrent to their purchase intentions (Masoud, 2013). With proposed hypotheses, which were based upon previous research and in-depth study of relevant literature, we have tested the relations between the fear of identity theft, perceived risk and online purchase intention.

The empirical contribution of our research is reflected in the conceptual model. The two constructs representing the fear of identity theft, the fear of financial losses and fear of reputational damage are positively and statistically significantly related to perceived risk, as hypothesised, which means that when they increase, so does the perceived risk. On the other hand, are the constructs of perceived risk and online purchase intention negatively and statistically significantly related, which means that lower perceptions of

risk increase online purchase intentions.

The limitation to the study comes from the fact, that the whole research was focused mostly on how the fear of identity theft (fear of financial losses and fear of reputational damage) relates to perceived risk and how that is related to online purchase intention, whereas other determinants were not considered. As mentioned, those are not the only determinants of online purchase intention, there are also other factors involved in the process. For further research, we suggest investigating the effects of the determinants omitted, or to put in other words, not included in our study.

The results of our analysis demonstrate the theoretically backed-up relations between the constructs included in the model. Apparently, the fear of identity theft (fear of financial losses and fear of reputational damage) increases the perceived risk, which decreases the online purchase intention. The theoretical contribution of this study is to the existing research of fear of identity theft, perception of risk and online purchase intention in the aspect of advancing previous research by empirically examining the relations between them. The practical contribution is in the presented results that deepen the understanding of online purchasing.

6 Conclusion

The research into online purchasing and what motivates and deters potential buyers is still developing, therefore we believe that further research is important for a better understanding as well the positive effects on which most of the research is currently focused, as well the negative ones of which there is much less research being conducted.

Knowing and understanding, what negatively effects

Table 5: Descriptive statistics for researched constructs
* Hooper, Coughlan & Mullen, 2008; Hu & Bentler, 1999; Kenny, 2014

Fit indices	Value for the model	Reference value*	Model fit according to individual indices*
χ2/df	3.406	≤ 2 or ≤ 5	Good fit
Normed Fit Index (NFI)	0.954	≥ 0.90	Very good fit
Non-Normed Fit Index (NNFI)	0.962	≥ 0.95	Very good fit
Comparative Fit Index (CFI)	0.966	≥ 0.93	Very good fit
Incremental Fit Index (IFI)	0.967	≥ 0.95	Very good fit

online purchase intention is important for better understanding and developing e-commerce and definitely the fear of identity theft and the understanding of perceived risk are to be considered in this regard as we have found in our study. Our findings offer the potential to eliminate these negative effects, whether they are direct or indirect.

Based on the revised theory in the literature review chapter, we have not found previous research that investigated these constructs in this order, composed in a conceptual model. Constructs are mutually related and are intertwined in their effects and represent a clear cause and effect relation. These findings are important both for individuals, organizations and marketing experts, because they are to assist in the adequate adjustment in developing e-commerce.

Over time, peoples' perceptions of newer technologies and approaches to purchasing change, and therefore it is important to take into account lessons learned through research of purchasing behaviour and to implement them in practice, rather than just following established, but also outdated, practices.

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Vpliv strahu pred krajo identitete in zaznavo tveganja na namero nakupa prek spleta

Ozadje in namen: Spletna aktivnosti so del skoraj vsakega vidika vsakodnevnega življenja ljudi. Prav tako se vsako leto povečujejo spletni nakupi, zaradi česar je pomembno proučevati, kaj vpliva na namero nakupa prek spleta. Na namere nakupa prek spleta med drugim vplivata tudi strah pred krajo identitete in zaznavo tveganja.

Oblika/Metodologija/Pristop: Spletna raziskava je bila izvedena na vzorcu 190-ih udeležencih iz Slovenije. Povezave med konstrukti strahu pred finančno izgubo, strahu pred izgubo ugleda, zaznavo tveganja in namero nakupa prek spleta so bile proučevane.

Rezultati: Raziskava je pokazala, da so povezave med konstrukti strahu pred finančno izgubo, strahu pred izgubo ugleda in zaznavo tveganja pozitivne ter, da je povezava med konstruktoma zaznave tveganja in namero nakupa prek spleta negativna. Vse povezave so bile statistično značilne.

Zaključek: Razumevanje vpliva strahu pred krajo identitete in zaznavo tveganja na namero nakupa prek spleta je lahko koristno za spletne prodajalce, saj lahko s temi ugotovitvami upravljajo ta strah in zaznavo tveganja za povečanje namere nakupa prek spleta in ustrezno obravnavajo tveganja. Spletni prodajalci morajo zato upoštevati nove ugotovitve s področja spletne prodaje. Če si spletna trgovina želi imeti uspešno prodajo, mora upoštevati tako želje uporabnikov kot njihove zadržke..

Ključne besede: e-trgovanje, strah pred krajo identitete, namera nakupa prek spleta, zaznava tveganja, SEM

MASTIS – Establishing Modern Master-level Studies in Information Systems

The MASTIS project, funded by the Erasmus+ Programme of the European Union, aims to improve the master level studies in Information Systems (IS) according to the needs of the modern society. The outcome of the project, new master level study programmes, will enable the Partner Country and EU Universities to modernize education in the field of IS. The new master study programmes will provide students a smooth transition to the global IS labour market, incorporating student-oriented principles, modern educational approaches and strong cooperation with the industry sector.

Current curricula in IS will be updated according to the Bologna requirements and new developments in information technologies and will therefore provide an innovative academic environment for IS programme as a platform for training/retraining, PhD and long life learning. Nine EU partners will advise seven Ukrainian and two Montenegrin partners during the process of modernization of the IS curricula. The project has begun on the 15th of October 2015 and will end on the 14th of October 2018, whereas the sustainability strategy, based on the interactive links between university and industry, will ensure the continuation of the proposed study programmes.

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