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The Relationship between Corporate Strategy and Cooperative Agreement Success

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Cooperative agreements have become widespread due to the difficulty firms can compete alone in a highly turbulent environment. Key success factors in cooperative agreements, their benefits and risks and their effect in technology-intensive sectors have been analyzed in multiple studies. In our case, we will analyze the influence of corporate strategy on cooperative agreement success. The main conclusion is that cooperative agreement should be simultaneously coordinated and should respect the corporate strategy if its results are to be improved. Our study will be developed in a mature industry with low technological intensity in order to fill the gap found in research.

Key words: corporate strategy, cooperative agreement, exploration agreement, exploitation agreement

Introduction

Technological change, rapid changes in demand, reducing the life cycle of products and the emergence of new technologically advanced countries are factors which are causing high volatility and uncertainty in the environment (Gulati 1998; Lane and Lubatkin 1998) and increasing the use of cooperation due to a substantial increase in the difficulties of any company competing in isolation within the market (Cravens, Shipp and Cravens 1993; Ariño and De la Torre 1998). Thus, the need arises for companies to establish cooperative agreements if they are to maintain their competitive position and prove flexible in reaction to the changing environment.

Cooperation agreements are relationships between companies which involve both voluntary exchange, compartment or joint development of products, technologies or services (Gulati 1998) and the existence of mutual interdependence, in which each part is vulnerable to the behaviour of the other since they are not under each

other's control (Parkhe 1993). Cooperation enables companies to develop strategies that cannot be developed in isolation, while maintaining control and independence over the assets of which they are sole owner (Nohria and Piskorski 1997). This is therefore a strategic alternative that reduces risks.

In accordance with the cooperative agreement aim, March (1991) and Koza and Lewin (1998) distinguish two types of cooperative strategies, such as, exploration strategy which is characterized by the discovered of new opportunities to create wealth and increase profitability and exploitation strategy where company will focus on a few basic skills and will develop cooperative agreements through which to access their partner's assets and benefit from their complementarities (Rothaermel 2001; Grant and Baden-Fuller 2004).

Our literature review highlights the works that discuss the advantages and risks of cooperation, along with the main key factors for success (Kogut 1988; Hamel 1991; Parkhe 1993; Gulati 1998; Koza and Lewin 1998; Anand and Khanna 2000; Rothaermel and Deeds 2004; Reuer and Ariño 2007; Wiklund and Shepherd 2009).

In this study, we have attempted to emphasize the relevance of the company's strategic component. We thus believe that the strategic objective of the cooperative agreement will influence companies' success. By adhering to the Resources and Capabilities Theory (more specifically the knowledge approach), we shall use the type of agreements which classifies agreements into exploration and exploitation, depending upon the goal of the alliance that has been proposed. Our aim is to discover whether any kind of agreement exists which is associated with a greater amount of success.

Cooperative agreements are also part of the company's strategy, so to obtain maximum efficiency they must be coordinated with this strategy, in order to avoid conflicts and exploit the synergies that may occur with other business strategies used to develop the organization. This will contribute to an increase in the cooperative agreement success. A further objective of this research is to expand the number of sectors in which cooperation is a valid growth strategy, since most empirical studies examine technology-intensive sectors, as their characteristics strengthen their advantages (Hagedoorn 1993). In Spain, the industries with the greatest number of alliances are energy (oil and electricity), chemicals, electronic equipment, transportation, communication and financial services (Reuer and Ariño 2007). However, we believe that, as a result of the high volatility in all sectors, cooperative arrangements could also be effective in mature markets.

We have selected the Spanish agro-alimentary industry as one of the most mature contribution sectors in terms of Gross Domestic Product (GDP) for the Spanish economy (19%), since it has, in recent years, suffered from a restructuring process which has led to modernization within the industry with the renovation of existing technologies and developed strategies, and their relevance in areas such as health and food safety, territorial balance and environmental conservation.

Therefore, our main objective will be to verify the strategic importance of consistency of the strategic orientation of the agreement and the company´s strategy in industries of low technological intensity. To do this, we must first verify the direct influence of the strategic agreement on companies' success. In addition, we must seek the moderating effect of the company's strategy on the aforementioned relationship. If this is significant, then firms must condition cooperative arrangements to the generic strategy pursued.

In order to attain our objectives, we shall analyze the main differences between exploration and exploitation cooperative agreements in the following paragraph. We shall then attempt to show the relevance of the strategic component in the development of cooperative agreements. The following two sections will explain the hypotheses, which will later be contrasted. The paper will close with a discussion of our results and conclusions.

A Strategic Analysis of Cooperative Agreements

The choice between an exploration or exploitation agreement will be based on: (a) the expected profitability in each type of agreement; (b) the directors' knowledge of the environment; and (c) the strategic intentions of the managers (March 1991; Koza and Lewin 1998).

Exploration agreements regard the alliance as a vehicle for learning, since each partner will aim to transfer and absorb its partner's base knowledge. For each entity, exploitation agreements are based on access to the partner's stock of knowledge in order to exploit complementarities, but with the intention of maintaining its essential specialized knowledge (Grant and Baden-Fuller 2004). Thus, the first type of agreement will have higher associated risks, since it seeks a convergence of knowledge after a learning process. Exploitation partnerships therefore have a major impact on the development of new products due to lower associated risk (Rothaermel 2001). Therefore, when the uncertainty associated with the future necessitates high knowledge, and if the acquisition and integration of this knowledge is complex, then it would be preferable to develop

exploitation agreements with which to reduce investment and to disperse the risk (Grant and Baden-Fuller 2004)

However, despite the higher risks associated with them, exploration agreements have great relevance in turbulent environments since, in order to confront these environments with a higher level of guarantees, companies attempt to access their partners' critical inputs, thus learning from their technologies, products, skills and knowledge (Koza and Lewin, 1998) and to internalize their complementary capabilities, while protecting their core competencies (Kale, Singh and Perlmutter 2000).

Levinthal and March (1993) argue that the survival of a company depends on its ability to exploit the knowledge and skills it has in the agreement in order to ensure current viability, whilst simultaneously developing an appropriate exploratory activity with which to maintain viability in the future (Lundan and Hagedoorn 2001). We therefore appreciate the need for a cooperative agreement with which to develop factor explorers and operators in order to ensure their survival. Rothaermel and Deeds (2004) likewise establish that cooperation agreements follow a string sequentially. According to these authors, the first stage of an alliance is characterized by the exploration of the environment to discover new opportunities, through which it begins to exploit the knowledge gained, allowing the development of new projects that will be obtained from the innovative products to be offered in the market.

Wiklund and Shepherd (2009) point out that alliance success depends on the efforts done to the companies to combine their resources and explore new alternatives. On this way, Mesquita, Anand and Brush (2008) considered that cooperative agreements have to obtain specific profits, which cannot be obtained out of them. Therefore, the more explorative factors has a cooperative agreement to develop efficient knowledge transfer and learning processes, the more profit has the alliance. The absorption capacity developed by partners in an exploration alliance exceeds that produced by exploitation because of its relation to learning, since this will determine the effectiveness of internalization of technology, skills and knowledge achieved (Koza and Lewin 1998).

One of the objectives of this work is to contrast the impact of the strategic alliance on success, and to detect whether any kind of agreement is linked with success. We shall then attempt to analyze this influence with regard to the company's overall strategy. We thus propose the example in figure 1, which shows three scenarios that will be justified during the course of this work.

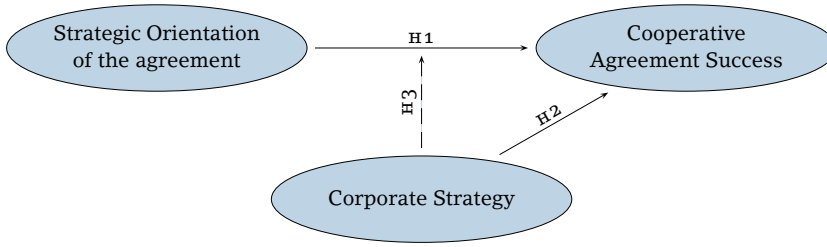

FIGURE 1 Research Model

As noted above, the expected profitability of an exploitation strategy is more imminent in time (March 1991) and safer than exploration one, since the latter depends on discovering new opportunities, so its value will be determined by the goodness of the opportunities found. According Rothaermel (2001) companies that are developing a strategy with which to exploit their partner's complementary assets outperform those who seek to explore new opportunities, and this leads them to develop new products, which improve their results. However, for both strategies, this author allows for an increase in the development of new products, the building of new skills from exploration, or an attempt to maximize benefits from the exploitation of existing skills.

It is, therefore, possible to appreciate two different positions. The first states that exploitation agreements are more effective in the short term (March 1991), but the other indicates the need for a balance between the two components to ensure survival in the environment (Levinthal and March 1993; Lundan and Hagedoorn 2001; Rothaermel and Deeds 2004) and to increase the cooperative agreement's success (Saxton 1997). Globalization and high competition signify that companies must be continuously developing new products, new business techniques and new production processes so, in addition to the exploitation factor, the nature of exploration also plays an important role in companies' success. We thus propose the following scenario:

H1 *Cooperative agreements with a high importance given to exploration and exploitation factors obtain more success than those in which a single factor stands out.*

The Relationship between Cooperative Agreement and Corporate Strategy

The corporate strategy may influence the number and type of cooperative agreements that the organization operates. Thus, an orga-

nization with little international experience, which chooses globalization, has more incentives to develop cooperative agreements with companies in its destination markets, since those companies know the factors that determine the functioning of the environment in which business is conducted and can even share their customer base and distribution (Hennart and Reddy 1997).

Different types of generic business strategies are used to characterize the strategic competitive behaviour of companies (Mintzberg 1973; Miles and Snow 1978; Porter 1980). The classification of Miles and Snow (1978) has been selected to analyse the strategic orientation of the firms due to the importance of changing in the current environment. Moreover, we can analyse the relation between the cooperative agreement and the company´s strategy as a result of theoretical studies and empirical analysis in the belief that business cooperation strategy is generally used to ensure the competitiveness of businesses in spite of the changes, which have taken place in recent years as a result of the globalization process.

Miles and Snow (1978) believe that all organizations adapt to the environment to a greater or lesser extent, and that this adaptation will be analyzed in the organization's 'adaptive cycle.' The changes occur as a reaction to business problems (product-market relationship), engineering problems (the organization's technical system) and administrative problems (structure and processes). Depending on the pace of change, four strategic directions can be defined (Miles and Snow 1978): (a) *prospectors* are companies, which are seeking new opportunities in market and product development, experimenting on a regular basis with actions to exploit emerging trends in the environment; (b) *defenders* are companies, which are trying to control the safe niches in their industries. They tend to concentrate on their product-market strategy, so do not require excessive adjustments to their structures, processes or technology; (c) *analysis* companies fall between the two aforementioned directions: they are not pioneers in responding to market change but neither are they reluctant to change; and (d) *reactor* companies' behaviour cannot be identified with any of the previous patterns, since they do not respond to changes in the environment.

When developing cooperative agreements, companies discuss alternatives means to traditional methods in order to develop their strategies, thus, in principle, seeking change. Clearly, given the enormous competition in the sector, companies need to adapt to any change occurring in the environment, and they must develop their dynamic capabilities (Eisenhardt and Martin 2000). In a similar way,

after having taken into account the dynamic nature of cooperation, Prahalad and Hamel (1990) considered that the long-term success of a cooperative agreement is derived from the organization's ability to renew its skills at a low cost, and to do well in less time than its competitors.

Therefore, we believe that if a company has greater adaptability to the changing environment then its profitability will increase, since these firms compete better than those that offer other products which do not have the latest requirements that have appeared on the market. Therefore, the firms´ response to environmental changes, that is, the organization's adaptive cycle, has influence on cooperative agreements´ success too.

Based on the aforementioned comments, we can state that the company's adaptability to new environmental circumstances will influence the efficiency of its cooperation strategy. We thus put forward the second scenario:

H2 *The degree of change in the company strategy is positively linked with successful cooperation.*

Koza and Lewin (2000) indicate that the main cause of cooperation failure is that of not evaluating the role of cooperation in the company´s strategy. Therefore, it is believed that cooperative agreement is an integral part of the company's strategy and must be coordinated with it, and that its basic principles must be respected to enable greater business efficiency. Medcof (1997) adds that if cooperative agreement evolves in the opposite direction to the company's strategy, this may influence its competitiveness. That is, if a company chooses an exploration agreement clearly, but its strategy is 'defender,' it will experience great difficulties in achieving its objectives, as it is not consistent for a company to attempt to seek new opportunities through a cooperative agreement if the company policy does not alter the product portfolio-market.

Reuer and Ariño (2007) suggest that the more important the alliance is in the company strategy, the more complex the agreement will be (Hagedoorn 1993), and the more it will affect organizational units of the company and will expose greater competitive risks.

The initial conditions of negotiation between partners show the purpose of the agreement, but this will change, along with the strategy, the company and its partner, and also the organizational, institutional and competitive environment since business cooperation is part of the organization's strategy and must evolve with it. After a partnership is formed, the partner firm may experience various

changes in its overall strategy or market competition, which may modify the value of partnership resources and, therefore, the potential profits of cooperative agreements. It is therefore justifiable to put forward a hypothesis with which to analyze the effect of the interaction between the strategic direction of the cooperative agreement and the corporate strategy on the cooperative agreement´s success.

H3 *The business strategy exerts a moderating effect on the relationship between the strategic orientation of cooperation and the success of the alliance.*

Methodological Framework

DATA COLLECTION METHOD

The companies of our population were identified through a review of national economic newspapers ('Cinco Dias' and 'Expansion'), along with their respective websites, for the period January 2001–December 2005. This process identified food businesses which planned to make some kind of cooperation agreement or which had just done so.

After conducting a pre-test with five companies in the sample, we prepared the final questionnaire, and the first mailing took place in April 2006 to 281 identified companies in the industry. After carrying out a second mailing, 52 valid questionnaires were collected in late November 2006, representing an 18.5% rate of response. To ensure that our sample of 52 companies was representative of the population and to evaluate any bias in the responses, we compared the results of those companies which initially responded with those that responded later, since it is estimated that the responses of the latter are more similar to those companies that do not respond (Armstrong and Overton 1977), and no significant differences were found.

VARIABLE MEASURES

The measure of the cooperative agreement success is complicated because there are various factors that hinder such a measure. Hoang and Rothaermel (2005) indicate that, although the result of an agreement is that of common benefit to all partners, it need not be equally distributed among the companies involved, due to their different characteristics. We could say that a cooperative agreement has been positive insofar as it attains the goals that have been proposed, so its success depends on the reasons that led individual firms to formalise it. Therefore, if the companies are different, then their evaluation of success when given the same result may also be differ-

ent. Therefore, we consider that cooperative agreement success is a subjective concept. This is why success is analysed by each partner. Therefore, following Ariño's (2003) example, we selected two operational measures: degree of satisfaction and degree of compliance with the goals that originated cooperation. Finally, the factorial loading of both variables present unidimensionality. For this reason, we used the average value of these variables

Satisfaction is a subjective concept that depends on many factors which can be applied to various fields. Therefore, we used a scale of 7 items in which we attempted to collect all those aspects relevant to our investigation and which would provide a suitable reliability. All of them used a Likert scale of 7 points (1 – totally disagree, 7 – totally agree).

With regard to the degree of compliance objectives, a scale of five items (transfer or knowledge and learning, access to resources and complementary capabilities, increase in competitive power, cost reduction/efficiency increased and customer satisfaction), has been developed, which seeks to collect the reasons that companies have for undertaking cooperative agreements (Kogut 1988; Hamel 1991; Saxton 1997; Gulati 1998; Duyster and Hagedoorn 2000; Pan 2004). Our aim is to discover the extent of compliance with these reasons in a Likert scale of 7 points (1 – degree of compliance achieved very low, 7 – very high degree of compliance).

In order to evaluate the exploration or exploitation factors of a cooperative agreement we have used six items which include theirs main characteristics. The respondent should evaluate the degree of importance in developing his/her partnership in each of the characteristics, according to a Likert scale of 7 points (1 – not significant, 7 – very important). The first two items are related to the concept of exploration agreements, and attempting to detect new opportunities through the processing of unknown information significantly increases the activity's risk. The same happens if we introduce new markets and businesses. The remaining items represent exploitation agreements, to the extent that the aim is to enhance or supplement the assets that the company already owns, while we also try to improve the firm's efficiency. This grouping must be confirmed in the data process.

The means used to assess the strategy was the paragraph method, which presented the respondent with an item with a Likert scale of 7 points (1 – very low level of change; 7 – high exchange level), which should reflect the level of changes in products and markets for the company. In order to facilitate the response, definitions of the four

TABLE 1 Analysis of Correlations between the Variables Used in the Model

Variables	1	2	3	4	5
1. Alliance success	1				
2. Exploration orientation	0.112	1			
3. Exploitation orientation	0.325*	0.032	1		
4. Company strategy	0.333*	0.105	−0.065	1	
5. Duration of the agreement	0.286*	0.236	0.023	0.017	1

NOTES * The correlation is significant with $p < 0.05$. Values are Pearson coefficients.

Miles and Snow strategies appeared in the questionnaire, with strategy A (defender) under score 1 of the Likert scale, strategy B (discussed) under score 4, strategy C (Prospector) under score 7, and finally an eighth box was provided for strategy D (reactors). Scores 2, 3, 5 and 6 represent intermediate situations chosen by those companies, which did not completely identify with any of the previous definitions. This method of attaching the definitions of strategies facilitated the companies' self-rating process, thus improving the study's content validity and reducing the amount of lost data.

HYPOTHESIS CONTRAST

Before contrasting the hypothesis in the model, we evaluated the properties of variables that it includes. The first step was to apply a principal components analysis with orthogonal rotation, depending on the varimax method, to the six items that made up the strategic orientation scale (table 5). This confirmed expectations outlined earlier, and there were two factors: the exploration factor (2 items) and the exploitation factor (4 items). Both factors have an acceptable reliability, to obtain a Cronbach α of 0.715 guidance for exploratory and exploitative guidance for 0.833. The Cronbach α of the scale of alliance success was 0.921.

With regard to the convergent validity, an analysis of bivariate correlations between variables of the model and other items included in the questionnaire that sought to assess the same concepts was carried out. The Pearson coefficients obtained show a significant relationship between the variables studied, so the model presented convergent validity.

In order to assess the discriminating validity we conducted an analysis of correlations among the different variables of the model. The data showed us that we had no colinearity, as the company's strategy did not maintain a significant correlation with any of the dimensions of the agreement's strategic orientation.

Once the reliability and validity of our variables had been proved,

TABLE 2 Cluster Analysis (ANOVA) to Cooperative Agreement Success

Variables	Cluster			Levene stat.	F	Post hoc (Scheffé)
	1 ($n = 4$)	2 ($n = 25$)	3 ($n = 22$)			
Cooperative Agreement Success	4.0607 (0.70531)	4.6724 (1.08996)	5.3930 (0.75991)	0.934	5.353**	1, 2 < 3*

NOTES Standard deviation in brackets. * Significant at $p < 0.05$. ** Significant at $p < 0.01$.

we began to compare our scenarios. By drawing on factors derived from the factor analysis applied to the strategic orientation scale of the agreement, we created an analysis of hierarchical conglomerates to attempt to bring the various companies together depending on the value of both factorials. After analyzing the scatter diagram and dendogram, we observed that there were four groups: (a) high ratings in the exploitation factor and low ratings in that of exploration; (b) average scores in the exploitation factor and medium-high in that of exploration; (c) high scores in the exploitation factor and medium-high in that of exploration; (d) low ratings in both factorials. However, we discovered that in the case of a conglomerate only (d) brought a company together, so we decided to delete it in order to implement certain post Anova analysis methods at a later stage. We thus decided to remove that value and to create a hierarchical cluster analysis of three conglomerates, taking the factor scores obtained as a variable.

We analyzed the characteristics of each group in a scatter diagram. So, the value 1 was awarded to firms developing agreements which were clearly exploiters, the value 2 was given to those that prevailed in explorer characteristics (despite having average scores in the factor operator) and the value 3 was awarded to businesses developing joint arrangements, in order to include the high ratings exploitation component and the medium-high exploration factor.

In order to discover whether there were any significant differences in the degree of success of the agreement on its own merits, we proceeded to perform an analysis to detect whether there was any ANOVA homogeneity of variance among companies for the different variables.

The data collected in table 2 show that the Levene statistical is not significant, thus showing that there is homogeneity of variances between different groups for the variable studied. Once this condition was fulfilled, we were able to obtain statistical F, which, through its degree of significance, showed that there were differences in the means of success data among different groups. In order to verify be-

tween which groups said differences had appeared, we carried out the post hoc Scheffé test, which discovered significant differences between groups 1 and 2 with regard to Group 3. In other words, companies that develop cooperative agreements and obtain high scores for the exploitation factor and medium-high exploration factor attain greater success than the rest. Thus, we can say that the agroalimentary firms in our sample obtained greater success when they formed cooperative agreements in which exploration and exploitation components played an important role.

To discover whether there was causation between the variables analyzed in the aforementioned ANOVA analysis, and knowing the direction of this relationship, we applied a multiple linear regression analysis in stages. The dependent variable is the alliance success. First, a variable control (duration of the agreement) was introduced as the only independent variable, which measured whether the duration of the agreement was accurately known. Subsequently, in Model 2, we incorporated dummies which converted the variables obtained from the previous hierarchical cluster analysis into categorical metrics. We therefore took two dummies, leaving that cluster which presented a minor success (the group which represented the exploitation agreements) as a variable reference.

By incorporating these dummies we noted, as has previously been explained, a 13.3% additional variability success of the alliance (table 4). In addition, increased F is significant for a confidence level of 95%. We thus verified that the strategic orientation of the agreement has a significant influence on its success. If we interpret the non-standardized coefficients, we perceive that the greatest success lies with joint agreements (positive factors) as we pointed out in the ANOVA analysis. We therefore obtain empirical support for hypothesis 1.

Having demonstrated the direct relationship, we shall now attempt to consider whether it is constrained by the generic strategy that the company undertakes as according to the Miles and Snow typology. However, it is first necessary to analyse the relationship strategy of the company-alliance success, by identifying whether there are any significant differences in the success of the agreements between companies which are developing different types of strategies. Depending on the item which assesses the company's strategy, we find three groups. 3 companies have opted for score 1, so we believe they are developing a 'defender' strategy. The 27 entities which selected scores 2, 3 and 4 are classified into one group and are developing an 'analyse' strategy. Finally, the 22 companies that chose values 6 and

TABLE 3 Cluster Analysis (ANOVA) to Cooperative Agreement Success

Variables	Cluster			Levene stat.	F	Post hoc (Scheffé)
	1 ($n = 27$)	2 ($n = 22$)	3 ($n = 3$)			
Cooperative Agreement Success	4.4722 (1.10587)	5.3564 (0.73400)	5.1633 (0.71162)	1.300	5.398**	1 < 2**

NOTES Standard deviation in brackets. * Significant at $p < 0.05$. ** Significant at $p < 0.01$.

7 are developing a 'prospector' strategy. Thus, the alternative option in the questionnaire (the strategy representing 'reactor') was not selected by any entity. After classifying the enterprises into these three groups, we then needed to assess whether there were any significant differences between them as regards their degree of success, and an ANOVA analysis was carried out to contrast them, followed by a subsequent post-hoc Scheffé to identify between groups in which the same situation occurs.

The Levene statistical is not significant and we therefore believe that the three groups presented homocedasticity with regard to the success of the alliance. This allows us to calculate the statistical F that is significant ($p < 0.01$). By applying the post hoc Scheffé test, we attain that differences occur between analyse and prospects companies, with a higher success rate in the latter, i. e. companies which commit to change and continuous innovation attain greater success in their cooperation strategy than those which, in spite of making changes to their product ranges and/or services, are more conservative. However, there are no differences between the remaining groups.

Once the differences in the means between companies with different types of strategy had been detected, it was necessary to analyze whether the strategy had a significant influence on determining the success of the alliance, and any moderating influence on the relationship between the strategic direction of agreement and success. To that end, and using model 2 (table 4) as a base, we introduced two dummies, through reference to cluster 1 which represented the firms in question, and obtained the lowest average value of success. This showed that increasing the statistical F is significant, thus helping to explain a further 13.2% of the variability of the company's strategy. If we observe the non-standardized coefficient, we will note that it is the highest value corresponding to prospective companies, followed by defenders, as we pointed out in the ANOVA analysis. It was thus perceived that the more the company seeks to innovate and adapt to new environmental conditions the more successful its business co-

operation strategy will be. We therefore obtain empirical support for hypothesis 2.

Finally, effective interaction between the dummies representing the company's strategy and the strategic orientation of the agreement are introduced in Model 4. In this case, increasing the statistical *F* to incorporate these interactions is not significant, so the interaction between these two variables does not help to explain the success of the agreements. Model 4 features a large multicolinearity, IVF with values exceeding 16 and several near auto values of 0, which means that the value of the corrected variability previously explained is even worse.

This may be due to the characteristics of the variables used, since dummies were used to measure both concepts, making the large interpretation of data difficult owing to the introduction of the interaction effect. However, when the correlation between variables was tested during this model's first stages there were no significant relationships between the company's strategy and the two dimensions of the strategic orientation of the agreement.

If we change the reference variables used to build the dummies, i. e. both the strategic direction of the agreement as the company's strategy and carry out the potential addition of 5 models, we obtain the same conclusions as the previous model. Therefore, due to the characteristics of our variables, empirical support for hypothesis 3 is not obtained.

After analyzing this model, we can conclude that empirical support is obtained for hypotheses 1 and 2, but not for hypothesis 3.

Conclusion and Discussions

By linking different types of agreements, according to their strategic direction, with their success we obtain that joints agreements (with a considerable presence of exploration and exploitation features) lead to a higher rate of success. This finding has implications for corporate governance. Thus, if company managers decide to initiate cooperative agreements we should seek to provide them with both types of factors in order to generate new opportunities with which to exploit them, and they and their partners will, therefore, later obtain more satisfaction and achievement of objectives. Of course, this depends on the reasons why the companies are cooperating, since if it is only to obtain access to their partners' resources and complementary capabilities then the company will only provide the exploitative features agreement.

The company's adaptability to the environment also influences the

TABLE 4 Analysis of Multiple Linear Regression in Stages

Variables	Model 1		Model 2		Model 3		Model 4	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Constant	4.663	25.213***	3.957	8.479***	3.769	8.577***	3.944	7.622***
Agreem. duration	0.603	2.191**	0.415	1.546	0.433	1.731*	0.440	1.668
Explorers (2)			0.566	1.136	0.421	0.902	0.178	0.316
Joint (3)			1.191	2.333**	0.964	2.003*	0.826	1.416
Prospective (2)					0.732	2.924**	0.027	0.027
Defender (3)					0.829	1.309	0.676	0.723
Explorers × prospective							0.853	0.786
Explorers × Defender							0.638	0.581
Joint × Prospective							0.330	0.250
Joint × Defender							0.016	0.092
F	4.802**		4.468**		4.921***		3.007**	
R^2	0.089		0.222		0.353		0.364	
Adjusted R^2	0.071		0.172		0.282		0.243	
Increased R			0.133		0.132		0.011	
Increased F			4.007**		4.578**		0.235	

NOTES (1) non-standardized coefficient, (2) t-value.
* Significant at $p < 0.1$. ** Significant at $p < 0.05$. *** Significant at $p < 0.001$.

effectiveness of cooperation. Therefore, it has been discovered that as the pace of change in the company to adapt to the changes produced in the environment increases, the success of cooperation also increases. Thus, the company's flexibility becomes one of the most important factors in successful cooperation. However, despite the fact that the company's strategy has a direct bearing on the significant success of the agreement, we do not obtain any empirical support for its moderating effect on the relationship between the strategic orientation of the agreement and that agreement's success because the model has a high 'multicolinearity.' We can, therefore, only conclude that the necessary changes to accommodate the continuous changes of environment will be introduced into the undertaking as quickly as possible to ensure the cooperative agreement success.

One of the possible causes of this 'multicolinearity' may be measurement errors in the scales or the use of excessive dummies. However, the correlation between dimensions of these two variables shows no significance. Another reason could be that, owing to the flexibility accorded to the company, cooperative arrangements are sometimes developed to suit the changing environment, so in this case the strategic orientation of the agreement would coincide with the method used to assess the company strategy. In addition, the

average size of companies in our sample is small (63.3% have fewer than 50 employees) so they usually have cooperative arrangements and the company's strategy is developed from senior management, and it does therefore not contain different notions of the agreement between strategic direction and the company's overall strategy. This study would acquire more relevance in large companies in which the agreement is handled from a strategic business unit and generic strategy is developed centrally. In this case, it would be possible for disputes to be submitted. Despite this, the importance of adapting the conditions of the cooperative agreement to the evolution of both the company's strategy and also to that of its partner seems clear, so it is essential to provide a flexible agreement.

We believe that the major contributions made by this work are: (a) it analyzes business cooperation in an area which is ripe for low technological intensity; (b) it integrates the company's strategy in the study of successful business cooperation; and (c) it detects that cooperation agreements must seek a balance between their exploration and exploitation components if they are to become more efficient.

This work represents a first approach towards exploring business cooperation in the Spanish agro-food industry. We are now broadening this analysis in order to avoid the various limitations cited below: (a) cooperation is not a widely used strategy among agro enterprises so the first drawback is the small research population, which hampers the use of more sophisticated statistical techniques such as structural equation; (b) the results are only applied to the Spanish agro-food industry because the companies studied belong solely to this industry; and (c) the study may present a slight bias towards large companies owing to the method selected for choosing the population (financial press).

Based on the aforementioned limitations, one of our goals is to increase the sample size to more sectors in order to generalize the results. We therefore consider it appropriate to study the cooperative behaviour in other non-technologically-intensive sectors. At a later stage, we intend to repeat the study in highly technological sectors in order to make comparisons between the 'means behaviour' of cooperation between different sectors and to obtain the importance of the technological component in the relationship described in the model. In addition, in order to complete the vision of the importance of the company's strategy in the success of the business co-operation we believe it appropriate to analyse the strategic adjustment that occurs between partners of an agreement, since the partner's strategy may also influence the efficiency agreement. On this way, coopera-

tion agreements will have a better chance of success, insofar as there is a high level of alignment between the partners, in the following dimensions: strategic, organizational, operational and cultural development. Therefore, partners must make adjustments if at least a comparable basic knowledge is to exist between them, and opportunistic behaviour must be avoided (Colombo 2003).

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Managerial Coaching Model and the Impact of its Activities on Employee Satisfaction and Company Performance

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The article tries to answer the research question: What is the potential additive effect on employee satisfaction and overall company performance when using managerial coaching model and its activities? The purpose of the article has been to form a model of managerial coaching and of the influence of its activities on employee satisfaction and overall company performance based on theory review and field study results. We have confirmed the two main hypotheses and all the secondary hypotheses with two empirical studies, one focused on the managers and the other on the employees. The topic is of practical value and it will help managers in Slovenia and abroad to understand the effect of the activities of coaching on employee satisfaction and overall company performance.

Key words: coaching, employee satisfaction, company performance, management, model

Introduction

Economy has shown its extreme instability in recent years. It is becoming increasingly difficult to reach the set goals. On the other hand, this crisis presents an excellent opportunity to increase the company's performance. Investing in human capital is nowadays the most lucrative and also the safest – the human capital can be endlessly ennobled, its value can only increase and, most importantly, it is the only form of capital that cannot be stolen (Mihalič 2006, 1). People, therefore, are becoming more and more important in the

company; managers and employees alike represent the company's advantage over others. It is important that employees feel well when doing their job, are motivated, or satisfied. Of equal importance is manager's correct usage of his or hers managerial skills as it effects employee satisfaction and company performance. The purpose of the article has been to form a model of managerial coaching and of the influence of its activities on employee satisfaction and overall company performance based on theory review and field study results.

Theoretical Framework

There are many factors (Turk et al. 2001; Dimovski and Penger 2008; Arens and Loebbrecke, 2000; Vukasović and Ružman 2013; Forte 2014) that influence company performance. It is inherent that all employees have good understanding of the strategy of their company and of the key initiatives in place in order to realize said strategy; the management also has to implement suitable ways of measuring performance. When measuring, it is of key importance to measure in a manner the employees understand (Cokins 2006, 42).

Skilled personnel is therefore one of the key factors in achieving company performance. A successful business pays a lot of attention to training its staff and updating their practices. It also encourages employees. A successful operation is based on teamwork, i. e. all the team members pursue the same goals and values.

Measuring company performance is of key importance to be able to strategically update, train, and change the company. If incorrect indicators are used for measuring company performance, there is no drive for change. Choosing correct indicators for measuring company performance is therefore very important, because the managers and the leadership base their actions on those measurements.

Based on company performance definition and theoretical basis for its measurement, we define the following key indicators of company's performance: (i) cost management, (ii) product profitability, (iii) profit, (iv) income growth, (v) cash flow, (vi) customer satisfaction, retention and acquisition, and (vii) employee satisfaction, retention and productivity. There have already been several measurement instruments described in available literature (Bodlaj 2009; Gruca and Rego 2005; Arh 2010; Jorritsma and Wilderom 2012; Burian et al. 2014); we have modified the established measurement scales to fit our study.

Employee satisfaction is a complex concept; it demands knowledge and various skills for its interpretation. It is the sum of partial

(dis)satisfactions that sway one way or the other. Authors have different definitions of employee workplace satisfaction (George and Jones 1996, 70; Hollenbeck and Wright 1994, 176; Cahill 1996, 164; Maister 2003, 272; Oakley 2004, 15; Topolsky 2000, 128). Managerial aspect of employee satisfaction forms one of the basic constructs in our study (constructs in the coaching framework, employee satisfaction construct and company performance construct).

Every manager who wants to pride himself with his business achievements knows that satisfied employees are a key prerequisite. A manager and a company are only as strong as the human capital in it.

Numerous studies (Pohlmann 1999; Oswald and Clark 1996; Desmarais 2005; Parent-Thirion et al. 2007; Škerlavaj et al. 2007) have been carried out in order to determine the factors that influence employee satisfaction. People are different: what one may perceive as satisfactory the other perceives as dissatisfactory. Lawler (1994, 83) states that there is an infinite number of factors, just as there is an infinite number of needs.

Our study focused on managerial aspects of employee satisfaction. Based on that and the theoretical framework describing measurement of employee satisfaction, we define the following factors of employee satisfaction: (i) job content, (ii) individual creativity, (iii) salary, extras and benefits, (iv) organization of work, (v) teamwork, (vi) working conditions, (vii) independence at work, (viii) job stability and safety, safety at the workplace, (ix) relationships, (x) possibility for training and education, (xi) ownership participation, (xii) communication, (xiii) personality, and (xiv) societal influences. We used the stated factors when measuring employee satisfaction. We used established measurement scales in the available literature (Porter and Steers 1973; Brayfield and Rothe 1951; Cammann et al. 1983; Gounaris 2006) and modified them to fit our study.

Company performance from the managerial point of view can be improved with employees that are satisfied with their job. The other basis of every successful business, in our opinion, is employing qualified people that are able to take part in highly creative and successful teams and are instrumental in realization of the company's strategic plan.

In recent years, many companies (and especially managers) in the United Kingdom and Western Europe have started studying and implementing coaching in order to contribute to: (i) personal and professional development of the employees, (ii) building pleasant relationships, (iii) building career, (iv) managing the business, (v) plan-

ning the development, (vi) setting of strategic goals, (vii) setting of business plans, (viii) building of values, and, last but not least, (ix) employee workplace satisfaction.

The word 'coach' originates in the French word 'coche', which means a carriage. In the past 'coaching' was used to describe travelling with a carriage. 'Coach' is therefore a vehicle that drives an individual or a group 'from a starting point to a suggested goal' (Stemberger 2008).

There are various definitions of managerial coaching (Čeč 2006; Megginson and Clutterbuck 2007; Lehinsky 2007; Stemberger 2008). We could say there are as many definitions of coaching as there are schools for it. Stemberger (2008) claims that the key element that differs coaching from other disciplines that help individual employees and companies to evolve, is the manager – coach that helps each individual and company to find an independent solution that leads in the right direction. The manager does not consult on the best path, but instead helps employees get there on their own.

Managerial coaching, in our conviction, is a process in which coaching has to become a way of private as well as professional life. Coach has to see the potential in his employees, see what they can evolve into. The key mission a coach has is guiding employees so they can take advantage of their hidden talents and skills, and creating an environment that drives employees to evolve into better and more successful people.

Authors (e. g. Jarvis 2006) are citing numerous advantages and benefits of managerial coaching: (i) progress in mission, (ii) progress in activity reflection, (iii) increased self-awareness and awareness of consequences of actions, (iv) progress in balanced decision making when multitasking, and, (v) progress in communication.

Our study defines managerial coaching as a method that provides support and opportunity for consulting to individual employees as well as entire staff by managers – coaches so that individual employees and entire staff become aware of the way to improve their job performance and workplace satisfaction. Determining activities that are the foundation of measurements of effectiveness of coaching is of key importance; it is the only way to bring focus to actions that can bring desired effects and results. Based on definition and theoretical foundation for measuring managerial couching we defined the following activities (constructs) of managerial couching: (i) empathy, (ii) assertive communication, (iii) decision making ability, (iv) strategic thinking, (v) delegation, (vi) work optimization, (vii) broadening of horizon, (viii) conflict resolution, (ix) effective meet-

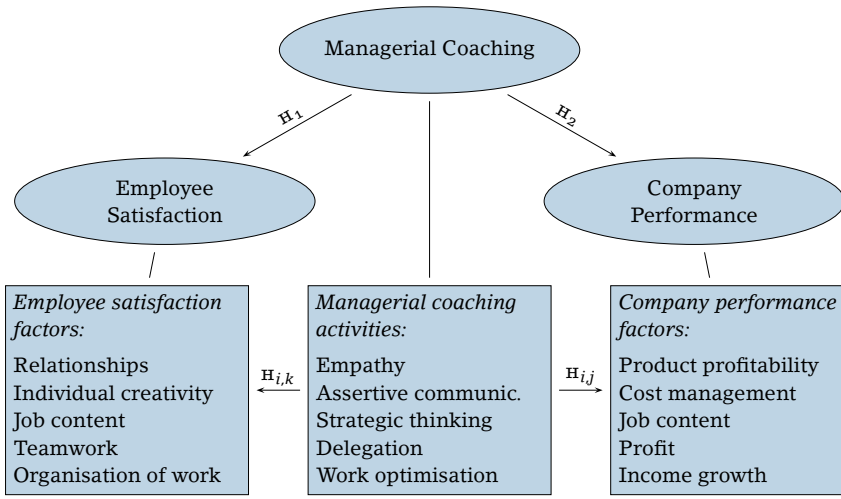

FIGURE 1 Managerial Coaching Model

ing conduction, (x) improved public appearance skills, and (xi) increased employee's commitment to the company. We used the stated activities to measure managerial coaching effectivness. We used established measuring instruments and scales (Spector 1997; Gounaris 2006; Možina 1992; Boles et al. 2007; Covin, Slevin and Schultz 1994; Porter and Steers 1973) for measuring managerial couching effectiveness and modified them to study the effect of managerial couching on employee satisfaction and company performance. Based on the available literature, studies already carried out, and established measurement scales, we developed a model of managerial coaching and of the effects of its activities on employee satisfaction and on company performance. Figure 1 presents our managerial coaching model.

It stems from the thesis: companies can, with some care put into implementing components of managerial coaching model, significantly influence employee satisfaction and company performance. We took five managerial coaching constructs and measured their effect on the constructs of employee satisfaction and company performance. That was followed by analysis of the effect of the five managerial coaching constructs on five components of employee satisfaction construct and on four components of the company performance construct.

With this model, the management will be able to use new criteria of company performance that were traditionally 'hidden' and, in our

opinion, represent untapped potential for increasing added value in company's business.

The purpose of the empirical part of our study was to use the managerial coaching model to determine and present guidelines that managers can use to extract the best possible results from their employees, and to suggest a managerial style that will result in better employee satisfaction, more efficient managers and higher company performance.

Methodology

Here we describe empirical testing of the managerial coaching model and the hypotheses that we had posed. The empirical starting point was designing measuring instruments (both for managers and employees) and compiling a sample of companies in Slovenia with more than ten employees. The study is based on the theoretical foundation, managerial coaching model, both discussed above, research methodology, and on the thesis, the two main hypotheses and the secondary hypotheses $H_{i,j}$ and $H_{i,k}$ ($i = 1, 2, 3, 4, 5$; $j = 1, 2, 3, 4, 5$; $k = 1, 2, 3, 4$).

As stated in the article, we deal with human resources. After reviewing available literature in the field and synthesizing the knowledge into new realizations, we tried to answer the fundamental research question: *What is the potential added effect of using managerial coaching model and its activities on employee satisfaction and company performance?*

Thesis

The thesis tries to answer the research question. It states:

> *Companies can, with some care put into implementing components of managerial coaching model, significantly influence employee satisfaction and company performance.*

To confirm the thesis we tested the following two hypotheses:

H_1 *Implementing managerial coaching model positively influences employee satisfaction.*

H_2 *Implementing managerial coaching model positively influences company performance.*

We tested the correlation among the constructs of coaching and the individual components of employee satisfaction and company performance:

$H_{i,j}$ *Implementing activity i of the managerial coaching model positively influences factor j of the employee satisfaction.*

$H_{i,k}$ *Implementing activity i of the managerial coaching model positively influences factor k of the company performance.*

$i = 1, 2, 3, 4, 5$; $j = 1, 2, 3, 4, 5$; $k = 1, 2, 3, 4$. Here we state all the $H_{i,j}$ and $H_{i,k}$ hypotheses we tested in order to confirm the two main hypotheses and, consequently, the thesis. We separately state the secondary hypotheses we tested on the sample of managers and the sample of employees.

The sample of managers was tested for the following hypotheses:

H_1 *Implementing managerial coaching model positively influences satisfaction of managers.*

Construct *i* of managerial coaching model positively influences satisfaction of managers.

H_{11} *Empathy positively influences general satisfaction of managers.*

H_{21} *Assertive communication positively influences general satisfaction of managers.*

H_{31} *Strategic thinking positively influences general satisfaction of managers.*

H_{41} *Delegation positively influences general satisfaction of managers.*

H_{51} *Work optimization positively influences general satisfaction of managers.*

H_2 *Implementing managerial coaching model positively influences company performance.*

Construct *i* of the managerial coaching model positively influences company performance.

H_{12} *Empathy positively influences company performance.*

H_{22} *Assertive communication positively influences company performance.*

H_{32} *Strategic thinking positively influences company performance.*

H_{42} *Delegation positively influences company performance.*

H_{52} *Work optimization positively influences company performance.*

1st construct of coaching – empathy – influences individual components of company performance.

H_{12a} *Empathy positively influences product profitability.*

H_{12b} *Empathy positively influences cost management.*

H_{13c} *Empathy positively influences profit.*

H_{14d} *Empathy positively influences income growth.*

2nd construct of coaching – assertive communication – positively influences individual components of company performance.

H_{21a} *Assertive communication positively influences product profitability.*

H_{22b} *Assertive communication positively influences cost management.*

H_{23c} *Assertive communication positively influences profit.*

H_{24d} *Assertive communication positively influences income growth.*

3rd construct of coaching – strategic thinking – influences individual component of company performance,

H_{31a} *Strategic thinking positively influences product profitability.*

H_{32b} *Strategic thinking positively influences cost management.*

H_{33c} *Strategic thinking positively influences profit.*

H_{34d} *Strategic thinking positively influences income growth.*

4th construct of coaching – delegation – influences individual components of company performance.

H_{41a} *Delegation positively influences product profitability.*

H_{42b} *Delegation positively influences cost management.*

H_{43c} *Delegation positively influences profit.*

H_{44d} *Delegation positively influences income growth.*

5th construct of coaching – work optimization – influences individual components of company performance,

H_{51a} *Work optimization positively influences product profitability.*

H_{52b} *Work optimization positively influences cost management.*

H_{53c} *Work optimization positively influences profit.*

H_{54d} *Work optimization positively influences income growth.*

As stated, the sample of managers was tested for the following correlations among: (i) the coaching constructs and general satisfaction of managers (H_{11} through H_{51}), (ii) the coaching constructs and company performance construct (H_{12} trough H_{52}), and (iii) the coaching constructs and individual components of company performance (H_{11a} through H_{54d}).

The sample of employees was tested for the following hypotheses:

H_1 *Implementing managerial coaching model positively influences employee satisfaction.*

Coaching construct *i* influences employee satisfaction.

H_{11} *Empathy positively influences employee satisfaction.*

H_{21} *Assertive communication positively influences employee satisfaction.*

H_{31} *Strategic thinking positively influences employee satisfaction.*

H_{41} *Delegation positively influences employee satisfaction.*

H_{51} *Work optimization positively influences employee satisfaction.*

1st coaching construct – empathy – influences employee satisfaction.

H_{11a} *Empathy positively influences relationships.*

H_{12b} *Empathy positively influences individual creativity.*

H_{13c} *Empathy positively influences job content.*

H_{14d} *Empathy positively influences teamwork.*

H_{15e} *Empathy positively influences organization of work.*

2nd coaching construct – assertive communication – influences employee satisfaction.

H_{21a} *Assertive communication positively influences relationships.*

H_{22b} *Assertive communication positively influences individual creativity.*

H_{23c} *Assertive communication positively influences job content.*

H_{24d} *Assertive communication positively influences teamwork.*

H_{25e} *Assertive communication positively influences organization of work.*

3rd coaching construct – strategic thinking – influences employee satisfaction.

H_{31a} *Strategic thinking positively influences relationships.*

H_{32b} *Strategic thinking positively influences individual creativity.*

H_{33c} *Strategic thinking positively influences job content.*

H_{34d} *Strategic thinking positively influences teamwork.*

H_{35e} *Strategic thinking positively influences organization of work.*

4th coaching construct – delegation – influences employee satisfaction.

H_{41a} *Delegation positively influences relationships.*

H_{42b} *Delegation positively influences individual creativity.*

H_{43c} *Delegation positively influences job content.*

H_{44d} *Delegation positively influences teamwork.*

H_{45e} *Delegation positively influences organization of work.*

5th coaching construct – work optimization – influences employee satisfaction.

H_{51a} *Work optimization positively influences relationships.*

H_{52b} *Work optimization positively influences individual creativity.*

H_{53c} *Work optimization positively influences job content.*

H_{54d} *Work optimization positively influences teamwork.*

H_{55e} *Work optimization positively influences organization of work.*

As stated, the sample of employees was tested for the correlation among: (i) the coaching constructs and the employee satisfaction construct (H_{11} through H_{51}), and (ii) the coaching constructs and individual components of employee satisfaction (H_{11a} through H_{55e}).

The Course of the Study and the Research Methodology Used

The course of the study we describe here is based on the theoretical foundation discussed above. That gave us the contextual foundation for our model of managerial coaching and of the effect of its activities on employee satisfaction and company performance. We then designed the model and proceeded to carry out a preliminary quantitative study to analyze and evaluate existing measurement scales dealing with individual managerial coaching constructs, employee satisfaction construct and company performance construct, as well as individual components of the employee satisfaction construct and of the company performance construct. We based the design of our measurement instrument on the expertise of Spector (1997), Gounaris (2006), Možina (1992), Porter and Steers (1973), and others. We also used other information we gained with an in depth examination of the available literature on the topic of coaching, employee satisfaction, company performance, and their interconnections.

Measurement of the influence the coaching activities exert on employee satisfaction and company performance was based on a combination of activities, factors and indicators found in existing scales available in the literature. The final measurement instruments were combined from coaching constructs, employee satisfaction construct, company performance construct, their components and one one-dimensional variable:

1. *Coaching constructs:* empathy, strategic thinking, assertive communication, delegation, work optimization;
2. *Employee satisfaction construct;*
3. *Employee satisfaction construct components:* job content, individual creativity, organization of work, teamwork, relationships;
4. *Company performance construct;*

5. *Company performance construct components:* cost management, product profitability, profit, income growth;
6. *One-dimensional variable:* general satisfaction.

Having designed the two measurement instruments, we then verified their contextual validity. We chose a test sample and tested the two measurement instruments and evaluated their dimensionality, reliability, discriminatory and convergent validity. The goal of the test study and the actual study was to determine dimensionality. In order to achieve that, we performed exploratory factor analysis (EFA) and confirmatory factor analysis (CFA), as suggested by Gerbing and Anderson (1988, 187–90).

The main empirical study was based on measurements taken in February and March of 2014; it was a cross-sectional study. We first collected the data via electronic polling on the chosen sample. The collected data was then processed using the following software: (i) IBM SPSS 21.0 (basic analysis, EFA, OLS regression – hypotheses testing), (ii) IBM SPSS AMOS 20.0 (CFA) and (iii) Microsoft Excel 2010 (basic analysis). For data processing we predominantly used uni- and multi-variate processing methods. The univariate analysis of the data or the descriptive statistical analysis of coaching, employee satisfaction and company performance, was followed by combining individual components and their factors into constructs. Next, we tested the hypotheses of managerial coaching model. We tested it using regression analysis on the level of constructs and on the level of their individual components. We first defined the main constructs (the managerial coaching constructs, the employee satisfaction construct and the company performance construct) using multiple variables – components; we later transformed those into a multidimensional variable using factor analysis producing one or two factors. Based on results we determined whether coaching activities influence employee satisfaction and company performance using regression analysis. Next, we tested for connections among individual coaching constructs and individual components of the employee satisfaction construct and the company performance construct. As stated above, we limited ourselves to testing only the influence of an individual coaching construct on an individual component of employee satisfaction and company performance and not vice-versa.

We present the results of the two empirical studies below: (i) quantitative study on the sample of managers, who are coaches in their companies, and (ii) quantitative study on the sample of employees. Based on the result of these two studies and the managerial coach-

ing model, we tested the two main hypotheses and the secondary hypotheses ($H_{i,j}$ and $H_{i,k}$; $i = 1, 2, 3, 4, 5$; $j = 1, 2, 3, 4, 5$; $k = 1, 2, 3, 4$).

Quantitative Study on the Sample of Managers

The final measurement instrument (questionnaire) for managers was comprised of questions, statements and scales for: (1) coaching activities, (2) general satisfaction, (3) company performance from financial standpoint compared with competition, and (4) general properties of the company. The questionnaire contained 32 questions and statements, with demographical details included.

We first determined the sample for the study. We decided to include businesses with more than 10 employees. Using randomization, the final sample consisted of 2,800 businesses: 1,700 small, 745 mid-sized and 355 large businesses. We got responses from 571 managers. The acquired data was the basis for testing the main and secondary hypotheses.

Here we present the general characteristics of the businesses included in the study. Of the included businesses, 84% were service companies, 4% were production companies, and 12% were commercial companies. Based on the Slovenian Companies Act ('Zakon o gospodarskih družbah' 2006), 53% of the included companies were small, 25% mid-sized, and 22% were large. We also gathered data about the level of management from the managers' standpoint. Of the responding managers, 46% were considered top level management, 31% mid-level, and 23% low level; 13 of them (2%) did not answer the question. Considering the seniority of the respondents, 52% had seniority of 21 years or more and only 2% had less than a year of seniority.

In table 1, we present a summary of results of statistical analysis for basic constructs that were used for testing the main and the secondary hypotheses. This table presents the results we got using CFA analysis and serves as a foundation for testing the main and the secondary hypotheses.

Quantitative Study on the sample of Employees

The final questionnaire for the employees was comprised of questions, statements and scales for: (1) coaching activities, (2) general satisfaction, (3) employee satisfaction, and (4) employee's demographic details. The questionnaire contained 32 questions and statements, demographic details included.

We received 728 responses to our questionnaire. Acquired data

TABLE 1 The Summary of Results of Statistical Analysis of Main Constructs

Constucts	Statement/component	(1)	(2)	(3)	(4)
Empathy	I can manage emotions of others (advise, soothe). (Q2a)	0.238	0.487	0.73	0.41
	I can defend my point of view; I am a good leader. (Q2b)	0.558	0.683		
	I can influence employees without creating pressure. (Q2c)	0.384	0.620		
	I usually help other employees. (Q2e)	0.467	0.747		
Assertive communication	I carefully listen to the employee I am discussing with and understand what he wants to communicate to me. (Q4b)	0.642	0.801	0.91	0.73
	I am capable of being diplomatic even in tense situations. (Q4c)	0.751	0.866		
	I can say 'No' depending on the situation. (Q4e)	0.685	0.828		
	Employees perceive my communication style as clear and comprehensible. (Q4f)	0.835	0.914		
Strategic thinking	I can foresee the need for different information sources (Q3b)	0.406	0.637	0.89	0.62
	I can morph my wishes into realistic goals. (Q3d)	0.651	0.807		
	I can define the necessary work stages. (Q3e)	0.742	0.861		
	I can prepare a business plan. (Q3f)	0.727	0.853		
	Cause-consequence links interest me. (Q3g)	0.579	0.761		
Delegation	I can delegate evenly among the employees. (Q5a)	0.672	0.820	0.92	0.75
	When delegating I provide enough information. (Q5b)	0.674	0.821		
	I inform employees of changes and news in the company. (Q5c)	0.735	0.857		
	Upon completion of delegated task I check its effectiveness. (Q5d)	0.918	0.958		
Work optimization	I can simplify work process. (Q6a)	0.870	0.933	0.95	0.84
	I can correctly assign responsibility based on employee's abilities. (Q6b)	0.959	0.979		
	I can correctly select and set up work tools. (Q6c)	0.798	0.893		
	I can select fitting operators. (Q6d)	0.736	0.858		
Company performance	Product profitability – ROI (Q14a)	0.747	0.864	0.96	0.86
	Gross profit – EBIT (Q14b)	0.948	0.973		
	Cost management (Q14c)	0.854	0.924		
	Income growth (Q14d)	0.880	0.938		

NOTES Column headings are as follows: (1) R^2, (2) λ coefficient, (3) composite reliability, (4) average variance extracted.

was the foundation for testing the main and the secondary hypotheses.

Here we present the general characteristics of the responding employees. Eighty-three percent of them worked in service companies, 10% worked in production companies, and 7% worked in commercial companies. The majority worked in small companies (48%), 38% in mid-sized, and 14% in large companies. Half of them were employed as independent professionals, 33% as operative chiefs and 16% as operators; 1% was employed in different positions: one in administration and six as professional assistants. Thirty-one percent of responding employees had more than 21 years of seniority, 24% had 6–9 years, 2% had less than one year, and 1% had 16–20 years.

In table 2, we present the summary of results of statistical analysis of main constructs we used for testing the main and the secondary hypotheses. This table presents results we got using CFA analysis and served as a basis for testing the main and the secondary hypotheses. We review the results of the testing of the main and the secondary hypotheses and present the final model of managerial coaching below.

Results of the Testing of the Main and the Secondary Hypotheses Based on the Study Results

In table 3 and table 4, we summarize the results of the testing of the main and the secondary hypotheses, based on the two studies presented above. We present the results of regression analysis.

Table 3 shows we have confirmed hypotheses H_1 and H_2, which means we have confirmed the correlation among individual coaching constructs and the employee satisfaction construct (based on one-dimensional variable) and also confirmed the correlation among individual coaching constructs and company performance construct. We have also confirmed hypotheses H_{11} trough H_{51} and H_{12} trough H_{52} entirely, which means that the correlations among individual coaching constructs and constructs of employee satisfaction and company performance are appropriate and possible. Last but not least, we have confirmed secondary hypotheses (H_{11a} through H_{54d}) meaning we have confirmed the correlations among the coaching constructs and individual components of company performance.

In table 4 we can see we have confirmed H_1, which means we have confirmed the correlation among individual coaching constructs and the employee satisfaction construct. Confirming hypotheses H_{11} through H_{51} means that correlations among individual coaching constructs are appropriate and possible. Having confirmed all of the

TABLE 2 The Summary of Results of Statistical Analysis of Main Constructs

Constucts	Statement/component	(1)	(2)	(3)	(4)
Empathy	My superior can manage emotions of others. (Q2a)	0.686	0.829	0.85	0.60
	My superior can defend his point of view; he is a good leader. (Q2b)	0.505	0.711		
	My superior can influence us. employees. without creating pressure. (Q2c)	0.673	0.820		
	My superior recognizes his and other people's emotions. (Q2d)	0.516	0.718		
Assertive communication	My superior is able of being diplomatic even in tense situations. (Q4c)	0.780	0.883	0.96	0.87
	My superior can say 'No' depending on the situation. (Q4e)	0.865	0.930		
	My superior is always clear and comprehensible in his responses. (Q4f)	0.906	0.952		
	My superior does not lobby. (Q4g)	0.926	0.962		
Strategic thinking	My superior often comes to independent conclusions. (Q3c)	0.470	0.686	0.92	0.74
	My superior can morph wishes into realistic goals. (Q3d)	0.798	0.893		
	My superior can define work stages well. (Q3e)	0.966	0.983		
	My superior can prepare a business plan. (Q3f)	0.712	0.844		
Delegation	My superior delegates tasks evenly. (Q5a)	0.839	0.916	0.98	0.92

Continued on the next page

secondary hypotheses H_{11a} through H_{55e}, we confirmed the correlations among the coaching constructs and individual components of employee satisfaction.

Having confirmed all of the posed hypotheses we can also confirm the thesis and state that companies can, with some care put into implementing components of managerial coaching model, significantly improve employee satisfaction and company performance.

Our recommendations to managers are: (i) measure the influence of coaching activities on employee satisfaction and company performance more frequently, based on those measurements the management can improve employee satisfaction and company performance, (ii) managerial coaching is, in our opinion, often overlooked but it can provide a way of overcoming crisis without any major changes, (iii) measuring of employee satisfaction and company performance makes possible a debate about successfulness of the com-

TABLE 2 *Continued from the previous page*

Constucts	Statement/component	(1)	(2)	(3)	(4)
	My superior provides us, employees, with enough information when delegating. (Q5b)	0.897	0.947		
	My superior informs us, employees, of changes and news in the company. (Q5c)	0.980	0.990		
	Upon completion of delegated task my superior checks its effectiveness. (Q5d)	0.956	0.978		
Work optimization	My superior can simplify work process. (Q6a)	0.922	0.960	0.98	0.91
	My superior can correctly assign responsibility depending on our abilities. (Q6b)	0.932	0.965		
	My superior correctly selects and sets up the work tools for us. (Q6c)	0.943	0.971		
	My superior correctly selects fitting operators. (Q6d)	0.835	0.914		
Employee satisfaction	... with relationships (among managers and employees). (Q8g)	0.964	0.982	0.99	0.96
	... with job content. (Q8k)	0.959	0.979		
	... with organization of work. (Q8l)	0.938	0.969		
	... with possibility of personal creativity. (Q8m)	0.922	0.960		
	... with teamwork. (Q8n)	1.000	1.000		

NOTES Column headings are as follows: (1) R^2, (2) λ coefficient, (3) composite reliability, (4) average variance extracted.

pany among managers, employees and owners, (iv) the knowledge of coaching activities and its implementation in the company presents a competitive advantage (in countries like the UK, the USA, France, China, each company needs to employ at least one certified manager – coach).

Conclusion

We have established that implementation of activities of managerial coaching model has positive additive effect on employee satisfaction and company performance. This finding can serve as an excellent starting point for activities following this study.

We also have to state that by confirming both of the main hypotheses H_1 and H_2 as well as all of the secondary hypotheses $H_{i,j}$ and $H_{i,k}$ ($i = 1, 2, 3, 4, 5$; $j = 1, 2, 3, 4, 5$; $k = 1, 2, 3, 4$) we have confirmed the thesis of this paper.

The original scientific contributions of the described study are: (1) original design of an instrument for measuring the influence of managerial coaching activities with confirmed reliability and validity, (2)

TABLE 3 The Results of the Main and the Secondary Hypotheses Testing: Sample of Managers

Posed hypothesis		Findings
H_1	Implementing managerial coaching model positively influences satisfaction of managers.	+
H_{11}	Empathy positively influences satisfaction of managers.	+
H_{21}	Assertive communication positively influences satisfaction of managers.	+
H_{31}	Strategic thinking positively influences satisfaction of managers.	+
H_{41}	Delegation positively influences satisfaction of managers.	+
H_{51}	Work optimization positively influences satisfaction of managers.	+
H_2	Implementing managerial coaching model positively influences company performance.	+
H_{12}	Empathy positively influences company performance.	+
H_{22}	Assertive communication positively influences company performance.	+
H_{32}	Strategic thinking positively influences company performance.	+
H_{42}	Delegation positively influences company performance.	+
H_{52}	Work optimization positively influences company performance.	+
H_{12a}	Empathy positively influences product profitability.	+
H_{12b}	Empathy positively influences cost management.	+
H_{13c}	Empathy positively influences profit.	+
H_{14d}	Empathy positively influences income growth.	+
H_{21a}	Assertive communication positively influences product profitability.	+
H_{22b}	Assertive communication positively influences cost management.	+
H_{23c}	Assertive communication positively influences profit.	+
H_{24d}	Assertive communication positively influences income growth.	+
H_{31a}	Strategic thinking positively influences product profitability.	+
H_{32b}	Strategic thinking positively influences cost management.	+
H_{33c}	Strategic thinking positively influences profit.	+
H_{34d}	Strategic thinking positively influences income growth.	+
H_{41a}	Delegation positively influences product profitability.	+
H_{42b}	Delegation positively influences cost management.	+
H_{43c}	Delegation positively influences profit.	+
H_{44d}	Delegation positively influences income growth.	+
H_{51a}	Work optimization positively influences product profitability.	+
H_{52b}	Work optimization positively influences cost management.	+
H_{53c}	Work optimization positively influences profit.	+
H_{54d}	Work optimization positively influences income growth.	+

defining coaching with the following activities/constructs: (i) empathy, (ii) assertive communication, (iii) strategic thinking, (iv) delegation and (v) work optimization, (3) first ever measurement of influence of coaching activities on employee satisfaction factors and com-

TABLE 4 The Results of the Main and the Secondary Hypotheses Testing: Sample of Employees

Posed hypothesis		Findings
H_1	Implementing managerial coaching model positively influences employee satisfaction.	+
H_{11}	Empathy positively influences employee satisfaction.	+
H_{21}	Assertive communication positively influences employee satisfaction.	+
H_{31}	Strategic thinking positively influences employee satisfaction.	+
H_{41}	Delegation positively influences employee satisfaction.	+
H_{51}	Work optimization positively influences employee satisfaction.	+
H_{11a}	Empathy positively influences relationships.	+
H_{12b}	Empathy positively influences individual creativity.	+
H_{13c}	Empathy positively influences job content.	+
H_{14d}	Empathy positively influences teamwork.	+
H_{15e}	Empathy positively influences organization of work.	+
H_{21a}	Assertive communication positively influences relationships.	+
H_{22b}	Assertive communication positively influences individual creativity.	+
H_{23c}	Assertive communication positively influences job content.	+
H_{24d}	Assertive communication positively influences teamwork.	+
H_{25e}	Assertive communication positively influences organization of work.	+
H_{31a}	Strategic thinking positively influences relationships.	+
H_{32b}	Strategic thinking positively influences individual creativity.	+
H_{33c}	Strategic thinking positively influences job content.	+
H_{34d}	Strategic thinking positively influences teamwork.	+
H_{35e}	Strategic thinking positively influences organization of work.	+
H_{41a}	Delegation positively influences relationships.	+
H_{42b}	Delegation positively influences individual creativity.	+
H_{43c}	Delegation positively influences job content.	+
H_{44d}	Delegation positively influences teamwork.	+
H_{45e}	Delegation positively influences organization of work.	+
H_{51a}	Work optimization positively influences relationships.	+
H_{52b}	Work optimization positively influences individual creativity.	+
H_{53c}	Work optimization positively influences job content.	+
H_{54d}	Work optimization positively influences teamwork.	+
H_{55e}	Work optimization positively influences organization of work.	+

pany performance factors, (4) original design of an instrument for measuring employee satisfaction from the managerial standpoint, (5) defining employee satisfaction as a construct of the following factors/components: (i) job content, (ii) individual creativity, (iii) organization of work, (iv) teamwork, and (v) relationships, (6) measuring employee satisfaction from the managerial point of view, (7) defin-

ing and verifying the connections among employee satisfaction factors and coaching activities, (8) clarification and confirmation of the influence of coaching activities on employee satisfaction factors, (9) original design of an instrument for measuring company performance factors, (10) defining company performance as a construct of the following factors/components: (i) cost management, (ii) product profitability, (iii) profit, and (iv) income growth, (11) clarification and confirmation of the influence of the coaching activities on company performance from the managerial point of view.

In our opinion, the topic of the paper is extremely relevant: the results will help the Slovenian and foreign managers to understand the influence the coaching activities have on employee satisfaction and company performance. Employees and individuals can use the results of our study to familiarize themselves with a number of methods and models that will help them make coaching activities more accessible to individuals and, in doing so, contribute to a higher level of general and workplace satisfaction.

The results our study produced will help the responsible mangers to enrich aptitude and successfulness of companies in Slovenia and abroad. All in all, implementing managerial coaching activities in a company presents a possible way out of a crisis the economy finds itself in at the moment. A manager who is a coach in his company can foster social responsibility in his employees, his company, and in society, all of which represent a foundation for a state's existence.

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Spatial Health and Life Sciences Business Ecosystems: Research Frame

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Industry competition is moving from the company-level towards business ecosystems, where organizations must develop mutually beneficial relationships with each other. This paper studies business ecosystem phenomena, focusing especially on the spatial (geographical) context within the health and life sciences industry. In addition, business ecosystem evolution and change dynamics are addressed. This study is literature-based; the findings and analysis provide a research frame for forthcoming empirical studies. Despite increasing attention, business ecosystem literature is still relatively immature, and previous studies have mostly focused on software and the information technology (IT) industries. Hence, this paper provides new insights into the business ecosystem concept in a novel context.

Key words: business ecosystem, health and life sciences, innovation, spatial context

Introduction

Developed countries seek new growth due to the erosion of traditional industrial clusters and because they are faced with knowledge-based competition from a number of rapidly developing countries. Meanwhile, fast emerging and converging technologies combined with accelerating globalization create a very complex operating environment for companies, policymakers and other stakeholders. Competition is shifting from company and industry levels towards a business ecosystem level.

By *business ecosystem,* we mean constellations of companies and other stakeholders, which are tied together through knowledge flows and shared value creation processes (Iansiti and Levien 2004a; Moore 1993). The preceding concepts, such as *clusters* and *value chains* (e. g., Porter 2000), have received a lot of attention over the years. Yet, in spite of its popularity, the cluster concept has also received increasing criticism that includes, for example, the inability to explain the underlying factors that contribute to certain geographical locations' success (Kim 2013). The business ecosystem concept, in turn, can offer insights into change dynamics and related strategic consequences across industries (Makinen and Dedehayir 2012).

Business ecosystems are typically considered to be global in nature and span various geographical locations. However, as competition between regions and countries increases, it is vital to understand business ecosystem phenomena in a spatial (geographical) context. For this purpose, we apply Carayannis and Campbell's (2009) definition of spatial clusters, which are considered to represent a certain geographic, spatial configuration, tied to a location or a larger region. In this context, proximity is important, as it enhances, for example, knowledge sharing and exchange.

Health care and life sciences involve various public and private actors that are in the business of contributing to people's health. These sciences are considered highly important, having potential for future competitiveness and sustainable growth in many countries. In addition, countries with an ageing population face growing cost pressures in health care, which causes a difficult socio-economic problem in most welfare societies. In addition, an increasingly uncertain and complex global economy necessitates understanding business ecosystem phenomena beyond the software and information technology (IT) industries, which have been the main research focus in the past. Furthermore, this understanding should cover not only companies, but also public sector actors and their roles and relationships. Our research aims to construct a frame to study the ecosystem phenomenon in the health and life sciences industry in spatial contexts. Accordingly, the research questions are set as follows:

1. What dynamic and evolutionary mechanisms affect business ecosystems?
2. What key conditions enable growth and innovation in spatial business ecosystems?
3. What change drivers and barriers exist in health and life sciences business ecosystems?

The answers lay the ground to study business ecosystems in health and life sciences, as they are further synthesized and constructed into a research frame for further studies. This paper is based on literature search, review, analysis and synthesis, and uses a constructive research approach. The reviewed literature includes concepts and models of business ecosystems, dynamics and evolutionary mechanisms of business ecosystems, and respective drivers and barriers characterizing the ecosystems in the health and life sciences industry.

Business Ecosystems and Spatial Innovation

Scientific literature on business ecosystems is relatively novel. In fact, 95 of 101 documents in the Scopus citation database (accessed 4 April 2014) contained the search term *business ecosystem* in the title, abstract and keywords in the area of business and management, dated since 2007. Correspondingly, the search term *innovation ecosystem* resulted in 51 documents, of which 41 were dated since 2010.

The business ecosystem term was introduced by Moore (1993) and reinvented by Iansiti and Levien (2004a). These seminal works along with Teece (2007), Santos and Eisenhardt (2005), Adner (2006), and Adner and Kapoor (2010) form the most established literature body, followed by a series of empirical and conceptual studies. Naturally, the underlying phenomena of business ecosystems has been studied in more specific domains, such as mobile or digital ecosystems (Basole 2009; Corallo 2007), transportation (Leviäkangas et al. 2014), in restricted research subjects and different network concepts and terminologies, as shown, for example, in Majava, Isoherranen, and Kess (2013). Thus, business ecosystem and innovation ecosystem are becoming established as distinctive terms and concepts in scientific business and management literature.

Business Ecosystems: Concept, Change Dynamics and Evolution

A major advantage of the business ecosystem concept over other network frameworks is claimed to be its ability to consider the change dynamics and related strategic consequences, which can be very valuable for the ecosystem members (Makinen and Dedehayir 2012; Moore 1993). Majava, Isoherranen, and Kess (2013) argue that innovation and coevolution are the key sources of change dynamics in the business ecosystem.

The business ecosystem life cycle includes four stages: birth, expansion, leadership and self-renewal or death. Innovations are vital in every lifecycle stage: ecosystem births form around innovations, incremental innovations enable growth, and renewals or deaths are caused by innovations. During the self-renewal stage, dominant companies may try to slow the growth of a new ecosystem or they may attempt to blend innovations into their own ecosystem. A fundamental restructuring may also occur during the self-renewal stage (Moore 1993).

Business ecosystems develop through self-organization, emergence and coevolution (Peltoniemi and Vuori 2004). In business ecosystems, companies develop mutually beneficial relationships with customers, suppliers, and competitors (Iansiti and Levien 2004a). The companies coevolve capabilities around a new innovation: they cooperate and compete to support new products, to satisfy customer needs and, finally, to build succeeding innovations. Other actors adjust to the rules set by the lead actors (also known as keystones or platform leaders) who may change over time. However, the ecosystem community values the leaders that enable the members to move toward a shared future and benefits (Iansiti and Levien 2004a; Moore 1993; Moore 1996). The ecosystem rules result from the coevolution and interactions between the participants. Besides competitive forces, constraints are set by the regulators and legislation, standard-setting bodies, social norms and business ethics (Teece 2007).

Makinen and Dedehayir (2012) argue that keystone firms play a vital role in business ecosystem design compared to its other members, such as supporting niche players and various intermediaries. In addition, the level of control assumed by a keystone is a significant internal factor affecting the ecosystem. External factors affecting the ecosystem, in turn, include changes in the social, economic, technological, and competitive environment. Furthermore, bottlenecks, which constrain value creation, motivate innovation that causes changes in the ecosystem.

The term *business ecosystem* is based on evolutionary biology, which explains why *evolution* and *change dynamics* are often used in this context. According to Encyclopaedia Britannica (2014), evolution is 'a process of change in a certain direction' allowing the original biological term to be applied in practically all contexts studying change. Blijleven et al. (2013) propose an approach where key evolutionary biological concepts are translated to their evolutionary economic equivalents: inheritance equals routines, selection

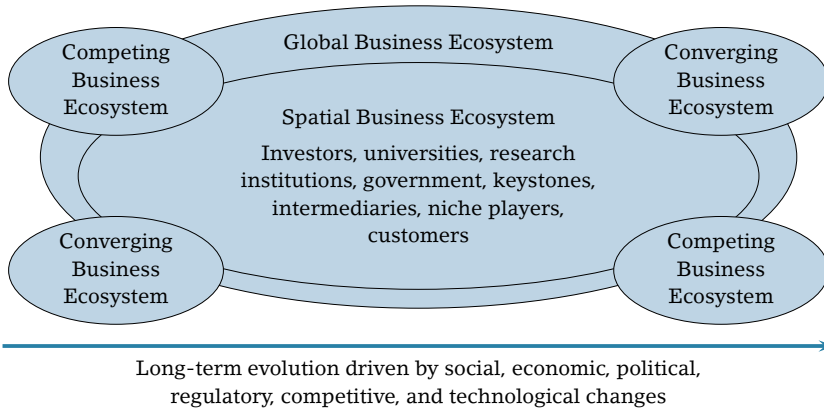

FIGURE 1 Change Dynamics and Evolution within and across Ecosystems

equals competition, and variation (mutation) equals innovation. On the other hand, the term *dynamics* has many definitions depending on the context in which it is used. For example, dynamics can be defined as 'the branch of mechanics concerned with the motion of bodies under the action of forces' (www.oxforddictionaries.com).

In this paper, the term *evolution* is used when discussing long-term development in the ecosystems, whereas *dynamics* refers to shorter-term interactions and changes within and between ecosystems. Dynamics in business ecosystems can also be considered from the perspectives of relationships between actors and ecosystems' influences over others. The boundaries with competing and converging ecosystems may not be clear, and spatial business ecosystems exist within global business ecosystems. This is illustrated in figure 1.

Business ecosystems have been modelled in several studies. Moore (1996) proposed a generic model where actors are classified into three levels based on the extent of business relations: core business, extended network and business ecosystem. Each level contains four different groups of actors; for example, the business ecosystem level includes competing companies and related industries as well as governments and stakeholders such as owners, investors and trade associations (Moore 1996). This generic model serves to explain those who are involved in business, but it does not offer a practical utility to capture the evolution of specific ecosystems or co-evolving relationships between the actors.

Similarly, Basole's (2009) static analysis of the converging mobile ecosystem visualizes those who are involved and connected to each

other, highlighting the focal companies, but it does not offer insight into the dynamics of ecosystems.

Battistella et al. (2013) developed a more elaborate network analysis and modelling tool to study the static structure of digital imaging ecosystems and proposed foresight methodologies for analysing ecosystem dynamics and evolution. Their contribution and discussion focuses more on tool issues, which can be seen especially in their selection of relationship types between ecosystem actors: no relationship, tangible, intangible, or possible future relationship. Thus, dynamic and co-evolutionary mechanisms between actors are also dismissed in their modelling.

Adner and Kapoor (2010) used a generic schema of an ecosystem to identify four different types of actors: suppliers, focal firm, complementors and customers. The authors address the ecosystem evolution by analysing the effect of external innovations on focal companies and component and complement challenges across nine technology generations in the global semiconductor lithography equipment industry. Modelling global business ecosystems, which can contain thousands of companies and dozens of different 'species,' as seen, for example, in the Microsoft driven ecosystem (Iansiti and Levien 2004b), is needed to visualize inter-firm relations and explain long-term evolution. However, this type of modelling does not reveal change dynamics or co-evolving relationships between the actors. Thus, it is necessary to search for these from more focused fields of literature.

INNOVATION IN BUSINESS ECOSYSTEMS AND SPATIAL CONTEXTS

Innovation is arguably the most important contributor to ecosystem growth. Therefore, different factors accelerating innovation must be understood. These factors can be considered from various perspectives. Makinen and Dedehayir (2012) stress that bottlenecks, which constrain value creation are the major innovation motivators within ecosystems. Bossink (2004), in turn, presents four innovation driver categories in construction networks: environmental pressure, technological capability, knowledge exchange and boundary spanning. Hwang and Horowitt (2012) emphasize talent diversity, trust across social barriers, motivations beyond short-term rationality and social norms that promote rapid collaboration and experimentation. In their view, innovation ecosystems are biological systems; talent, ideas and capital are the nutrients moving through the system. On the other hand, certain geographical regions' innovativeness and success can be viewed from three different perspectives: having uni-

versities as anchors of regional clusters, social networks as an enabling factor and institutional frameworks (Casper 2013).

Innovations require suitable environmental conditions (see Trott 2012). From a spatial viewpoint, these conditions include, for example, adequate basic research, angels willing to invest, talented people and capital (Suh 2010). A triple helix type of collaboration between academia, industry and government is also claimed to accelerate innovations and the creation of new organizations and institutions, such as incubators and venture capitalists (Etkowitz and Leydesdorff 1997; Mok 2012). Thus, many countries and regions are trying to achieve an innovation environment that includes university spin-offs, initiatives for knowledge-based economic development, and boundary spanning and partnerships between companies, government laboratories and academic research groups (Etkowitz and Leydesdorff 2000). These efforts are naturally combined with other policy instruments, such as accessible risk capital and R&D subsidies.

The initiatives to support innovation creation also include legislation changes, financial support, entrepreneurial development and establishing new foundations, organizational forms and programs (Etkowitz and Leydesdorff 2000; Youtie and Shapira 2008). Launonen and Viitanen (2011) also stress the importance of a holistic innovation environment; this is considered to include public policy activities, public-private partnership (PPP)-driven activities, and company-driven activities. The first element contains innovation policy, infrastructure and service structures, and education and training. The second element includes comprehensive R&D systems, cluster policies and programs, test-beds and living labs, and incubation environments. The third element covers start-up creation, SME growth, and dynamic anchor companies that enable access and growth.

SPATIAL BUSINESS ECOSYSTEM EXAMPLE: SAN DIEGO

San Diego has nurtured growing business ecosystems, especially in the life sciences and wireless technologies. Supported by federal government investments in the military and health, the region's focus on R&D began in the 1960s. Universities and research institutions provided the critical mass of R&D capacity, which attracted firms and investors. The local pioneer companies, including Linkabit (wireless), ISSCO (computer graphics), Hybritech (biotechnology) and intermediary organizations, such as CONNECT, have also been vitally important in San Diego's growth. Trust and openness are emphasized in the local business culture (Walshok and Shragge

2014). The region also benefitted from enterprise-friendly policy changes, sound and transparent laws governing real estate, intellectual property, contracts, and corporations, low-enough taxes, low new corporation set-up costs, a network of people with experience in science, technology, business, law, finance, and accounting, and the ability to attract competent immigrants around the world (Hwang and Horowitt 2012).

Walshok and Shragge (2014) argue that five critical factors have enabled San Diego's success: natural advantage of place, values of early settlers, organizing communities for economic promise, the resources and talents the community cultivates, and how citizens define and promote their place. Furthermore, the local civic culture is characterized by risk-orientation, entrepreneurial talent, integrative civic platforms, and multiple gateways to develop ideas and opportunities, and a culture of reinvestment. Kim (2013, 18), in turn, states that the emergence and success of San Diego's biotechnology cluster 'are rooted in a dynamic environment of learning and engagement: (1) a mass of start-ups and small companies, which enabled and, in some respects, forced employees to learn the entire process of the biotechnology business; (2) constant inflows of talent from outside San Diego, which complemented and supplemented the local knowledge stock and practices; and (3) networking and communication opportunities provided by trade associations and research institutions and facilitated by the geographic density of the local environment.' These three factors enhanced learning processes; the emergence of the cluster involved creating and circulating local practices and knowledge and practices (Kim 2013).

Health and Life Sciences

DEFINING HEALTH AND LIFE SCIENCES

Life sciences are 'sciences concerned with the study of living organisms, including biology, botany, zoology, microbiology, physiology, biochemistry, and related subjects' (www.oxforddictionaries.com). Advances in biotechnology and molecular biology have resulted in increasing specializations and interdisciplinary fields in the life sciences. For instance, biotechnology has its roots in 6000 BC when Sumerians and Babylonians started fermenting a kind of beer; since the twentieth century, biotechnology has begun to provide various new applications in the food, chemical, pharmaceutical, and energy fields (Kenney 1986). Health sciences, in turn, can be considered a branch of the life sciences that covers all areas of medicine and med-

ical sciences and contains several sub-disciplines that apply science to health.

Rising health care costs are a major issue in many countries. For example, EU health care spending ranges between 5 and 11% of the regional GDP, while in the US, the corresponding figure is approximately 16% (Blank, Frank, and Karopka 2013; Herzlinger 2006). Increasing costs, demographic changes, and the fact that the health care industry can greatly benefit from advances in the life sciences have resulted in a growing interest in increasing cooperation between the different sectors in the health and life sciences. Furthermore, Blank, Frank, and Karopka (2013) argue that a paradigm shift has occurred: health care is no longer viewed as a financial burden but as a competitive and knowledge-based health economy driver. Recent developments, such as the founding of the European Connected Health Alliance (http://www.echalliance.com) and Wireless-Life Sciences Alliance (http://wirelesslifesciences.org), showcase the convergence of health and life sciences with other industries; particularly, IT is considered a key innovation driver (Omachonu and Einspruch 2010).

Considering the aforementioned and the complexity and fragmentation of health care systems and markets (Blank, Frank, and Karopka 2013), it is difficult to set exact boundaries for the health and life sciences ecosystem. Health care-related organizations also serve many purposes including prevention, diagnosis, treatment, education, research and outreach (Omachonu and Einspruch 2010). Thus, our definition of the health and life sciences ecosystem includes all public and private actors that are in the business of contributing to human health. These include various companies offering products and services related to, for example, biotechnology, biomedicine, diagnostics, pharmaceuticals, medical devices, health care provision, supporting services, health care IT, connected and wireless health, and health tourism. In addition, the ecosystem includes universities, research institutions, and various intermediaries such as innovation catalysers, incubators, trade organizations, angel investors and venture capital firms. The ecosystem complexity is further increased by governmental involvement and adjacent political interests; a recent example is the process of creating and implementing the Affordable Care Act (Obamacare) in the US (Zwelling and Kantarjian 2014). Hence, the obvious conclusion is that the drawing of boundaries of the *health and life sciences ecosystem* is entirely contingent and must be done for each specific objective, case and task.

INNOVATION IN THE HEALTH AND LIFE SCIENCES

Health-related innovations can take place in various ways. Omachonu and Einspruch (2010, 5) define health care innovation as 'the introduction of a new concept, idea, service, process, or product aimed at improving treatment, diagnosis, education, outreach, prevention and research, and with the long term goals of improving quality, safety, outcomes, efficiency and costs.' Herzlinger (2006), in turn, argues that three types of innovations can improve health care and reduce its costs: change the ways consumers buy and use health care, utilize technology to develop new products and treatments or improve care, and generate new business models – especially ones that involve horizontal or vertical integration of separate health care organizations or activities. On the other hand, the latter two, business model and technology design, have also been found to be strongly interrelated in health-related ventures (Lehoux et al. 2014).

Despite the innovation potential and related benefits, innovation in health care is difficult for several reasons. First, a number of powerful stakeholders including health care providers, doctors, patients and regulatory agencies must support the innovation (Herzlinger 2006; Omachonu and Einspruch 2010). Second, research intensiveness, long development and approval cycles, and third-party payment systems, e.g., governments or private insurers, make innovation funding different from most other industries (Herzlinger 2006). Large amounts of capital are required to get the products to market, and angel investors often favour investing in technologies with faster market access, e.g. software or IT. Less capital-intensive development, such as diagnostics or medical devices, is preferred over drug discovery and development (Global Connect 2010). The third major issue involves policy; regulators tend to avoid risks associated with approving new health-related innovations. Fourth, timing investing and adopting new technology is difficult; the new technology typically requires a supporting infrastructure, but one cannot wait too long as competition exists both within and across technologies. For instance, a vaccine can eliminate the demand for certain drugs and treatments.

The fifth key issue is related to customers. Consumers are increasingly aware of the different options available, and they may either embrace or reject innovations. Sixth, increased accountability is required. In addition to regulators' short-term efficacy and safety requirements, health care innovators must simultaneously fulfil long-

term cost effectiveness and safety to consumers and third-party payers (Herzlinger 2006).

Blank, Frank, and Karopka (2013) stress the following health innovation barriers: complexity of the environment and systems, fragmentation and independency of different actors, fragmentation of R&D efforts, inadequate financing, high IPR costs, slow standardization, ineffective user of public procurement, inadequate support for SMEs, and inadequate utilization of health care professionals and their lack of entrepreneurial and commercialization competences.

The funding system also affects innovation incentives. For instance, the US health care system is based on medical insurance companies' coverage (Zwelling and Kantarjian 2014). The Nordic countries and Latvia have implemented state-financed systems giving free health care access to all citizens (Beveridge system), whereas Germany, Poland and Estonia utilize the so-called Bismarck system financed by social security contributions from the insured employees and their employers (Blank, Frank, and Karopka 2013). Herzlinger (2006) argues that the single-payer system may hinder customer-focused and technology-based innovations; the need to control costs results in less spending on seriously ill patients – the target group of most technology-based innovations. This can also be the reason why a large venture-capital community does not exist in Europe to fund new health technology ventures. Centralized health care systems control prices and reduce margins for innovators. The centralized systems provide innovation potential in the treatment of diseases requiring a lot of integration, but the results have been mixed.

Synthesis and Research Frame

Past studies on business ecosystems have mostly focused on software and the IT industries. This study provides new insights into the business ecosystem concept beyond the aforementioned industries. The research creates a frame that can be utilized to study the ecosystem phenomena in the health and life sciences in spatial contexts. This is done by discussing and analysing literature findings on business ecosystems, the dynamics and evolutionary mechanisms that affect them, the key conditions facilitating growth and innovation in business ecosystems in spatial contexts, and exploring the change drivers and barriers in health and life sciences business ecosystems. The key findings are presented in table 1.

As shown in table 1, various considerations are involved in studying health and life sciences business ecosystems in spatial contexts. The structure of a business ecosystem includes actors, platform(s)

TABLE 1 Key Findings and Research Synthesis

Business ecosystems' structural elements	
Actors	
• Private, public and non-governmental organizations (NGOs), which can also be categorized into:	
• Lead actors (keystones), niche players and intermediaries	
Platform(s)	
Regional coverage	
Evolution and change dynamics	
Evolution (long-term)	
• Social, economic, political, regulatory, competitive and technological changes	
• Life-cycle stage: birth, expansion, leadership, self-renewal or death	
Dynamics (short-term)	
• Innovation (complementing innovations, component innovations, competing and substituting innovations)	
• Co-evolution (collaboration and competition among various actors; self-organization, rules and constraints set by lead actors, competitive forces, regulators, laws, norms, and ethics)	
• Interaction with competing and converging ecosystems	
Spatial innovation enablers	*Health and life sciences' change factors*
Resources	Drivers
• Capital	• Rising health care costs
• Talent	• Demographic changes
• Available networks	• Advances in life sciences
• Adequate research activities	• Technology convergence
Culture	Barriers
• Social norms	• Fragmentation and complexity of the systems and markets
• Trust	• Several influential stakeholders
• Cooperativeness to support knowledge exchange and boundary spanning	• Fragmented research efforts
	• Insufficient financing
• Entrepreneurial culture	• Long R&D and approval cycles
Government support	• Intellectual property rights cost
• Adequate infrastructure	• Third-party payment system
• Research funding	• Slow standardization
• Enterprise-friendly policies and programs	• Risk-avoiding policies
	• Ineffective use of public procurement
	• Insufficient support for SMEs
	• Inadequate use of health professionals and lack of their business competencies

and regional coverage considerations. Evolution and change dynamics, in turn, involve the long-term and short-term mechanisms that affect the business ecosystem. Spatial innovation enablers are also relevant; these can be classified into factors related to resources, culture and government support. In addition, table 1 points out many influential factors driving change in health and life sciences ecosys-

tems. However, several change barriers also exist, which hinder innovations. Relevant research questions for future study purposes include:

- How do different actors facilitate and support innovation and growth in spatial business ecosystems?
- How do global business ecosystems adapt and use local settings to catalyst their innovation, competitiveness and growth?
- What are the most significant innovation barriers in health and life sciences business ecosystems and how should they be addressed?

Due to the complexity of business ecosystem phenomena, a research strategy that involves a case study approach is proposed. Multiple data collection methods including theme and semi-structured interviews must be utilized. The interviews should be conducted among informants who have in-depth information on the ecosystem under study. Relevant interview questions include the following:

- Who are the main actors and what are their roles in the ecosystem? How have the roles of the main actors changed through the years?
- What types of relationships exist between actors? How have these relationships changed through the years?
- What are the main characteristics of the ecosystem – spatially and globally?
- How is the spatial ecosystem connected to a global ecosystem and vice versa?
- What is/are the platform(s) of the ecosystem? How has/have the platform(s) changed through the years?
- Who provides the platform, defines the architecture and sets the rules?
- What is the role of health care providers, universities and research institutions in the ecosystem?
- How relevant is public funding, programs or policies for the ecosystem?
- What is the role of intermediary organizations?
- What factors drive the ecosystem growth?
- What factors are barriers for the ecosystem growth?
- What is the role of trust in the ecosystem?
- How will the ecosystem evolve in the future?
- What will change during the next years?

The research frame described above provides the basis for empirical studies of health and life sciences business ecosystems in selected spatial contexts. The frame aims to enable researchers to conduct systematic empirical research on business ecosystems and underlying phenomena. However, it should be noted that due to the complexity of the phenomena under study, the research frame developed in this paper cannot be considered final and will be refined iteratively during the research project. It must also be noted that this paper is based solely on literature findings. While the study focuses on business ecosystems in spatial contexts and the health and life sciences industry, the research frame can also be utilized in other contexts. Thus, further research is recommended to test the validity of the research frame via empirical studies in different types of contexts.

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Fundamental Economic Factors That Affect Housing Prices: Comparative Analysis between Kosovo and Slovenia

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The purpose of this study is to provide strategic implications for real estate appraisers and real estate managers to know the economic determinants of housing price dynamics in Kosovo. The fundamental economic determinants of housing prices, adopted from previous studies, are Gross Domestic Product growth, demographics, real interest rates, and construction costs. The research methodology used is quantitative factor analysis. The main question addressed is, whether the conventional fundamental determinants of housing prices, such as Gross Domestic Product per capita, real interest rates, demographic factors, and construction costs have driven the observed housing prices in Kosovo. By sampling the determinants of housing prices in Kosovo, the study shows their effects on housing price dynamics. The study shows that housing prices in Kosovo are significantly determined by the underlying conventional fundamentals. This is the first research that tries to determine whether the fundamental economic factors influence the housing prices in Kosovo.

Key words: housing prices, economic characteristics, Kosovo, Slovenia

Introduction

The present research attempts to provide both a theoretical analysis of the fundamental economic factors affecting housing price dynamics in Kosovo comparable to Slovenia and practical strategic implications for real estate managers to know the economic determinants of housing price dynamics in Kosovo. The present research is important for residential real estate developers and managers in Kosovo to understand how to avail of positive economic cycles and also learn from the practices in Slovenia. The present research also

tries to identify those fundamental economic factors that are common for the countries that go through the same transition stages. The present research addresses the effect of fundamental economic factors on both new and existing housing.

Although housing prices in Kosovo are far below western European levels, they have been catching up rapidly in some years even in the double-digit range. The run-up in housing prices has coincided with Gross Domestic Product growth caused mainly by private consumption and remittances from Kosovo Diaspora.

The determinants of housing prices in Kosovo have not yet been systematically researched. The present paper is the first one that tries to do so. The goal of the present paper is to assess quantitatively whether the conventional fundamental determinants of housing prices both existing and new, such as disposable income, interest rates, demographic factors, and construction costs have had an effect in the observed housing price dynamics. The model of the present research is based upon standard variables used in the empirical literature (Girouard at al. 2006; Poterba 1984), and also takes into account the growing demand for *secondary home* housing in Kosovo by Kosovar Diaspora in Kosovo. The present research finds that GDP, interest rates, and demographic factors are important determinants of housing prices in Kosovo. On the other hand, the present research also finds that Gross Domestic Product, interest rates, demographics, and construction costs are important determinants of housing prices in Slovenia.

The dynamics of the changes in housing prices are modeled as a function of changes in housing demand and supply (HM Treasury 2003). On the demand side the expected change in housing prices is dependent upon household income, the real rate on housing loans, demographic and labor market factors, the expected rate of return on housing and other demand factors such as location, age and state of housing. Hence the present study concludes the following: Demand for housing prices is a function of household income, interest rates, labor market, expected rate of return on housing and other demand factors, which in turn influences the expected housing prices.

On the supply side the supply of housing is positively dependent upon the profitability of the construction business, which on the other hand depends positively on housing prices and negatively on the real costs of construction, which includes the price of land, salaries of construction workers, and material costs. Hence the present study concludes the following: Supply for housing is a function of construction costs, which includes the price of land,

salaries of construction workers, and other material costs, which in turn influences the expected housing prices.

Based on the above theoretical framework, the basic research question that the present study attempts to answer is: *Which sets of economic factors affect the housing prices in Kosovo and Slovenia?*

Work Methods

GROSS DOMESTIC PRODUCT AND HOUSE PRICES

In general, the relationship between the gross domestic product and housing price dynamics exists and is reflected through the household disposable income (Ayuso, Perez and Saurina 2004). Also Égert and Mihaljek (2007) established the strong relationship between the gross domestic product and housing prices in the countries of Central and Eastern Europe. Davis and Heathcote (2005) found that, in the US, the residential investment lead the cycle (or Gross Domestic Product), whereas the non-residential investment lagged the cycle (Davis and Heathcote 2005).

According to Keynesian theory (McCarthy and Peach 2004), the average propensity to consume decreases with income. If this is transferred to the housing market then people will increase the consumption of houses the more income they have, whereas an increase in income would lead to higher demand and therefore higher prices. This argument is further augmented by McCarthy and Peach (2004) who suggest that housing prices are highly correlated with income leading us to the fundamental factor influencing the housing prices and by that also the housing market (McCarthy and Peach 2004). Income as a demand variable is measured by Gross Domestic Product per capita.

On the other hand, according to the neoclassical theory of housing demand the decision to buy a house occurs in parallel with the decision to consume other goods. This theory suggests that the consumers optimize their utility in light of the income and price constraints they face.

According to the housing gradient consumption theory, the structure of choices of the consumers is defined by housing prices and consumer's income. The theory suggests that consumers of housing choose a set of goods in order to maximize their utility and enjoyment, which is subject to budgetary limitations of the individual.

Qingquan and Guohua (2011) found out that the individual/household cannot spend more than their total income/wealth. According to this, the following hypothesis is made:

H1 *The gross domestic product plays positive role in housing prices.*

In terms of the link between the real interest rate on housing loans and housing prices Sutton (2002) argues that there is strong link between the real interest rate and housing prices (Sutton 2002). Other scholars argue that when the structural changes in the economy of Spain happened because of entry of Spain into Eurozone, the real interest rate on housing loans fell, which was reflected in the increase of housing prices (Ayuso, Perez, and Saurina 2004). On the other hand the decrease of real interest rates in housing loans was reflected during the period when countries were near to join European Monetary Union, which was further reflected in the increase of housing prices (Égert and Mihaljek 2007). The theory, which explains the effect of interest rates on housing prices, is the user cost theory. The user cost theory provides for outlay that must be incurred to gain access to the services provided by housing via homeownership rather than via renting in the private market (Browne, Conefrey and Kennedy 2013). The user cost is further measured for a representative household. Further, the calculated user cost of capital is 'compared with the annual market cost of rent of an exactly equivalent bundle of services that comes with housing' (Browne, Conefrey and Kennedy 2013, 6). The theory of user cost of capital of Jorgenson (1963) was used by Poterba (1984) who was one of the first to apply the user cost theory to the housing market. Different researchers see a different role of the user cost of capital in housing prices. Whereas some authors argue that the user cost theory plays only a limited role in explaining the housing prices mostly in the form of encapsulating the after-tax cost of home ownership (Capozza et al. 2002), other researchers point out to the essential role of the user cost theory in understanding the housing prices (OECD 2005). Thus, the following hypothesis is made:

H2 *The real interest rates on housing loans play a role in housing prices.*

According to Égert and Mihaljek demographic and labour market factors may have also played a role in housing (Égert and Mihaljek 2007). Also Ayuso, Perez, and Saurina (2004) argue that demographic variables are included in the equations of housing prices (Ayuso, Perez, and Saurina, 2004). According to Égert and Mihaljek (2007) demographic and labor market factors are included in the equation through unemployment rate, the share of the working-age population in total population, and the share of the labor force in total population (Égert and Mihaljek 2007). McKenzie, Betts, and

Jensen argue that housing prices are elastic towards wages (McKenzie, Betts, and Jensen 2010). Girouard et al. argue that demographic developments, through their effect on the real disposable incomes can also raise housing demand, thereby increasing housing price levels. Girouard et al. (2006) further establish that the net migration of population, decline of average size of the family, and increase of the share of population of groups of individuals who are in their household formation age boost the demand and thereby increase price levels. The relationship between employment and housing prices has been present in literature through the life cycle theory, which focuses on how the evolution of employment induces demand for housing through householder formation, relocation of workers, and demand for higher quality housing (De La Paz 2003). In this regard, Muellbauer and Murphy stress the existence of self-reinforcing feedbacks that induce variations in income among population, which further have effects on housing prices (Muellbauer and Murphy 1997). The life cycle theory studies the relationship between housing prices and employment with respect to the potential expansion of employment, which further generates demand for new housing (De La Paz 2003). According to Popescu, regions with larger proportions of skilled labor grow faster and are economically stronger (Popescu 2013, 139), which in turn results in greater demand for housing.

According to this, the following hypothesis is made:

H3 *Demographic and labor market factors play a role in housing prices.*

The supply side is reflected in housing prices through constructions costs, which influences housing prices through prices of land, real wages of construction workers, and material costs. In this regard, Égert and Mihaljek examine the relationship between the real wages as a proxy for housing quality and housing prices and argues that the real wages as a component of construction costs have an impact on real estate prices through improvements in housing quality, which according to empirical evidence has an influence over the housing prices, especially in those countries where the initial housing quality was lower (Égert and Mihaljek 2007). Another theory which is applicable to the hypothesis that construction costs play a role in the housing prices is the Tobin's Q Investment Theory, according to which the construction cost is supposed to be one of the fundamental factors affecting housing prices. A scarce supply of land for construction can therefore explain relative price increases

in housing relative to construction costs (Miles 1992) and (Summers 1981). According to this, the following hypothesis is made:

H4 *The construction costs play a role in housing prices.*

However, the study notes certain limitations, which arise in terms what other additional factors should be included in the theoretical framework. The following issues need to be verified with caution before any attempt to generalize the findings takes place:

- The findings rely on respondents' self-reported cross-sectional data, rather than longitudinal data.
- The data have been collected only from two countries, which can further limit the generalisibility of the findings in other research contexts.
- In an attempt to achieve representativeness of the sample, the data collected by various categories of population especially elderly and uneducated may have limitations as to the generalisibility of the findings because the lack of knowledge of these respondents about macroeconomics;
- The data collected from the particular strata in Kosovo composed of municipal and public sector officials may have certain limitations. This is because those municipal officials in those municipalities ruled by the ruling coalition at the central level gave leading answers to questions about the relationship between the public spending and Gross Domestic Product growth and housing prices.

In this regard, the present paper also paves the way for the following research directions:

- The study explores only one developing/transitonal country perspective that of Kosovo, hence any research conducted in similar country context to that of Kosovo such as Albania, Macedonia Serbia, Montenegro or any other cross country comparative study can be very useful in valdidating the findings.
- In addition to cross-sectional data, any future research the longitudinal data should be taken into account to strengthen the validity of these findings.
- Also, behavioral factors that influence the housing prices could be included in any research framework.

Research Methodology

The study uses the quantitative analysis at the Kosovo and Slovenian level and then in the second part of the research we focus on

TABLE 1 The Structure of Respondents in Kosovo

Category		Number	Percentage
Gender	Male	480	50.5
	Female	470	49.5
Age	From 18 to 35	428	45.0
	From 35 to 55	332	35.0
	From 55 to 65	190	20.0
Education	Less than secondary school	180	19.1
	Secondary school	374	40.2
	University education	342	36.2
	Master's degree or more	54	4.5
Social status	Single	380	49.5
	Married or in relationship	470	50.5

the analysis of the survey results. As Bastič argues, the key to effective research is the systematic research process in order not to underweight or overweight any important step during the research process, which may lead us to wrong conclusions (Bastič 2006).

Participants

The study uses the stratified probability sampling to select the sample population. Takashori and Teddlie argue that probability sampling techniques are used mainly in quantitative research and involve selecting a relatively large number of units from a population, or from specific subgroups (strata) of a population, in a random manner where the probability of inclusion for every member of the population is determinable (Tashakkori and Teddlie 2003).

Following the pilot study, the sample selection took place according to probability stratified sampling method with proportional allocation of units to specific strata reflecting the various groups of population in Kosovo and Slovenia. In total, 950 respondents took part in the Kosovar survey, whereas 275 Slovenian participants took part in the Slovenian part of the survey, which was completed in January 2013. The structure of respondents based on gender, age, education, marital status, employment, and monthly household consumption of respondents has been shown in the following tables. These specific strata were selected because they are more related to the hypotheses laid down in this research.

The structures of respondents in Kosovo and Slovenia have been presented in tables 1 and 2. In this regard, the present study faced various difficulties in reaching out to Slovenian respondents via e-

TABLE 2 The Structure of Respondents in Slovenia

Category		Number	Percentage
Gender	Male	140	50.9
	Female	135	49.1
Age	From 18 to 35	100	36.3
	From 35 to 55	130	47.3
	From 55 to 65	45	16.4
Education	Less than secondary school	80	29.1
	Secondary school	160	58.2
	University education	31	11.3
	Master's degree or more	4	1.4
Social status	Single	73	26.5
	Married or in relationship	202	73.5

TABLE 3 Disposable Income of Kosovo and Slovenian Respondents

Kosovo	Number	Percent	Slovenia	Number	Percent
<3,600	665	70.0	<17,000	192	69.8
3,600–6,000	143	15.0	17,000–25,000	42	15.2
6,001–10,000	95	10.0	25,000–36,000	25	9.0
>10,000	47	5.0	>36,000	16	6.0

mail and LinkedIn. The study also used Survey Monkey questionnaire that was sent to Slovenian respondents via e-mail, Linkedin, or Facebook. In addition, the study also faced difficulties in persuading Slovenian respondents to answer the questionnaire through Internet such as e-mail, LinkedIn, and Facebook. Unlike Slovenian respondents, Kosovo respondents were more flexible in answering via Internet. Also, around 44.6% of questionnaires were distributed to Kosovo sample population in person with hard copy questionnaires. Students of College European School of Law and Governance also participated in the distribution of questionnaires to Kosovo respondents in person. Around 45% of Kosovo respondents belong to 18–35 years age group, which resembles the percentage of this age group in the total population of Kosovo. Around 40.2% of Kosovo respondents have completed their secondary school and only 36.2% have university education of at least bachelor's degree. On the other hand 58.2% of Slovenian respondents have completed secondary education and only 11.3% have the University degree.

Table 3 shows that Kosovo respondents were also selected according to various ranges of disposable income, which resembles Kosovo statistics of last census taken in 2011. Around 70.0% of Kosovo re-

spondents belong to the annual disposable income range of below 3,600 euro. The present paper notes that only 5.0% of respondents belong to the annual disposable income of greater than 10,000 Euros. This does not imply that the 70.0% of respondents are not educated and thus have a lower salary. Table 3 also shows various ranges of disposable income of Slovenian respondents, which resembles the statistics of Republic of Slovenia taken by the Slovenian Statistical Agency. Around 69.8% of Slovenian respondents belong to the annual disposable income range of below 17,000 euro, whereas 6.0% of respondents belong to the annual disposable income of greater than 36,000 Euros.

Measures and Constructs

The variables of this study were measured using a five-point Likert scale (1 – strongly disagree, 5 – strongly agree). Each category of variables was modified to the situation of the study based on the measuring categories, the reliability of which has been confirmed in preceding theses (Cronin and Taylor 1992). Gross domestic product was measured by four questions, including consumption, investment, government purchases, and net exports. Real estate interest rate was measured by three questions, including the percentage of decline of mortgage loan rates, percentage of increase of consumer price index, and percentage of decline of loan rates for import of construction machinery. Demographic factors and labor market was measured by three questions, including unemployment rate movements, the share of the working-age population in total population, and the share of the labor force in total population. Construction costs were measured by three questions, including the prices of land, real wages of construction workers, and material costs. Finally, housing prices were measured by two questions, including willingness of the seller to sell the housing real estate at a given price and willingness of the buyer to buy the housing real estate at a given price.

For the purpose of verifying the validity of the study model, the present paper uses the structural equation model to analyze the reliability of the measures. First, the confirmative factor analysis was used to assess the model and second the structural model was verified, which contains the measurement and theoretical variables. The program Statistical Package for the Social Sciences (SPSS) Windows 19.0 was used to verify the study model and the findings have been presented in table 4.

As a result of the analysis for Kosovo, Cronbach's α on the factors in Kosovo turned out to be .740 at the minimum and maximum of

TABLE 4 Exploratory Factor and Reliability Analysis for Kosovo and Slovenia

Factors	Initial item no.	Oblique rotation	Reliability analysis	Cronbach's α	
				Kosovo	Slovenia
Gross domestic product	4	4	4	0.810	0.820
Real interest rate	3	3	3	0.789	0.795
Demographics	3	3	3	0.797	0.815
Construction costs	3	3	3	0.740	0.710
Housing prices	2	2	2	0.876	0.840

0.876 which indicates a solid reliability. As a result of the analysis for Slovenia, Cronbach's α on the factors in Slovenia turned out to be 0.710 at the minimum and maximum of 0.840 which indicates a solid reliability.

The present paper used the exploratory factor analysis to examine the validity of the measurement variables. During the performance of principal component analysis, the varimax rotation method, one of orthogonal rotations maintained the independency among other factors. During the analysis, the study could not exclude any of the constructs. The factor loadings for each concept by which we measured the constructs through LISREL (Linear Structural Relations) 8.5 all turned to be above 0.69 (Nunnally 1978) for both cases Kosovo and Slovenia, which confirms the validity. By using the orthogonal rotation, the present study is able to achieve the discriminate validity for each factor.

Data Analysis

The data extracted were analyzed to test the construct measures and to test the hypotheses that were set forth in the research study model. The factor analysis is used as a statistical technique. The adopted construct measures require measurement of scale reliability and validity. Relevant descriptive statistics of the sample is also reported. Measurement model in the Structural Equation Modeling (SEM) technique is used for the confirmatory factor analysis using SPSS Windows and Linear Structural Relations software LISREL 8.3 was also used to test the hypotheses of the research model.

The measurement model fit was tested individually for all construct measures proposed in the study model for Kosovo and Slovenia separately. In this process 3 items were excluded from the individual models in order to achieve a better fit of data for both data sets (Kosovo and Slovenia). The overall measurement model was tested with 15 items, however, the results of the test indicated the poor fit to the data. Later, the overall measurement model was tested

TABLE 5 Summary of Overall Measurement Model for Kosovo and Slovenia

Fit stat.	Kosovo		Slovenia	
	Initial (15 items)	Final (12 items)	Initial (15 items)	Final (12 items)
$\chi^2(df)$	671.406 (379.66)	326.406 (223.90)	625.12 (337.28)	319.504 (208.10)
CMIN	1.768	1.457	1.853	1.535
IFI	0.868	0.934	0.898	0.942
TLI	0.848	0.925	0.848	0.915
CFI	0.867	0.933	0.897	0.941
RMSEA	0.058	0.043	0.051	0.042

TABLE 6 Correlation Matrix in Structural Equation Modeling (SEM) Technique for Kosovo

Category	1	2	3	4	5
Gross domestic product	0.600				
Real interest rates	0.483*	0.610			
Demographics	0.426*	0.300*	0.630		
Construction costs	0.547*	0.299*	0.412*	0.620	
Housing prices	0.526*	0.422*	0.591*	0.593*	0.650

NOTES Adapted from Hoxha and Temeljotov-Salaj (2014). * Significant at 0.001.

for Kosovo with the remaining 12 items and the results of the test are shown on table 5.

The fit statistics shown in table 5 is a strong rationale behind the decision to delete 3 items from three construct measures for Kosovo and Slovenia. By deleting 3 items from three construct measures, we were able to reduce the χ^2 by 345 from 671.406 to 326.406 or *df* by 155.76 from 379.66 to 223.90 in Kosovo and χ^2 by 305.61 from 625.12 to 319.504 or *df* by 129.18 from 337.28 to 208.10 in Slovenia and improve other fit indices in the overall measurement model as shown in table 5. The retained 12 items exhibit satisfactory level of congruity between data and measurement model in both cases. We also perform the correlation matrix conducted in Structural Equation Modeling technique, which assists us in reporting the convergent and discriminant validity of the construct measure by comparing composite reliability scores and correlations between factors. We perform this analysis separately for Kosovo and Slovenia. Tables 6 and 7 present correlation matrices conducted in Structural Equation Modeling (SEM) technique for Kosovo and Slovenian data set.

While examining the correlation matrices of Kosovo and Slovenia reported in tables 6 and 7, the results show that housing prices as a dependent variable is significantly correlated with all independent variables proposed in the study model. Further, all independent vari-

TABLE 7 Correlation Matrix in Structural Equation Modeling (SEM) Technique for Slovenia

Category	1	2	3	4	5
Gross domestic product	0.630				
Real interest rates	0.413*	0.610			
Demographics	0.446*	0.392*	0.630		
Construction costs	0.517*	0.329*	0.432*	0.600	
Real estate prices	0.546*	0.442*	0.551*	0.593*	0.740

NOTES Adapted from Hoxha and Temeljotov-Salaj (2014). *Significant at 0.001.

TABLE 8 Structure Equation Model Results for Kosovo and Slovenia

(1)	(2)	(3)	Path coeff. β		t-value		P-value		Results	
			K	S	K	S	K	S	K	S
H1	GDP→HP	$\gamma 11$	0.421	0.401	3.401	3.385	0.017	0.015	SU	SU
H2	RIR→HP	$\gamma 12$	0.102	0.103	4.574	4.272	0.001	0.013	SU	SU
H3	DEM→HP	$\gamma 13$	0.082	0.073	4.433	4.233	0.001	0.012	SU	SU
H4	CON→HP	$\gamma 14$	0.023	0.135	0.632	3.631	0.452	0.010	NS	SU

NOTES Column headings are as follows: (1) hypothesis, (2) path, (3) path name; K – Kosovo, S – Slovenia; SU – supported, NS – not supported.

ables are also significantly correlated between each other with low to moderate coefficient scores. As Campbell and Fiske argue the low to moderate level of correlations between independent variables is normally expected in order to explain the discriminant validity of construct measures (Campbell and Fiske 1959).

Hypothesis Testing

The study performs the Structural Equation Modeling (SEM) for Kosovo and Slovenia to test the hypotheses. Outputs of SEM analysis have been presented in table 8.

The reported Structural Equation Modeling results that have been presented in table 8 are evaluated on estimated path coefficient β value with critical ratio, which is equivalent to t-value and p-value. The standard decision rule, which is $t \geq 1.96$ and $p \leq 0.05$, applies to the decision about the significance of path coefficient between dependent variable and independent variable (Byrne 2001). Nevertheless, some other researchers report that the standard rule for decision-making regarding the significance of path coefficient between dependent and independent variables is $p \leq 0.10$ as a marginal level of significance (Kwon and Suh 2004).

The standardized estimated path coefficient for the relationship between Gross Domestic Product and Housing Prices is $\beta = 0.421$

and t-value (t = 3.401) and p-value of 0.017 for hypothesis 1 for Kosovo, whereas values obtained for Slovenia are β = 0.401 and t-value (t = 3.385) and p-value of 0.015. This finding strongly supports the hypothesized relationship between gross domestic product and housing prices in both respective countries Kosovo and Slovenia.

The standardized estimated path coefficient for the relationship between Real Interest Rates and Housing Prices in Kosovo is β = 0.102 and t-value (t = 4.570) and p-value of 0.001, whereas values obtained for Slovenia are β = 0.103 and t-value (t = 4.270) and p-value of 0.013. This finding strongly supports the hypothesized relationship between real interest rates and housing prices in both Kosovo and Slovenia.

The standardized estimated path coefficient for the relationship between Demographics and Housing Prices in Kosovo is β = 0.082 and t-value (t = 4.430) and p-value of 0.001, whereas values obtained for Slovenia are β = 0.073 and t-value (t = 4.230) and p-value of 0.012. This finding strongly supports the hypothesized relationship between demographics and housing prices in both Kosovo and Slovenia.

The standardized estimated path coefficient for the relationship between Construction Costs and Housing Prices is β = 0.023 and t-value (t = 0.630) and p-value of 0.452, whereas values obtained for Slovenia are β = 0.135 and t-value (t = 3.630) and p-value of 0.010. This finding strongly rejects the hypothesized relationship between construction costs and housing prices in Kosovo and supports it in Slovenia.

Discussion

The finding of hypothesis 1 'gross domestic product plays positive role in housing prices' from table 8 strongly supports the hypothesized relationship between gross domestic product and real estate prices in both respective countries Kosovo and Slovenia. Also the bivariate correlation between gross domestic product and housing prices in Kosovo is presented in table 6 at coefficient 0.52, whereas for Slovenia it has been presented in table 7 at coefficient 0.546 showing that gross domestic product is one of the independent variables that is highly correlated with the housing prices in both Kosovo and Slovenia.

With regards to the interpretation of Kosovo results, in their study of the countries of Central and Eastern Europe Egert and Mihaljek argue that consumption affects the real estate demand and real estate prices (Egert and Mihaljek 2007). On the other hand results

of the study made by Donatos in Greece who applied the ordinary least squares estimation for the period 1958–89 indicate that the consumption that is driven by household income is positively correlated with the real estate prices in Greece (Donatos 1995). Hendershott also argues that the consumption of citizens driven by per capita income contributes to the real estate demand and real estate prices (Hendershott 1991). The results of the study made by Kaufmann and Mühleisen show that consumption's effect on real estate prices is not statistically significant (Kaufmann and Mühleisen 2003).

With regards to Slovenian results, one interpretation of this result can be linked with the study performed by Pšunder, Pšunder, and Golob who also used the factor analysis to verify their hypothesis that reduced economic growth has an influence on the falling real estate prices. This study shows around 61.3% of respondents were completely convinced that the reduction in economic growth affects the drop in real estate transactions and housing prices (Pšunder, Pšunder and Golob 2013).

The results of correlation analysis conducted by the mentioned authors verify the hypothesis that the reduced economic growth impacts the housing prices (Pšunder, Pšunder and Golob 2013). The reduction in economic growth affecting the decline of housing prices can also be verified by Golob, Bastič, and Pšunder (2012).

In another earlier study by Pšunder, it was established that household income and consumption have an impact on real estate growth and real estate prices in Slovenia (Pšunder 2009). In his survey, Jože Bradeško pointed out the correlation between the growth of housing property values and real Gross Domestic Product as well as the population's earnings (Bradeško 2003). This does not imply that changes to the Gross Domestic Product affect the housing prices' trend directly and in advance, but it means that GDP is one of the most influential factors affecting housing prices (Pšunder 2009). In this regard, it was found that the low purchasing power in Slovenia affected the demand for housing, which consequently had an impact on housing prices (Sendi 2013).

On the other hand, another study trying to verify the correlation between declining economic growth and declining housing prices in Slovenia was conducted by Golob, Bastič, and Pšunder (2012). Based on the results of correlation analysis of data from across Slovenia, they established that the correlation coefficient between decline of economic growth and percentage of change in housing prices amounts to 0.048, which is a minor correlation. The significance level that the authors established in their descriptive statistical analysis

was 0.05 ($p = 0.558$), which means that the data do not corroborate a correlation between these two variables.

The finding of hypothesis 2 'the real interest rates on housing loans play a role in housing prices' from table 8 strongly supports the hypothesized relationship between real interest rates and housing prices in both Kosovo and Slovenia. Also the bivariate correlation between real interest rates and housing prices in Kosovo is presented in table 6 at coefficient 0.422, whereas for Slovenia it has been presented in table 7 at coefficient at coefficient 0.442 showing that real interest rates are highly correlated with real estate prices in both Kosovo and Slovenia.

Sa, Towbin, and Wieladek (2011) also used vector autoregression analysis for 18 OECD (Organization for Economic Development and Cooperation) countries. The study model includes variables such as economic output, consumption, residential investment, interest rates, and Gross Domestic Product (Sa, Towbin and Wieladek 2011). Similarly to Jarocinski and Smets (2008), the response of housing prices to 0.25% expansionary shocks is initially negative and rises further to a statistically significant 0.3% effect after 10 quarters (Sa, Towbin and Wieladek 2011). The response of housing prices is similar to long-term interest rate declines by approximately 0.1%. In this regard, Jarocinski and Smets used Bayesian vector autoregression analysis for the United States housing market. In their study model they included variables such as economic output, consumption, Gross Domestic Product, housing investment, housing prices and short term interest rates. The peak of housing prices at 0.5% is accompanied by declines of long-term interest rates of around 0.1% (Jarocinski and Smets 2008). Other authors such as Goodhart and Hofmann also use the vector autoregression to examine the connection between housing prices and macroeconomic fundamental factors. They perform the study in 17 industrialized countries and in their study model include variables such as Gross Domestic Product growth, short-term nominal interest rates, housing prices, and growth of credit supply. The results of this study reveal Granger-causal relationships between many variables, especially between interest rates and housing prices. Same authors found that 0.25% orthogonalized interest rate expansion can lead to a statistically significant 0.8% increase in housing prices (Goodhart and Hoffman 2008).

With specific regard to the correlation between increased inflation and housing prices in Slovenia, Pšunder argues the opposite. He states that higher inflation implies higher funding costs and this results in lower demand for real estate, which further puts pressure on

prices to decline (Pšunder 2009). Further, the outputs of the Structural Equation Modeling (SEM) analysis reported in this section of the dissertation and the establishment of hypothesized relationship between real interest rates and housing prices corresponds to the results of the study performed by Golob, Bastič, and Pšunder (2012). In their study they conducted the correlation analysis, the results of which indicate that the correlation coefficient between variables 5 (the lower the interest rates, the higher the real estate transactions) and 6 (the lower the interest rates, the higher the real estate prices) amounts to 0.427 (partial correlation), and is equal to zero at significance level 0.05, which means that the data fully corroborate a correlation between these two variables.

The effect of inflation on housing prices in Slovenia was also studied by the same authors who produced mixed results. In this study around 69% of the total surveyed men and 72% of the total surveyed women believe that purchasing a real estate property does offer protection against inflation. The study also established that 63.16% of participants aged 20–30 are of the same opinion, as are 64.58% of participants aged 31–40, 78.05% participants aged 41–50, 81.82% participants aged 51–60, as well as 100% of participants aged 61 and over. Despite of the mixed responses of respondents, no correlation was established between rising inflation and real estate prices (Golob, Bastič, and Pšunder 2012).

The finding of hypothesis 3 'demographic and labor market factors play a role in housing prices' strongly supports the hypothesized relationship between demographics and housing prices in both Kosovo and Slovenia. Also the bivariate correlation between demographics and housing prices in Kosovo is presented in table 6 at coefficient 0.551, whereas for Slovenia it has been presented in table 7 at coefficient at coefficient 0.551 showing that real interest rates are highly correlated with housing prices in both Kosovo and Slovenia. One interpretation of this result is that the decline of unemployment rate is a direct cause of increase of housing prices as proven by the establishment of the hypothesized relationship between demography and housing prices. This can be explained with the economic theory, according to which the demographic variable is a demand variable, which is included in the expression for return on houses. The economic theory suggests that the increase in population increases the demand for houses and makes an upward pressure on prices. This is also argued by Mankiw in his study who found that the decline of unemployment rate has a strong influence in housing prices both in the short-run and medium-term (Mankiw and Weil 1989). In this re-

gard, Donatos examined the effect of decline of unemployment and increase of share of labor force as a percentage of total population in housing prices for the period 1958–89 in Greece. By applying ordinary least squares estimation he found that that both decline of unemployment and increase of share of labor force in total population were positively correlated with the increased housing prices (Donatos 1995).

The hypothesized relationship that we are able to establish through Structural Equation Modeling (SEM) analysis between demographics and housing prices in Slovenia is further corroborated by Pšunder (2009). In his study he established that demographic and social indicators are the key factors that have an impact on housing prices in Slovenia (Golob, Bastič, and Pšunder 2012, 359).

Our verified hypothesized relationship between unemployment rate and real estate prices is also corroborated by the study of Grum and Salaj. According to Grum and Salaj, the national unemployment rate is another factor that affected the housing prices in Slovenia (Grum and Salaj 2010). Grum and Salaj further argue that the government of Slovenia intervened in the housing prices not only through 'demand and supply side but also through some of legislative acts' (Grum and Salaj 2010, 109). On the other hand, Égert and Mihaljek found solid positive correlation between unemployment and housing prices in Slovenia at coefficient 0.226. The highest correlation result between demographic factors and real estate prices in Slovenia was achieved between population and real estate prices at coefficient 17.01.

With regards to the relationship between the share of labor force as a percentage of total population and housing prices in Slovenia, the correlation is negative at coefficient (–1.166) (Égert and Mihaljek 2007, 15). The findings of the study of Vermeulen and Van Ommeren show that the bivariate regression of housing prices and unemployment in Slovenia is –0.931 with standard error of 0.930 and R^2 of 0.915 indicating solid correlation between unemployment and housing prices in Slovenia (Vermeulen and Van Ommeren 2006).

The finding of hypothesis 4 'construction costs play a role in housing prices' strongly rejects the hypothesized relationship between construction costs and housing prices in Kosovo. Also the bivariate correlation between construction costs and housing prices in Kosovo is at coefficient 0.591 as presented in table 6 showing high correlation between construction costs and housing prices in Kosovo. The finding of hypothesis 4 strongly supports the hypothesized relationship between construction costs and housing prices in Slovenia aug-

mented by the bivariate correlation between construction costs and housing prices in Slovenia presented in table 7 at coefficient 0.593.

The link that we establish between construction costs and housing prices through our Structural Equation Modeling (SEM) results is also argued by Golob, Bastič, and Pšunder (2012). These authors argue that one of the factors influencing the value and quicker sales of housing properties is the construction quality, which entails higher construction labor wages and higher material costs. On the other hand, Cirman (2007) argued that the construction costs affected housing prices in Slovenia from the demand side through housing affordability. According to Cirman (2007) 'the housing affordability is related to the burden of costs placed on the household income' (Grum and Salaj 2010, 113), which further affect the housing demand.

In terms of relationship between construction labor wages and housing prices, Egert and Mihaljek's results indicate that the correlation between construction labor wages and housing prices is low with the coefficient of 0.006 (Égert and Mihaljek 2007). Nevertheless in terms of Central and Eastern Europe as a whole, Égert and Mihaljek found stronger correlation between construction labor wages and housing prices with coefficient at 0.031. According to the same authors, in Central and Eastern Europe as a whole, to the extent that real wages, as an important component of construction costs, adequately reflect improvements in housing quality, these results support the view that better housing quality had a stronger impact on house prices in those countries where housing quality was initially lower (Égert and Mihaljek 2007, 17).

Golob, Bastič, and Pšunder (2012, 364) in their study found the correlation coefficient between the housing quality and location and housing prices, which can be linked with our finding that the construction costs such as price of land, labor wages, and material costs influence housing prices. The correlation between good location and housing prices includes higher prices of land, whereas housing quality includes higher material costs and labor wages.

Managerial Implications

The managerial implications largely emerged from quantitative findings in terms of what factors are significant in influencing housing prices in Kosovo and Slovenia. In terms of quantitative findings, the SEM output approves the direct influence of GDP, real interest rates, and demographics on real housing in Kosovo and negates the direct influence of construction costs on housing prices in Kosovo, al-

though housing prices and construction costs are moderately correlated. The SEM output approves the influence of all four variables (GDP, real interest rates, demographics, and construction costs) on housing prices in Slovenia.

The adoption of first hypothesis was not much of a surprise, considering the tendency of countries in transition to support GDP growth by heavy public spending in infrastructure, which results in the higher private consumption and increase of housing prices. Second hypotheses was surprisingly adopted, although there have been cases of decrease of housing prices in the periods when the mortgage loan rates in Kosovo decreased.

On the other hand, it came as no surprise to the authors that the decrease of unemployment rate artificially supported by the heavy public spending and public works in Kosovo was found to have a significant positive effect on housing prices.

What surprises the authors is the rejection of the fourth hypothesis in the context of Kosovo although the evidence provided through structured interviews with several real estate agencies in Kosovo argue that the housing prices in Kosovo grew in line with the increases of prices of land, labor wages, and material costs.

The first verified hypothesis which establishes the hypothesized relationship between gross domestic product and housing prices can serve as a good foundation for the real estate developers and managers to know when to forecast housing price cycles and influence policy makers in Kosovo and Slovenia to intervene in the local residential markets. The real estate managers should influence the policy makers in Kosovo to use the principles of Keynessian economic theory to intervene through public infrastructure projects especially in building investments in order to boost the local housing prices, relaxation of urban permit requirements, and active housing policy programs.

The second established hypothesized link between interest rates and real estate prices has implications for real estate managers and financial managers in Kosovo and Slovenia as how housing prices can respond to monetary policy shocks and inflationary pressures. The second hypothesis has also implications for financial managers in Kosovo to understand how they can intervene in the real estate cycles through interest rate reductions. Since Kosovo does not have the monetary policy, the interest rates in Kosovo are regulated by the market and are still high. The arguments that the banks use to defend their position of maintaining high mortgage rates is the poor contract enforcement system in Kosovo. Thus, the real estate man-

agers can influence the Kosovo government through faster adoption of the Law on Private Enforcement, which will give this power to private contract enforcement agencies to speed up the backlog of contract enforcement cases before court-based enforcement agencies. Another implication for real estate managers would be to lobby with the Kosovo policy makers to follow the path of Slovenia in imposing interest rate restrictions and ceilings which in the Slovenian legislation are present in Article 119 of Code of Obligations ('Obligacijski zakonik' 2007), Article 214 of Penal Code ('Kazenski zakonik' 2008), and Article 17 of the Consumer Credit Act ('Zakon o potrošniških kreditih' 2004) that provides for the interest rate ceilings.

The third hypothesized relationship between demographics and housing prices reflected through influence of employment and increase of labor force as a percentage of total population on housing prices has practical implications for real estate managers in Kosovo and Slovenia. The real estate managers should understand how to use the local residential market theory and focus their development on those areas where increased economic activity is expected to lead to. This hypothesis should serve as a conceptual framework for real estate managers to know how to forecast the population migrations and understand that it is not only the population migration that matters but also the employment and education opportunities that can lead to a more highly specialized labor, which increases the salary level. With increase in salary level the income of population also increases, which induces greater demand for housing that consequently increases the housing prices (De La Paz 2003, 111). On the other hand the implication of this hypothesis for the real estate managers is to influence the real estate markets through active employment policies, educational policies, and legislative measures.

As Mojca Štritof Brus (2009) argues 'the legislation is a nation's primary point of influence over the real estate market' (Grum and Salaj 2010, 113). In this regard, the Kosovo real estate managers should learn from the practices of Slovenia and influence the adoption of laws similar to Partially Subsidising of Full-Time Work Act ('Zakon o delnem subvencioniranju polnega delovnega časa' 2009) or Partial Reimbursement of Payment Compensation Act ('Zakon o delnem povračilu nadomestila plač' 2009), which both aim at decreasing the unemployment rate and increase the household income, which in turn leads to higher housing prices (Grum and Salaj 2010, 113).

Although the fourth hypothesized relationship between construc-

tion costs and housing prices was not verified in the Kosovo context, Kosovo real estate managers can benefit from the findings of validated hypothesized link in Slovenian context and other empirical evidence argued by Golob, Bastič, and Pšunder (2012) that one of the factors that influences the housing value and the speed of sales is the construction quality. The real estate managers should understand that the construction quality will bring them higher profits as housing prices increase and also increase the real estate demand. Real estate managers could achieve this by influencing the policy makers to intervene through increasing the construction quality in Kosovo by imposing stricter requirements in the Unified Construction Code of Kosovo. The construction quality can be considered as a service quality and as Burböck argues there is a link between the service quality and customer satisfaction explained through prospect theory (Burböck 2014). According to prospect theory, the greater the service quality, which in the context of the present study can be reflected through higher construction quality, the greater the customer satisfaction that in turn results in higher demand for quality housing services.

Conclusions

The present study examined the influence of various fundamental economic factors on housing prices in Kosovo and Slovenia. The objective of the present study was to establish whether participants from different national backgrounds express statistically significant differences in terms of their perception of which fundamental economic factors influence the housing price dynamics in these two respective countries. The present study employed the research in terms of the following fundamental economic factors that influence the housing prices in both respective countries: gross domestic product, real interest rates, demographics, and construction costs. The study followed the hypotheses that suggest that there are no statistically significant differences in the perception of Kosovar and Slovenian respondents about the fundamental economic factors influencing the housing prices in Kosovo and Slovenia.

The study used a survey questionnaire as the primary instrument for measuring the respondents' perceptions about which fundamental economic factors influence the housing prices in their respective countries. The main goal of this research was to reveal which fundamental economic factors have a decisive influence on housing prices in Kosovo and Slovenia.

To answer the basic research question and to achieve the research

objective, this study developed a basic theoretical and conceptual model. Based on sound reasoning of modification indices in Structural Equation Modeling (SEM) analysis the proposed model was tested and slightly modified and compared with the overall measurement model to identify the better fitted model. This idenified several items as not fitting to the model and upon their deletion the proposed model was modified. This process identified the modified proposed model as parsimonious and with better explanatory power and a better fitting to the data and the theory. In this model it was found that gross domestic product, real interest rates, and demographics are the significant contributory determinants of housing prices in Kosovo. On the other hand, the Structural Equation Modeling (SEM) analysis did not support the validation of construction costs as a significant contributory determinant of housing prices in Kosovo despite the two variables being highly correlated under correlation matrix. By contrast, the construction costs were found to be an significant factor in determining the housing prices in Slovenia. The Structural Equation Modeling (SEM) analysis dismissed the theoretical expectation that construction costs play a positive role in housing prices in Kosovo.

The overall findings of this study extended the use of several basic economic theories: conventional economic theory, Keynesian economic theory, gradient consumption theory, user cost theory, life cycle theory, and Tobin's Q Investment Theory in a new research context by using these theories as theoretical bases for the tested variables. Further, the present thesis signifies the usefulness of these economic theories in understanding the influence of these macroeconomic variables in housing price dynamics as a remarkable endeavor in real estate economic theory.

In this regard, Kosovar and Slovenian respondents had similar perceptions that gross domestic product, real interest rates, and demographics have an influence on the housing prices in Kosovo and Slovenia. The only difference was with the variable of construction costs. Kosovar respondents had low perception of the influence of construction costs on housing prices in Kosovo. On the other hand Slovenian respondents validate the influence of construction costs as an independent variable on housing prices in Slovenia.

By validating the set hypotheses that determine the fundamental economic factors that influence the housing prices in Kosovo and Slovenia, we have contributed to science in the construction industry, partly scientific disciplines, and real estate economics. First, the results obtained will help real estate developers to understand how

economic cycles affect the housing prices and when is the best time for them to benefit of housing price peaks. Second, the study will also help real estate appraisers in understanding that certain housing price cycles may be because of the influence of macroeconomic factors and not because of the manipulations of the participants in the market. Finally, the findings of the study will help also policy makers to know how they can influence the housing markets in Kosovo and Slovenia through policies and legislation.

Finally, over the last decades the housing markets were explained through the conventional economic theories of supply and demand. The present study attempts to establish a theoretical framework, which tries to use several other economic theories through which the influence of macroeconomic factors over housing prices and housing markets is exercised. The use of these theories serves as an impressive recognition of the contribution of this study in a new research setting. It is in this light that the contribution of this study can be further examined and analyzed.

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Financial Participation Programs in Polish Public Companies

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The major purpose of this article is to analyze the most important FP programs in Poland in order to increase knowledge on the subject and to show the occurring relations between the programs applied and the socioeconomic results of enterprises. The emphasis has been put on showing the multidimensional relationships between employee financial ownership and economic results, as well as on proving the relationship mechanisms of employee ownership on productivity are complex interactions by nature. Additionally, it has helped to separate crucial characteristic features of the applied forms of FP. This empirical approach concentrates on qualitative research and not quantitative, which although broad based, does not precisely identify the aforementioned relationships too precisely.

Key words: worker attitude, worker ownership, financial participation (FP), profit sharing, stock option

Introduction

The research focused on analysis of FP programs in Polish listed companies in order to increase knowledge on the subject and demonstrate relations between the programs applied and the socioeconomic results of enterprises. Efforts have been made to systematize the forms of participation presented here, although, due to their multitude, occasional lack of clear dividing criteria, and their different interpretation, the results appear dissatisfactory. Nevertheless, due to the shortage of literature concerning FP issues, this article attempts to fill in the gap to some extent and aims to increase interest in the above solutions. Additionally, it has helped to separate some crucial characteristic features of the applied forms of FP.

It may be surprising that (large) listed companies have been chosen as objects of analysis, only some of which are privatized, and the rest represented by domestic or foreign private firms. Therefore, they are companies in which one could expect some significant remains of employee ownership after the privatization process. The intention of the author was to deal with existing large companies, regardless of their origin, and to check if they have FP programs. The

choice was also made based on much better availability of information on listed companies.

The aim of the detailed analysis was to provide answers to, among others, questions such as:

- Does the personnel structure decide the type of employee participation program? Four groups of employees were included: managerial, white-collar, blue-collar and administrative personnel.
- What type of personnel structure exerts influence on opinions concerning the effects of participation? Predominance of one group over another group of employees gives different results according to financial effects.
- What factors (considered as barriers and facilitations) have decided the percentage of employees covered by a participation program, allowing for the employee structure and the type of program? The crucial factors were tax incentives, costs of social insurance, company culture, accountancy regulations, the level of knowledge of the program, etc.
- Does participation in profit sharing have an advantage over share ownership, especially cash based or not? It should be noted that profit-sharing schemes seem to have a short-time effect, whereas share ownership schemes, such as those that produce effects in the long run, supposedly have a longer lasting nature.

Due to a significant number of variables, it is proper to explain some explicitly. Generally, there are independent variables that have an influence on financial programs implemented in the companies, including size of the company, sector of activity and the employee structure, ownership structure, job seniority, etc. Some of the dependent variables are share of employees covered by the program, company financial indicators (productivity), willingness and higher involvement, efficiency of work, better profits, and social benefits.

Theoretical Background

Participation schemes based on company profits and employee share ownership are immensely popular in the European Union. In the four largest countries (France, UK, Germany, Spain), these schemes have covered around 17 million workers (19% employees from the private sector) (Pérotin and Robinson 2002). This is due to earlier experience and traditions with worker ownership in France and

the UK, cooperatives in Spain or widespread decision-making processes in Germany as a source of FP. The most popular financial programs are profit sharing and share ownership in France, varieties of profit sharing in the UK and share ownership in Germany. Among countries with a significant number of FP schemes are Italy, Finland and the Netherlands The situation is definitely worse in post-Soviet states.

It is officially acknowledged that FP is in accordance with state policy because it has positive influence on efficiency and employment and accelerates the fulfilment of other goals of state policy, such as redistribution of wealth or broader participation in creating welfare and overcoming in-company conflicts. The mechanism of relationship may be as follows: participation in shares or profits subliminally leads to increased willingness and involvement to better perform one's work, and at the same time highly contributes to the success of the parent company. Additionally, the efficiency of work increases because there is no overtime. To some extent, the worker becomes more connected with the company he helps to achieve better profits.

It should be noted that from the point of view of a country only some types of schemes will be preferred, mainly those which will largely contribute to the achievement of macroeconomic goals. Activities promoting implementation of participatory solutions are conducted in different countries in a varied manner and with a diverse intensity; therefore, one should bear in mind that their spread in particular countries would differ. Nevertheless, there is a constant, yet not dynamic, growth in the number of employees taking part in FP schemes and an increase their incidence. The research conducted by specialists in the EU countries and the USA provides us with a large amount of significant information on the nature of these schemes and achieved results. In the EU, there are organizations involved in FP, such as European Federation of Employee Share Ownership (EFES) with Marc Mathieu, International Association for the Economics of Participation (IAFEP), researchers in Europe such as E. Poutsma, A. Robinson, A. Pendleton and others, and in the USA, D. Kruse, D. Jones, T. Kato and others. Their reports and books are extremely valuable in finding new ways to implement FP programs.

The data is obtained from, for example, surveys sent to enterprises listed on the stock exchange and to other large companies whose capital is estimated to be at least 200 million euro (Mathieu 2009).

However, gaining information, employing convincing arguments and straightforward evidence about the schemes and their effec-

tiveness is troublesome for companies that want to implement FP schemes. The commonly shared belief is that through implementation of participatory solutions, companies want to motivate their staff to better and more efficient work and to convince them to stay with the company, but the evidence suggests that in companies introducing employee participation schemes, work efficiency does not radically change (Pérotin and Robinson 2002). Therefore, it can be assumed this is not a direct reason for their implementation and the schemes are simply part of a set of employee participation tools (Kruse and Blasi 1997; Long 2002; Robinson and Wilson 2001; Pendleton 1997; Jirjahn 2002; Kato 2002; Shields 2002).

In turn, the analyses conducted in over 20 EU countries, comprising several thousand enterprises, shows evidence that FP has had a positive or at least neutral impact on efficiency. The achieved results are in favour of higher influence of participation in profit sharing on work efficiency over such influence arising from employee share ownership (Fakhfakh and Pérotin 2002; Kruse and Blasi 1997; Braam and Poutsma 2010; Mathieu 2009, 2010). This might be a result of the differences in conditions in which those schemes are implemented, which in turn cause trouble with measuring the absolute effects achieved in different research in various countries.

Presently, the most prominent form of employee FP in Poland is share ownership. The restructuring program in Poland was characterized by crucial incentives for employee participation, especially in firms privatized by leasing and those transformed into so-called employee-owned companies. The ownership structure in these companies, in general, is relatively stable and employees who do not hold executive posts maintain a small number of shares. This was caused by a lack of interest from political and trade unions. The buyout was also hindered due to a clause included in the Transformation Law as of 1996, which stated that at least 20% of shares of a leased company must be purchased by people who are not employed in the company. Over the last few years, the matter of employee-owned companies and FP schemes has been dealt with again, due to extension of research and increased interest by EU organs.

It can be said that the structure of law in Poland provides opportunity to implement different forms of financial schemes, including share ownership and profit sharing, and creation of employee-owned companies through transformation processes. However, politicians have not provided incentives for development of such schemes and have not given proper support. The most widespread FP schemes embrace share ownership and profit sharing programs, al-

though the latter is considered to be a broad-based type of scheme related to company results and is described in Poland as a 'bonus,' yet it does not have legal basis.

In comparison to other EU states, the situation in Poland does not appear optimistic and the level of employee ownership in large enterprises is substantially low, as is the dynamics of development.

Research Method

The research was based on a survey sent via e-mail. This is an optimal method due to the nature of the community analyzed, the situational context of conducting the research and most of all the specificity of the issues examined. This method is based on respondents providing written answers. The drawback of this method is the possibility of conducting the survey only with those who have access to the Internet.

Respondents were provided with limited general information on who conducted the research, the topic and purpose, and were guaranteed anonymity, especially if the subject is sensitive and requires providing information that is a trade secret. This technique becomes useful when a researcher needs to collect data quickly. It was assumed the surveys were filled in by people whose answers are highly desired by the client. The survey form was divided into 3 parts and contained 51 questions. The first part concerned information on the company, the second information on financial programs, and the third assessment of worker participation in the programs of FP. A small number of questions were closed questions; the others were multiple answer and multiple-choice questions.

The survey was prepared based on numerous, similar surveys used by international companies and organizations to research the same problems (i. e. Dutch and Slovenian companies), yet their scope and analyses are broad-based. The survey prepared for Polish companies was slightly modified, to be suitable for Polish conditions. Each question had additional sub-clauses that described the precisely analyzed issues. The research was conducted on a sample of Polish companies listed on the Warsaw Stock Exchange. The general number of companies covered by the analysis was 645.

Companies that had at least one out of three major FP programs, namely a share ownership, profit sharing or stock option scheme, were chosen for the sample. In order to single out companies with financial programs, phone calls were made to all the companies to ask if a program had been introduced.

Through making calls, 121 companies were chosen and subse-

quently sent the questionnaire via the Internet. Monitoring the return of the forms was difficult and time consuming due to a high number of firms and frequent necessity to remind the companies to return the form. In many cases, the interviewers had to physically visit the company in order to help fill in the survey. The survey was primarily conducted from 3 November 2010 to 31 January 2011, but was extended for some companies. Information was collected by five interviewers. In 28 instances, it was impossible to receive return information, and before starting the statistical analysis, those entities that provided incomplete data of more than 50% had been removed from the survey. Consequently, further analyses were based on the information achieved from 73 companies. One could question the representativeness of the sample, but the author's intention was primarily to explore certain relationships in companies where any participatory program was implemented.

Preliminary Characteristic of the Results: Marginal Distributions

A statistical analysis of the collected data was conducted in several dimensions. Economic perspective, structural indicators, as well as relationships between significant variables, were investigated.

The first part, devoted to analyzing the data, focused on the structure of the so-called marginal distributions of variables. Later, emphasis was placed on the relationships between the questions, describing in detail the level of the contingency coefficients, i. e. Pearson's C and Kramer's V, together with the accompanying levels of significance. The described structure refers to the most important characteristics of the examined companies. This allowed divisions to be made according to significant criteria and demonstration of the relative frequencies of the emerging variants of an examined feature, expressed mostly as a percentage value.

Among the listed companies covered by the research, in which participation programs are implemented, the most popular were those operating in the field of real estate trading (17.8%) and the firms from the financial and insurance sectors. Another large group included companies representing the following fields: information and communication (12.3%) and waste and sewage treatment. There was 6.8% of companies whose activity could not be covered by any of the established categories. Every tenth company that took part in the survey operated in the field of wholesaling and retailing, as well as motor vehicle servicing and processing industry. The companies with the smallest number of representatives were those from the

TABLE 1 The Structure of a Company's Main Field of Activity

Fields of activity	Percentage
Mining and extracting, chemical industry	4.10
Processing industry	9.60
Publishing activity; fabric and clothing manufacturing	4.10
Water supply; waste and sewage treatment	12.30
Wholesaling and retailing; motor vehicle servicing	9.60
Information and communication	12.30
Financial and insurance activity	17.80
Real estate market operating activity	17.80
Professional, scientific and technical activity	2.70
Health care and social assistance	1.40
Recreational, entertainment, sports activity	1.40
Other activities	6.80

TABLE 2 Employee Structure in the Surveyed Companies (percentage)

Personnel group	0–20	21–40	41–60	61–80	81–100
Managerial workers	49.3	43.9	6.8	–	–
White-collar workers/specialists	–	32.9	26.0	27.4	13.7
Administrative/office personnel	60.3	39.7	–	–	–
Blue-collar workers	53.3	36.7	3.3	6.7	–

NOTE $n = 73$.

health care and social assistance sectors as well as the firms from the recreational, entertainment and sports industry.

The analysis of the number of employees in the companies shows that the highest percentage of them employ over 250 people (35.6%), which means they are large enterprises. Companies that have between 51 and 250 employees represent 34.4%. The least represented were small companies employing between 10 and 50 people (30.1%).

The analysis of the structure of employees is included in the research (table 2). According to the opinions of company representatives (especially CEOs), it is clear that in every company the highest percentage is represented by white-collar workers/specialists. In every seventh company (13.7%), these workers represent at least 80% of the company, and more than 2/3 (26% + 27.4% + 13.7%) claim the percentage of specialists is over 40% of all personnel. Six in ten (60.3%) respondents are of the opinion the number of people represented by the administrative personnel in their company does not exceed 20% of all employed. In every second company, fewer than every fifth employee is a member of management, and almost every fifteenth re-

TABLE 3 Employee Financial Participation Programs Offered to Particular Personnel Groups

Personnel group	(1)		(2)		(3)		(4)		(5)	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Managerial workers	79.5	20.5	11.0	89.0	0.0	100.0	30.1	69.9	0.0	100.0
White-collar workers/ specialists	23.3	76.7	8.2	91.8	0.0	100.0	12.3	87.7	0.0	100.0
Administrative/office personnel	19.2	80.8	8.2	91.8	0.0	100.0	0.0	100.0	0.0	100.0
Blue-collar workers	0.0	100.0	0.0	100.0	0.0	100.0	0.0	100.0	0.0	100.0

NOTES Column headings are as follows: (1) stock/share ownership, (2) cash-based profit-sharing, (3) deferred profit-sharing, (4) stock/share options, (5) pension schemes.

spondent declares that from 2/5 to 3/5 of all employed are members of management.

Table 3 contains collective information on the major FP programs offered to company workers. Looking at this information, it is clear that management is offered shares/stocks in the company (79.5% of firms) and stock/share options (30.1%). Cash-based profit sharing is offered to management in every ninth company covered by the survey (11.0%). The white-collar workers/specialists participate in share ownership in almost every fourth company (23.3%), are granted share/stock options in every eighth company (12.3%), and in every twelfth (8.2%) they participate in cash-based profit sharing. The administrative personnel may count on share/stock ownership in almost every fifth (19.2%) company in the analysis, and in every twelfth (8.2%) for cash-based profit sharing.

No answer was received in regard to deferred profit sharing and pension schemes. The absence of broad-based FP programs in the surveyed companies confirms an opportunistic attitude of regular workers, and these schemes are offered in Poland to every personnel group, except regular workers, whereas in foreign enterprises they cover both high-level and low-level workers. It is reflected in the economic results achieved by companies and the relationships between the structure of employees covered by participation and these results. As is seen from the international research, economic results are higher if the availability of programs for all employees is better (Braam and Poutsma 2010). There are no such relationships in the

TABLE 4 Declared Changes in Ownership Structure in the Analyzed Companies (percentage)

There will be a takeover of the enterprise and the share of foreign capital will increase	4.20
Ownership rights will be concentrated in the hands of a narrower group of external owners and the regular workers' participation will increase	2.80
Participation of regular workers in the ownership structure of the company will increase	19.70
Ownership rights will be concentrated in the hands of a narrower group of external owners	2.80
Ownership rights will be concentrated in the hands of a narrower group of internal owners	19.70
The present structural model will be continued	50.80

analyzed Polish companies. This agrees with the results of the international research, in which only participation on the side of managerial workers had no impact on the economic results, or this influence was even negative (Braam and Poutsma 2010).

The representatives of the companies were also asked to answer a question concerning the attitude of managerial workers to regular worker participation in ownership or profits of the company. The type of employee structure did not have an influence on the answers. In most cases, management did not express similar views on this matter, nor had negative opinions on allowing regular workers to participate in FP programs. From the analysis of the answers, it can be assumed that managerial personnel do almost nothing in order to maintain or increase regular worker participation in the schemes (Pearson's C = 0.513). This would confirm almost absolute absence of regular personnel in those programs and limit them to other categories of employees. It is not optimistic information, bearing in mind a large percentage of regular employees in companies. Such an approach may suggest that in spite of the official positive declarations, the unwillingness to share the power and profits in companies is still incredibly strong and because of this, Polish companies with FP programs have low positions among other European countries.

One of the questions asked to company representatives referred to planned changes in the ownership structure of the company that are to take place in following years.

The answers from multiple-answer questions show that 50.8% of those interviewed say that the present model of the ownership structure will still be followed. This may suggest that half of the companies were satisfied with the current situation. Every fifth respondent

(19.7%) declared that the percentage of regular workers in the company's structure will go up. The same percentage (19.7%) said that ownership will be in the hands of a narrower group of internal owners, which should be interpreted as a potential takeover of shares by a current owner. According to only 4.2% of respondents, there are attempts to take over the company and to increase the foreign capital. This may result in being more dependent on foreign entities or structural changes. Each of these options brings substantial alterations, which made clear from the answers, are not desired by the companies. Only 2.8% of respondents stated ownership will be in the hands of a narrower group of external owners or that ownership will be in possession of a narrower group of external owners and the percentage of regular works will be higher.

The respondents were also asked to answer a question on the influence of the increased percentage of regular workers on the economic results of companies. The representatives of most listed companies claimed the increased percentage of regular workers (blue-collar workers) in the ownership structure of the company has positive influence on the economic results achieved by the company. It should be assumed that part of the answers might reflect the thoughts of the respondents on FP and not the actual situation in their company. It should be noted that in most of these companies, regular workers have no share in the ownership structure, so the answer does not refer to their personal experience in the company. Moreover, it can be assumed that their knowledge on the matter is rather insufficient.

Many of the questions refer to the subjective opinions of the respondents. Without additional confirmation, it is difficult to find an objective answer. More than 4/5 are of the opinion that the results of the company simply are improving (59.8%) or definitely improving (20.8%). Among the interviewed people, there were no negative answers in regard to the increased percentage of regular workers in the ownership structure.

In spite of positive answers to a question concerning the relationships between the number of regular workers possessing shares of the company and the economic results, in the case of an optimal ownership structure, according to respondents their share in the overall capital of the company should not be higher than 40% (82.2%). At the same time, the majority of respondents (57.5%) believe that in the best ownership structure regular workers ought to be in possession of less than 20% of shares. Nobody found it optimal to have regular workers owing more than 40%. Interestingly, 17.8%

TABLE 5 An Optimal Ownership Structure in the Surveyed Companies (percentage)

Less than 20% of shares should be in the hands of workers	57.5
20–40% of shares should be in the hands of workers	24.7
It is hard to assess	17.8

NOTE $n = 73$.

TABLE 6 Distribution of Stocks/Shares among Employees in the Surveyed Companies (percentage)

Distribution of stocks/shares	Yes	No
Equally	16.2	83.8
Depending on the salary	38.0	62.0
Depending on the position	100.0	0.0
Depending on the job seniority	71.7	28.3
Depending on the form of employment	37.9	62.1

of company representatives was unable to clearly define an optimal share ownership structure of a company (table 5).

Regarding the question of the method of distributing participation in profit-sharing/share ownership, all the entrepreneurs claimed the most important determinant that influences this case is the position held, i. e. the personnel group. It depends whether it is a white-collar worker, administrative worker, office worker, low-level manager, senior manager, etc. It may be so due to the position of the people questioned, most of whom were managerial mental workers. Another important factor determining the method of distribution of company shares is job seniority – in the process of time one becomes more privileged. Only in over 1/3 of companies, the level of remuneration and form of employment decides the way in which shares are distributed inside the company. In 62% of companies, the respondents said that the method of distribution does not depend on the form of employment. The level of remuneration reflects the dignity of a particular post: the higher the wages, the more profits the company gains – in this case, 100% of the respondents expressed their positive conviction. It must be noted that respondents could give more than one answer (table 6).

As is commonly known, bonuses from profits or purchasing stocks of companies should reflect economic results. This was a question asked of respondents. Almost 3/4 of respondents stated the money received from FP (stock- or cash-based) is connected with general financial results of the company. However, this declaration was later not confirmed as justified in regard to the relevance of the relationships between the presence of FP programs in companies and the

economic indicators. This means that in the surveyed companies, there is a positive relationship between these variables. It can be assumed that, due to the introduced participation programs, the results of the company are improving.

According to the assumptions, FP programs are advantageous for the company activity in which they were introduced. In the opinion of entrepreneurs motivating employees through additional financial incentives, apart from regular pay, this program is even more significant from the company's perspective, but not a person who makes use of this program. Additionally, the respondents believed the national economy also benefits owing to FP programs, which suggests that motivating the worker is beneficial for all the participants of the economic chain.

In turn, the company whose profits are rising is more willing to introduce and improve participation programs based on profits because it is financially possibly for it to do so and it can also allow a larger number of regular employees to participate in the overall success (benefits apart from the standard remuneration are linked to a better situation of the company). Higher results make the shares more expensive; consequently, people involved in the company become richer. A result of the company becoming wealthier may be expansion focused on taking over companies whose financial situation is worse, leading to an increase in its market share. These relationships are complex and not always obvious, yet may occur.

Chairmen and directors of finance often ask themselves questions regarding whether all personnel groups should be motivated in the same way and whether regular workers should be given the same rewards as managers. Considering the benefits from FP, the answer is not obvious. It is difficult to choose incentives that would encourage better work because their impact varies in different personnel groups. This is why incentives should be differentiated. Such behaviour raises controversy and objections on the side of the employees, for example with low-level or regular workers, who feel aggrieved or underestimated in the case of different sizes of blocks of shares or the amount of a bonus. Here, respondents expressed their view that management is much more attached to the company, which results from the post held. It can be assumed that the higher the position, the stronger the attachment to the company. Decisive factors in this case are not only dependent on remuneration and prestige, but on FP programs, which allow a higher risk for the decision-makers, which may pay off in the future. Low-level workers are less responsible for making decisions concerning the company (if they

are decisive at all), which means they feel unnecessary. This is why they become less loyal to their enterprise, their attachment is weaker and they do not identify with the company as much as they should. This attitude is also strengthened by a low salary. In almost half of the companies, blue-collar workers do not earn more than 3,000 PLN per month, and in other companies, their pay does not exceed 2,000 PLN (author's research). Therefore, it is not surprising they do not express attachment to the company and are unwilling to cooperate.

Another question asked of respondents referred to defining factors that may influence the realization of each of three programs: share/stock ownership, share/stock options and profit sharing. The interactions have been classified as barriers, facilitations and no effect.

For the first of the aforementioned programs, the crucial facilitations were as follows: tax incentives (79% of the companies), costs of social insurance (59%), employee interest (68%), owner interest (84%), owner decisions (62%) and company culture (66%). A serious barrier was presented by accountancy regulations (42%), the requirements concerning securities, as well as the level of knowledge of the program (38%). According to the respondents, the greatest difficulty in realization of a share ownership program was the presence of other incentive stimuli for the workers (72%). In the opinion of the same number of respondents, personnel structure (52%) and market conditions (52%) facilitate the realization of the program in the company. The second most popular participation scheme was a share/stock option program. In this case, the factors that make its realization easier include owner decisions (64%), company culture (59%), employee interest (50%) and tax incentives and costs of social insurance (both 44%). Regarding the factors considered as barriers to realization of this program, the most frequently chosen are: the level of knowledge in this field (96%), the structure of the scheme and the accountancy regulations (both 68%), and program administration costs (44%). It appears that the structure of the program and unclear regulations are mostly the result of the lack of proper knowledge on the matter, which definitely discourages entrepreneurs from introducing option programs.

While analyzing the factors that may exert influence on realization of profit-sharing programs, despite a small percentage of respondents who declared this scheme had been or was introduced in the enterprise, the barriers are clear and visible. All respondents stated that that the main factor disturbing the realization of schemes is the costs of social insurance. On the other hand, in regard to factors fa-

TABLE 7 The Type of Program as a Stimulus for Particular Groups of Personnel in the Surveyed Companies (participation in income – profit sharing, percentage)

Personnel group	Yes	No
Blue-collar workers	8.9	1.1
Administrative/office personnel	6.1	3.9
White-collar workers/specialists	1.9	8.1
Managerial workers	1.9	8.1

TABLE 8 The Type of Program as a Stimulus for Particular Groups of Personnel in the Surveyed Companies (participation in ownership, percentage)

Personnel group	Yes	No
Blue-collar workers	1.4	8.6
Administrative/office personnel	3.9	6.1
White-collar workers/specialists	8.1	1.9
Managerial workers	8.9	1.1

cilitating the realization of this particular program, representatives of different companies pointed to several equal options: level of interest and owner decisions, company culture (perceived as a set of values that help members of the organization understand what the attitude of the organization is, how it works, and what it considers to be important) (Nogalski 1998; Kostera 1996), international regulations, company structure, market conditions, labour law and benefits that may be offered to workers who earn less.

The analysis of the data concerning which form of stimulation and in what manner influence the particular personnel group, shows that the higher the position, the more interested workers are, not only in a financial reward, but also in having their share of ownership of the company (tables 7 and 8).

Almost nine in ten representatives of management would decide on company shares, and only every fifth of them cash reward. In regard to physical workers, only 14.2% would choose company shares as a form of additional remuneration, in comparison to 89% of the examined companies, in which regular workers would opt for profit sharing. This may mean that employees in Polish companies do not think ahead or see themselves as potential managers. Similar attitudes were expressed by administrative/office workers, 3/4 of whom, according to the research, are driven by a short-term desire to maximize their profits. Completely different attitudes were shown by mental workers, who in 70% of the companies were more interested in maximizing their profits in a longer run.

Conclusions

Having conducted the analysis of factors that may exert influence on realization of particular programs, now is a good moment to present the effects of introduction of all participation solutions. The impact of the programs on the results may be positive, negative or neutral. Considering ownership of stocks/shares, this program exerts positive influence on profitability and the opportunity to show company appreciation to workers (both 96%), work motivation and satisfaction (both 92%) and identification of oneself with the company (75%). On the other hand, in the opinions of respondents, the factors that may be influenced negatively by the program include relationships between workers and management (43%) and the workers themselves (24%). In regard to profit sharing, respondents had identical views.

The program had positive influence on most of the factors listed in the survey. There were no negative results given by respondents of implementing the scheme. Stock/share options is a program that has positive impact on such attitudes as identifying oneself with the company, opportunity to show that the company appreciates its workers, the value of the enterprise (100%), profitability, acquiring suitable employees, work motivation, enterprising attitudes and behaviour of the employees, identification with the organization, direct participation, satisfaction with work and safety (95%). Other effects also were also positive. From the point of view of interpersonal relations, the crucial problem resulting from introduction of the scheme seems to be a fear that relationships between workers themselves, and workers and management, may worsen. These social internal relations within the company should be taken into account while introducing the schemes and deciding the benefits depending on the position held.

Having examined the major programs and factors that have influence on their realization in the company, in spite of the multitude of programs, a theme emerges. Determinates of barriers in the introduction of FP schemes are the level of knowledge in the field of realization of a particular scheme and accountancy regulations. Accountancy regulations are unclear or simply do not exist. However, more factors can make realization easier, including tax incentives, employee interest, owner reactions (interest and decisions), company culture and its ownership structure.

It must be noted that the majority of highlighted factors that facilitate realization of a scheme are endogenic by nature. Before the in-

troduction of a program, the company should make the right choice, in order to match its goals and needs and then provide the whole of personnel with proper training concerning introduction and realization of the scheme. The aforementioned factors should be firmly considered only as declared expectations in this matter because the percentage of companies having participation schemes could have been higher if, for instance, the interest in their implementation had been more extensive or the tax incentives had been more stimulating for the development of such schemes.

The effect of analyzing the structure is the conclusion that FP programs generally have positive influence on the functioning of the enterprise. However, the effects are rather social than economical. More rigorous statistical analysis carried out by the author did not bring satisfactory results. There are questions that need to be answered, for example, why do so few companies operate FP programs and why are they not broad-based?

Considering the statistical compilation of materials, it must be noted that the sample including 73 companies is too small to provide plausible statistical results, which could be a generalization of the statistical measurement values, achieved on this basis, with regard to the population of enterprises in Poland that have introduced any form of FP program. Regarding statistical values, one should consider structural indicators and contingency coefficients.

The purpose of this paper is to present selected views on attitudes toward relationships between employee participation and company results. After many years of conducting empirical research on the benefits from implementation of FP plans, the information provided almost only by reports is insufficient to make a uniform decision concerning influence on the results (productivity) achieved by companies. Acquiring the aforementioned opinion is additionally hindered due to the lack of clear-cut data and to what extent the implemented participation schemes contribute to the change of financial results.

The previous theory and research conducted so far do not convincingly explain the relationship between FP schemes and results achieved owing to their implementation, which only proves there is a need to conduct further research in this field. In this case, an empirical approach should concentrate on qualitative research and not quantitative, which although broad based, does not precisely identify the aforementioned relationships. Another conclusion that can be drawn is a necessity to conduct further research based on larger samples of companies, taking into account their business specificity

and environment. It seems other aspects should be taken into consideration, such as the type of introduced FP scheme because this decision may have influence on future results. Research should be started a long time before introduction of a scheme, which would allow for making future comparisons and evaluations of influence of a given scheme on productivity.

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Abstracts in Slovene

Razmerje med strategijo podjetja in uspehom sporazuma o sodelovanju

Jesús David Sánchez de Pablo in Pedro Jiménez Estévez

Sporazumi o sodelovanju so postali razširjeni zaradi težav podjetij, ki so morala sama tekmovati v zelo turbulentnem okolju. Ključni dejavniki uspeha sporazuma o sodelovanju, njegove koristi in tveganja ter učinek na tehnološko intenzivne sektorje so bili že večkrat analizirani. V našem primeru bomo raziskali vpliv strategije podjetja na uspeh sporazuma o sodelovanju. Glavna ugotovitev je, da bi bilo treba sporazum o sodelovanju sočasno usklajevati in upoštevati strategijo podjetja, če želimo, da se rezultati izboljšajo. Naša študija se bo razvila v zrelo industrijo z nizko tehnološko intenzivnostjo, da bi zapolnila raziskovalno vrzel.

Ključne besede: strategija podjetja, sporazum o sodelovanju, sporazum o raziskovanju, sporazum o izkoriščanju
Management 9 (4): 265–283

Managementski model svetovalnega mentorstva in vpliv njegovih aktivnosti na zadovoljstvo zaposlenih in uspešnost podjetja

Petra Cajnko, Sonja Treven in Polona Tominc

V članku smo poskušali odgovoriti na temeljno raziskovalno vprašanje: Kakšen je potencialni dodatni učinek na zadovoljstvo zaposlenih in uspešnost podjetja z uporabo managementskega modela coachinga in aktivnosti, ki jih zajema model? Namen našega članka je na temelju teorije s tega področja in spoznanj iz terenske raziskave oblikovati managementski model coachinga in vpliva njegovih aktivnosti na zadovoljstvo zaposlenih in uspešnost podjetja. Z dvema empiričnima raziskavama (ena je temeljila na vzorcu managerjev, druga na vzorcu zaposlenih) smo potrdili obe glavni hipotezi in vse pomožne hipoteze. Na podlagi zgoraj napisanega lahko sklepamo, da je tema izjemno aktualna, njeni rezultati pa bodo omogočili slovenskim in tudi drugim managerjem razumeti pomen in vpliv aktivnosti coachinga na zadovoljstvo zaposlenih in uspešnost podjetja.

Ključne besede: coaching, zadovoljstvo zaposlenih, uspešnost podjetja, management, model
Management 9 (4): 285–305

Poslovni ekosistemi prostorskih, zdravstvenih in bio-znanosti: raziskovalni okvir

Jukka Majava, Tuomo Kinnunen, Pekka Kess in Pekka Leviäkangas

Industrijska konkurenca se premika od ravni podjetja proti poslovnim ekosistemom, v katerih morajo organizacije razviti vzajemno koristne medsebojne odnose. Članek proučuje pojave poslovnih ekosistemov, s poudarkom na prostorskem (geografskem) kontekstu znotraj zdravstvene industrije in industrije bioznanosti. Poleg tega sta obravnavani tudi evolucija poslovnega ekosistema in dinamika sprememb. Študija temelji na literaturi; ugotovitve in analiza zagotavljajo raziskovalni okvir za prihodnje empiričnih študije. Kljub povečani pozornosti je literatura o poslovnih ekosistemih še vedno relativno skopa, predhodne študije pa so se večinoma osredotočale na industrijo programske opreme in informacijske tehnologije (IT). Članek torej ponuja nove vpoglede v koncept poslovnega ekosistema v novem kontekstu.

Ključne besede: poslovni ekosistemi, zdravstvene in bio-znanosti, inovacije
Management 9 (4): 307–322

Temeljni gospodarski dejavniki, ki vplivajo na cene stanovanj: primerjalna analiza med Kosovom in Slovenijo

Visar Hoxha in Alenka Temeljotov Salaj

Namen te študije je ponuditi strateške implikacije cenilcem nepremičnin in upravljavce nepremičnin seznaniti z gospodarskimi dejavniki, ki določajo dinamiko cen stanovanj na Kosovu. Temeljni gospodarski dejavniki za cene stanovanj, prevzeti iz predhodnih študij, so rast bruto domačega proizvoda, demografija, realne obrestne mere in stroški gradnje. Uporabljena raziskovalna metodologija je kvantitativna analiza dejavnikov. Glavno obravnavano vprašanje je, ali so konvencionalni temeljni dejavniki za cene stanovanj, kot so bruto domači proizvod na prebivalca, realna obrestna mera, demografski dejavniki in stroški gradnje, vplivali na opazovane cene stanovanj na Kosovu. S pomočjo vzorčenja dejavnikov za cene stanovanj na Kosovu študija prikazuje njihove učinke na dinamiko cen stanovanj. Pokaže tudi, da cene stanovanj na Kosovu v veliki meri določajo ustaljena načela. Gre za prvo raziskavo, ki poskuša ugotoviti, če temeljni gospodarski dejavniki vplivajo na cene stanovanj na Kosovu.

Ključne besede: cene stanovanj, gospodarske značilnosti, Kosovo, Slovenija
Management 9 (4): 323–348

Programi finančne udeležbe v poljskih javnih podjetjih

Maciej Kozłowski

Glavni namen članka je analizirati najpomembnejše programe finančne udeležbe na Poljskem, da bi povečali znanje o tem in pokazali pojavljajoča se razmerja med izvedenimi programi in socialno-ekonomskimi rezultati podjetij. Poudarek je na prikazu večdimenzionalnih odnosov med finančnim lastništvom zaposlenih in gospodarskimi rezultati, kakor tudi na dokazovanju, da so mehanizmi odnosov lastništva zaposlenih na produktivnost po naravi zapletene interakcije. Poleg tega je to pomagalo ločiti bistvene značilnosti uporabljenih oblik finančne udeležbe. Ta empirični pristop se osredotoča na kvalitativno in ne na kvantitativno raziskavo, ki kljub temu, da je široko zasnovana, ne prepozna dovolj natančno prej omenjenih odnosov.

Ključne besede: odnos zaposlenega, lastništvo zaposlenega, finančna udeležba, delitev dobička, delniška opcija
Management 9 (4): 349–366

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