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Full Length Research Paper

Initiating innovation in Serbian companies' organizational cultures

Mladen Pe ujlija[1]*, Branislav Nerandži[1], Veselin Perovi[1], Aleksandar Jevti[2] and Nenad Simi[3]

[1]Faculty of Technical Sciences, Novi Sad, Serbia.
[2]Public Service Urbanizam, Novi Sad, Serbia.
[3]MUP Serbia, Novi Sad, Serbia.

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This paper deals with an aspect of introducing innovations into organizational culture in Serbian companies. An ad hoc questionnairre was designed consisting of twenty one items in order to confirm our claim that questionnaire could be a useful tool for collecting data about employees' assumptions (third cognitive level of organizational culture according to Schein). Answers from 1,206 employees in 75 randomly selected Serbian companies have been gathered. The data was analysed on two levels: descriptive and in-depth by performing exploratory factor analysis. Descriptive level analysis provided data from the second cognitive level (values) according to the Schein`s theory.

Key words: Introducing innovation, organizational culture, Schein theory, exploratory factor analysis, organizational culture levels.

INTRODUCTION

The term innovation means a new way of doing something (Scotchmer, 2004). It may refer to incremen-tal, radical, and revolutionary changes in thinking, products, processes or organizations. A distinction is typically made between invention, an idea made manifest, and innovation, ideas applied successfully (Black, 2003). In many fields, something new must be substantially different to be innovative, a significant change, e.g., in the arts, economics, business and government policy (Barras, 1984). In economics the change must increase value, customer or producer value (Chesbrough, 2003) . The goal of innovation is a positive change, to make someone or something better. Innovation leading to increased productivity is the fundamental source of increasing wealth in an economy (Schumpeter, 1934). Today, the most difficult managerial task in Serbia is introducing innovation into Serbian companies (Amabile et al., 2010). Main reasons for that is the transitional nature of Serbian economy, the growing effects of the world economic crisis in Serbia and Serbian employees' fear that introducing innovations will initiate a new order of things in their companies. Serbia has an economy based mostly on various services, which account for about 63% of the GDP . In the late 1980s, at the beginning of the process of economic transition from the planned economy to the free market, Serbia's economy had a favorable position, but it was gravely impacted by UN economic sanctions 1992 to 1995, as well as excessive damage to infrastructure and industry during the NATO bombing in 1999. Total damage of NATO bombing is estimated at $30 billion in a detailed study done by 17 renewed economists. After the ousting of former Federal Yugoslavia, the country went through the economic liberalization, and experienced fast eco-nomic growth (GDP per capita went from $1,160 in 2000 to $6,782 in 2008). Furthermore, it has been preparing for membership in the European Union, its most important trading partner. Estimated GDP (PPP) of Serbia for 2008 is $78.83 billion which is $10 679 per capita. At present, main economic problems are high unemployment rate (14%) and large trade deficit ($11 billion). Being the only European country with free trades agreements with both the EU and Russia,

*Corresponding author. E-mail:pecujlija@gmail.com.

Serbia expects more economic impulses and high growth rates in the coming years. In recent years, Serbia has seen an increasingly swift foreign direct investment trend, including many blue-chip companies. By countries, most cash investments in 2000-2009 period came from Austrian companies ($2.2bn), followed by those from Greece ($1.6bn), Norway ($1.6bn) and Germany ($1.4bn). Companies from these four EU countries account for two thirds of all cash invest-ments in that period. More investments are expected in the future, with talks already starting with Volkswagen on possible automobile assembly, as well as with Ikea (furniture manufacturer willing to invest approxi-mately US$2 Billion in southern Serbia) and General motors (for the construction of locomotive engines).

Innovations

A convenient definition of innovation from an organizational perspective is given by Luecke and Katz (2003), who wrote: "Innovation is generally understood as the successful introduction of a new thing or method. Innovation is the embodiment, combination, or synthesis of knowledge in original, relevant, valued new products, processes or services. Innovation typically involves creativity, but is not identical to it: innovation involves acting on the creative ideas to make some specific and tangible difference in the domain in which the innovation occurs. For example, Amabile et al. (1996) propose: "All innovation begins with creative ideas. We define innovation as successful implementation of creative ideas within an organization. In this view, creativity by individuals and teams is a starting point for innovation; the first is necessary, but not sufficient condition for the second (Freeman, 1982)". For innovation to occur, something more than the generation of a creative idea or insight is required: the insight must be put into action to make a genuine difference, resulting for example in new or altered business processes within the organization or changes in the products and services provided (Fagerberg, 2004). A further characterization of inno-vation is as an organizational or management process. For example, Davila et al. (2006), write: "Innovation, like many business functions, is a management process that requires specific tools, rules, and discipline." From this point of view the emphasis is moved from the introduction of specific novel and useful ideas to the general organizational processes and procedures for generating, considering, and acting on such insights leading to signi-ficant organizational improvements in terms of improved or new business products, services or internal processes (Hesselbein et al., 2002). Through these varieties of view points, creativity is typically seen as the basis for innovation, and innovation as the successful implemen-tation of creative ideas within an organization (Amabile et al. 1996) . From this point of view, creativity may be displayed by individuals, but innovation occurs in the organizational context only. It should be noted, however, that the term 'innovation' is used by many authors rather interchangeably with the term 'creativity' when discussing individual and organizational creative activity. As Davila et al. (2006) comment, "Often, in common parlance, the words creativity and innovation are used interchangeably. It should be avoided, because while creativity implies coming up with ideas, it is the "bringing ideas to life" . . . that makes innovation the distinct undertaking it is." The distinctions between creativity and innovation discussed above are by no means fixed or universal in the innovation literature. They are however observed by a considerable number of scholars in innovation studies. Effective goal definition requires that organizations state explicitly what their goals are in terms understandable to everyone involved in the innovation process (Harris, 1994). This often involves stating goals in a number of ways. Effective alignment of actions to goals should link explicit actions such as ideas and projects to specific goals. It also implies effective management of action portfolios. Participation in teams refers to the behaviour of individuals in and of teams, and each individual should have an explicitly allocated responsibility regarding their role in goals and actions and the payment and rewards systems that link them to goal attainment (Monete et al., 2010). Finally, effective monitoring of results requires the monitoring of all goals, actions and teams involved in the innovation process. Innovation can fail if seen as an organizational process whose success stems from a mechanistic approach i.e. 'pull lever obtain result'. While 'driving' change has an emphasis on control, enforcement and structures it is only a partial truth in achieving innovation. Organizational gatekeepers frame the organizational environment that "Enables" innovation; however innovation is "Enacted" – recognized, developed, applied and adopted – through individuals. Individuals are the 'atom' of the organization close to the minutiae of daily activities (O' Donovan, 2006). Within individuals gritty appreciation of the small detail combines with a sense of desired organizational objectives to deliver (and innovate for) a product/service offer. From this perspective innovation succeeds from strategic structures that engage the individual to the organization's benefit. Innovation pivots on intrinsically motivated individuals, within a supportive culture, informed by a broad sense of the future (O' Sullivan, 2002). Innovation, implies change, and can be counter to an organization's orthodoxy. Space for fair hearing of innovative ideas is

required to balance the potential autoimmune exclusion that quells an infant innovative culture (Von Hippel, 2005).

Organizational culture

Edgar Schein, an MIT Sloan School of Management professor, defines organizational culture as: "A pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way you perceive, think, and feel in relation to those problems". According to Schein, culture is the most difficult organizational attribute to change, outlasting organizational products, services, founders and leadership and all other physical attributes of the organization. His organizational model illuminates culture from the standpoint of the observer, described by three cognitive levels of organizational culture. At the first and most cursory level of Schein's model is organiza-tional attributes that can be seen, felt and heard by the uninitiated observer. It includes the facilities, offices, furnishings, visible awards and recognition, the way that its members dress, and how each person visibly interacts with each other and with organizational outsiders. The next level deals with the professed culture of organiza-tion's members. At this level, company slogans, mission statements and other operational creeds are often expressed, and local and personal values are widely expressed within the organization. Organizational behaviour at this level can usually be studied by interviewing the organization's membership and using questionnaires to gather attitudes about organizational membership. At the third and deepest level, the organization's tacit assumptions are found. These are the elements of culture that are unseen and not cognitively iden-tified in everyday interactions between organizational members. Additionally, these are the elements of culture which are often taboo to discuss inside the organization. Many of these 'unspoken rules' exist without the conscious knowledge of the member-ship. Those with sufficient experience to understand this deepest level of organizational culture usually become acclimatized to its attributes over time, thus reinforcing the invisibility of their existence. Surveys and casual interviews with organizational members cannot draw out these attributes rather much more in-depth means is required to first identify then understand organizational culture at this level. Notably, culture at this level is the underlying and driving element often missed by organizational behaviourists. Using Schein's model, understanding paradoxical organizational behaviours becomes more apparent. For instance, an organization can profess highly aesthetic and moral standards at the second level of Schein's model while simultaneously displaying curiously opposing behaviour at the third and deepest level of culture. Superficially, organizational rewards can imply one organizational norm but at the deepest level imply something completely different. This insight offers an understanding of the difficulty that organizational newcomers have in assimilating organizational culture and why it takes time to become acclimatized. It also explains why organizational change agents usually fail to achieve their goals: underlying tacit cultural norms are generally not understood before would-be change agents begin their actions. Merely understanding culture at the deepest level may be insufficient to institute cultural change because the dynamics of interpersonal relationships (often under threatening conditions) are added to the dynamics of organizational culture while attempts are made to institute desired change. Stephen McGuire defined and validated a model of organizational culture that predicts revenue from new sources. Writers from Critical management studies tend to express skepticism about the functionalist and unitaristic views of culture put forward by mainstream management thinkers. Whilst not necessarily denying that organizations are cultural phenomena, they would stress the ways in which cultural assumptions can stifle dissent and reproduce management propaganda and ideology. After all, it would be naive to believe that a single culture exists in all organizations, or that cultural engineering will reflect the interests of all stakeholders within an organization. In any case, Parker has suggested that many of the assumptions of those putting forward theories of organizational culture are not new (Miles, 2000; Miles, 2004; Ettlie, 2006). They reflect a long-standing tension between cultural and structural (or informal and formal) versions of what organizations are. Further, it is perfectly reasonable to suggest that complex organizations might have many cultures, and that such sub-cultures might overlap and contradict each other (Evangelista, 2000). The neat typologies of cultural forms found in textbooks rarely acknowledge such complexities, or the various economic contradictions that exist in capitalist organizations. One of the strongest and widely recognized criticisms of theories that attempt to categorize or 'pigeonhole' organizational culture is that put forward by Linda Smircich. She uses the metaphor of a plant root to represent culture, describing that it drives organizations rather than vice versa (Calas et al., 2009). Organizations are the product of organizational culture, we are unaware of how it shapes behaviour and interaction (also recognized through Scheins (1985)

underlying assumptions) and so how can we categorize it and define what it is?

METHODOLOGY

According to the previously showed theoretical base (Schein`s organizational culture theory), an ad hoc questionnaire[1] was designed. It consists of twenty one Likert items[2]. The main objective was to discover the underlying patterns (factors) which on the best way describe employees' attitudes[3] towards introducing innovation (as a part of their organizational culture). Exploratory factor analysis was performed on collected data to discover the third, invisible level, the employees` tacit assumptions about introducing innovation.

Sample

Our sample consists of 1,206 employees from the 75 randomly selected Serbian companies of different sizes and industry branches. In every company, where the research was carried out, a random sample of respondents was taken, and of course, those respondents who were willing to cooperate.

Assumptions of the research

General assumption of this research is as follows:

1. Using questionnaire could provide data about organizational culture, the third cognitive level despite Schain`s opposite claim.

Specific assumption:

(i) The notion of the innovation introduction among the Serbian employees consists of patterns, and they represent the deepest level of this organizational culture aspect (this is the reason why exploratory factor analysis[4] was performed on the data obtained by the questionnaire).

RESULTS

According to the Schein`s theory employees' attitudes strength presented on descriptive level is the second, visible level of that aspect of their organizational culture. Table 1 shows that our respondents' most critical attitude towards the innovations is that their introduction is necessary for companies' development and survival as well as company management has to establish clear rules for their introduction. On the other hand, our respondents' lowest intensity attitudes are that their companies do not need any innovation, because the most important thing is that employees work well and thus, innovation should be introduced quickly and decisively without a lot of thinking about the consequences. It can be clearly seen that there is some kind of consensus among all the respondents, that the innovation introduction is necessary and an unavoidable process. Likewise, employees in Serbian companies are feared from uncertainty which is tightly connected with the innovation introduction process. Before performing explorative factor analyse on the data, the properness of using this statistical procedure was checked out. The KMO value which is 0.687 indicates that factor analysis is useful and meaningful tool for analysing the data. Another indicator of the strength of the relationship among the variables is Bartlett's test of sphericity. The observed significance level is 0.0000 (Table 2). It is concluded that the strength of the relationship among variables is strong and the decision to precede a factor analysis on the collected data was confirmed.

According to the Table 3 it can be seen that the number of variables which have negative factor saturation is small and that there is no variable which comes into the composition of the two or more factors. The first of the six extracted patterns after Varimaks rotation participate in the total variance with 16.657% and it consists of five items with factor saturation which range from 0.409 to 0.690. These five items and their factor saturations are:

[1] A questionnaire is a research instrument consisting of a series of questions and other prompts for the purpose of gathering information from respondents. Although they are often designed for statistical analysis of the responses, this is not always the case. The questionnaire was invented by Sir Francis Galton.

[2] A Likert item is simply a statement which the respondent is asked to evaluate according to any kind of subjective or objective criteria; generally the level of agreement or disagreement is measured. Often five ordered response levels are used, although many psychometricians advocate using seven or nine levels; a recent empirical study found that a 5- or 7- point scale may produce slightly higher mean scores relative to the highest possible attainable score, compared to those produced from a 10-point scale, and this difference was statistically significant. In terms of the other data characteristics, there was very little difference among the scale formats in terms of variation about the mean, skewness or kurtosis.

[3] An attitude is a hypothetical construct that represents an individual's degree of like or dislike for an item. Attitudes are generally positive or negative views of a person, place, thing, or event, this is often referred to as the attitude object. People can also be conflicted or ambivalent toward an object, meaning that they simultaneously possess both positive and negative attitudes toward the item in question. Attitudes are judgments. They develop on the ABC model (affect, behaviour and cognition).

[4] Exploratory factor analysis (EFA) seeks to uncover the underlying structure of a relatively large set of variables (in our case items about the innovation introducing). The researcher's à priori assumption is that any indicator may be associated with any factor. This is the most common form of factor analysis. Its technical vocabulary includes strange terms such as eigenvalues, rotate, factor space, simple structure, orthogonal, loadings, and communality. Its results usually absorb a dozen or so pages in a given report, leaving little room for a methodological introduction or explanation of terms.(Grice, 2001)

Table 1. The respondent's attitudes strength.

Item	Attitudes strength	Number
I like others in my company to think about the innovations	2.90	1206
Each innovation in my company should be postponed until all the employees are confident that it will bring desirable results	3.27	1206
The innovation should be introduced quickly and decisively, without a lot of thinking about the consequences (there is no success without risk)	2.53	1206
It is necessary to think carefully before introducing any innovation in the company	3.94	1206
The innovation introduction is necessary for the company survival and development	4.23	1206
It is better not to introduce any innovation in the company, than to expose it to the risk	2.64	1206
The innovations are good for my company, regardless of their outcomes	2.71	1206
I like to review new ideas and new approaches	3.80	1206
Introducing innovations in my company is possible but the way of their introduction should be clear to all employees	4.01	1206
My company do not need any innovations, most important is that people work	2.34	1206
well My company can count on me to support innovations	3.66	1206
Recognized experts for creating and introducing innovation are employed in my company	3.37	1206
My company management is capable of introducing innovation	3.53	1206
People in my company are afraid of innovations	3.10	1206
I think that it is better that my company takes care about its employees' wages rather than about innovations	2.85	1206
Innovations, regardless of the investment, bring profit to the company	3.04	1206
Today, company's survival is impossible without innovations	3.78	1206
It is essential that company includes research funds for introducing innovation	3.93	1206
My company should have partners which help introducing innovations	3.46	1206
Only completely original innovations have sense	3.11	1206
The innovation has to change my company's way of working radically to be considered as successful	3.01	1206

Table 2. KMO and Bartlett's Test.

Kaiser-Meyer-Olkin measure of sampling adequacy		0.687
Bartlett's Test of Sphericity	Approx. Chi-Square	1112.915
	df	1210.000
	Sig.	0.000

1. The first item: Today, company's survival is impossible without innovations, it`s factor saturation is 0.548
2. The second item: It is essential that company includes research funds for introducing innovation, it`s factor saturation is 0.606
3. The third item: My company should have partners which help introducing innovations, it`s factor is saturation 0.655
4. The fourth item: Only completely original innovations have sense, it`s factor saturation is 0.690
5. The fifth item: The innovation has to change my company's way of working radically to be considered as successful, it`s factor saturation is 0.647.

The items which confirm employees' consideration of the innovations introduction process (cognitive aspect) but also the items about conditions which the company has to provide for the successful innovation implementation (also cognitive aspect) gather around this extracted factor. This factor is named "*The conditions for the innovations introduction".*

Second extracted factor participates in the total variance of observed phenomenon with 14. 54% and consists of the four items with factor saturation which

Table 3. Rotated factors matrix.

Items	Factors					
	1	2	3	4	5	6
I like others in my company to think about the innovations	0.025	0.331	-0.642	-0.047	0.183	0.186
Each innovation in my company should be postponed until all employees are confident that it will bring desirable results	0.135	0.530	-0.322	0.238	-0.007	0.146
The innovation should be introduced quickly and decisively, without a lot of thinking about the consequences (there is no success without risk)	0.152	0.015	0.022	-0.028	0.722	-0.231
It is necessary to think carefully before introducing any innovation in the company	-0.178	0.169	0.097	0.750	0.080	-0.152
The innovations introduction is necessary for the company survival and development	0.240	-0.244	0.216	0.670	0.127	-0.096
It is better not to introduce any innovation in the company, than to expose it to the risk	-0.034	0.785	0.028	0.151	0.014	0.105
The innovations are good for my company, regardless of their outcomes	0.080	0.095	0.067	0.051	0.783	0.075
I like to review new ideas and new approaches	0.027	-0.065	0.733	0.228	0.216	-0.017
Introducing innovations in my company is possible but the way of their introduction should be clear to all employees	0.117	0.023	0.118	0.638	-0.125	0.072
My company do not need any innovations, most important is that people work well	0.085	0.732	-0.077	-0.207	0.165	0.084
My company can count on me to support the innovations	-0.023	0.055	0.655	0.434	-0.003	0.199
Recognized experts for creating and introducing innovation are employed in my company	0.174	0.246	-0.002	-0.070	0.000	0.750
My company management is capable of introducing	0.009	0.017	0.019	-0.028	-0.063	0.709
innovation People in my company are afraid of innovations	0.409	0.274	0.271	-0.204	-0.424	-0.370
I think that it is better that my company takes care about its employees' wages rather than about the innovations	0.320	0.483	-0.425	-0.147	-0.173	-0.153
The innovations, regardless of the investment, bring profit to the company	0.407	0.100	0.345	-0.237	0.408	0.156
Today, company's survival is impossible without innovations	0.548	-0.127	0.348	0.210	0.056	0.092
It is essential that company includes research funds for introducing innovation	0.606	-0.314	0.197	0.265	-0.032	0.023
My company should have partners helping introducing innovations	0.655	0.073	-0.323	0.117	-0.033	0.118
Only completely original innovations have sense	0.690	0.207	-0.030	-0.049	0.321	-0.007
The innovation has to change my company's way of working radically to be considered as successful	0.647	0.320	-0.152	-0.142	0.153	0.032

range from 0.483 to 0.785. These four items and their factor saturation are:

1. The first item: Each innovation in my company should be postponed until all the employees are confident that it will bring desirable results, it`s factor saturation is 0.530.
2. The second item: It is better not to introduce any innovation in the company, than to expose it to the risk, it`s factor saturation is 0.785.
3. The third Item: My company do not need any innovations, most important is that people work well, it`s factor saturation is 0.732.
4. The fourth item: I think that it is better that my company takes care about its employees', it`s factor saturation is 0.483.

This factor is named " *Refusing innovation"*. If the content of these four items is analyzed it can be seen that all of them express fear. The third extracted factor explains 8.44% of the total variance of the observed phenomenon. It consists of three items with factor saturation from -0.642 to 0.733. These three items and their factor saturation are:

1. The first item: I like others in my company to think about the innovations, it`s factor saturation is negative: -0.642.
2. The second item: I like to review new ideas and new approaches, it`s factor saturation is 0.733.
3. The third item: My company can count on me to support the innovations, it`s factor saturation is 0. 655.

Three items which describe the respondent`s behaviour in the situation of finding innovation, their creative and active approach to innovative process are grouped around this extracted factor. This factor is named "*The active approach"* and it describes behavioural aspect of employees' attitudes towards innovations. The fourth extracted factor explains 7.69% of the total variance of the observed phenomenon and consists of three items. These three items and their factor saturation are:

1. The first item: It is necessary to think carefully before introducing any innovation in the company, it`s factor saturation is 0.750.
2. The second item: The innovations introduction is necessary for the company survival and development, it`s factor saturation is 0.670.
3. The third item: Introducing innovations in my company is possible but the way of their introduction should be clear to all the employees, it`s factor saturation is 0.638.

The content of this factor is highly emotional and fear lies in its basis, thus, it is called "*The caution"*. The fifth extracted factor involved in the 6.523% of the total variance of the observed phenomenon and it is composed of four items. These four items saturate the factor from 0.408 to 0.783. The extracted factor included the following items:

1. The first item: The innovations are good for my company, regardless of their outcomes, it`s factor saturation is 0.783.
2. The second item: The innovation should be introduced quickly and decisively, without a lot of thinking about the consequences (there is no success without risk), it`s factor saturation 0.722.
3. The third item: People in my company are afraid of innovations, it`s factor saturation is -0.424 (negative saturation).
4. The fourth item: Innovations, regardless of the investment, bring profit to the company, it`s factor saturation is 0.408.

Four items which describe the voluntary dimension of the attitudes towards the innovation introduction are projected on this extracted factor, so it is named "*Determination for the innovations introduction"*. Negative factor saturation of third item shows that the respondents are more determined for the innovations introduction if they are less afraid of them.

The sixth extracted factor explains 5.53% of the total variance of the observed phenomenon and it consists of the two items of our questionnaire. These items saturate this factor from 0.709 to 0.750.

1. The first item: Recognized experts for creating and introducing innovation are employed in my company, it`s factor saturation is 0.750.
2. The second item: My company management is capable of introducing innovation, it`s factor saturation is 0.709.

Two items related to the company human resources and their competence for the innovation introduction are grouped around this extracted factor, so this factor is called "*Confidence in company human resources"*. It also represents emotional dimension of the respondents' attitudes towards the innovations. The results confirmed our specific research assumption that notion of the innovation introduction consists of dimensions. Extracted factors (dimensions) show that emotional dimension predominates among Serbian workers when they consider introducing innovation. Fear is a dominant emotion linked to the innovations introduction. Figure 1 presents the factor scores of the examinees` on extracted factors (dimensions of attitudes towards the innovation introduction). The factor scores are established by using

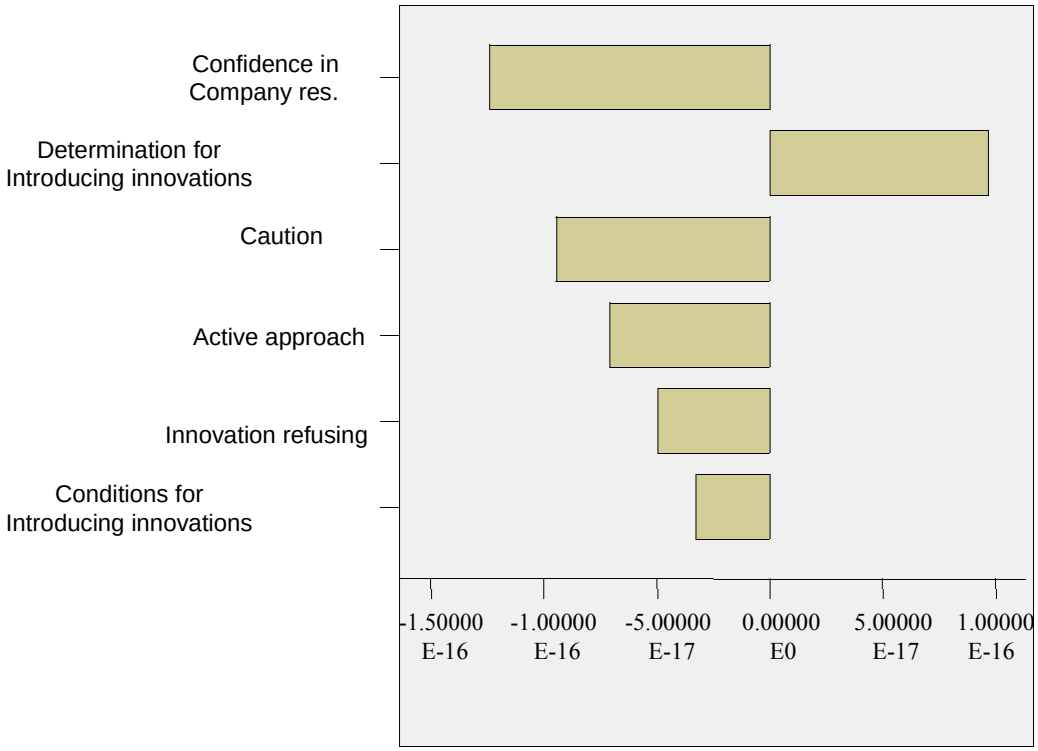

Figure 1. Factor scores.

Anderson-Rubin's method (Glass, 1996; Grice, 2001). This method ensured the orthogonality of the extracted factors (dimensions). The arithmetic mean of this score is 0, standard deviation 1, and the scores have no mutual correlation (r=0). From Figure 1, it can be clearly seen that the subjects have the highest factor scores on the dimension "*Determination for the innovation introduction"*. This fact indicated that employees in Serbian companies are strong willed for introducing innovation in their organizations (Figure 2). The situation with factors scores on the other dimensions is not favourable because all of them are lower than their average value. As a conclusion, the research shows indirectly that innovative climate in Serbian organizations is unsatisfactory when considering relative relations between factor scores and respondents recognize their organization resources as the largest obstacle for introducing innovation. The respondents show absence of fear from innovation introduction, they have no confidence in their management, they do not insist on the need for caution, they encourage innovations, they do not ask for special conditions for innovation introduction and they have a passive approach towards it. They only show great determination towards innovation introduction. Indirectly, employees in Serbian companies are aware of hard economic situation (transition and growing effects of economic crisis) according to the dimensions relation but they do not make distinction between terms organizational change[5] and innovation. Economic crisis and transition are coercive persuasion[6] for them; their determination for innovation introduction is some kind of obedience or cooperation. Low factor score on the dimension *"The active approach"* and high factor score on the dimension "Determination" show some kind of learned helplessness[7] which is a profound consequence of the former socialistic economic system and thus, explains their invisible conflict situation (lack of activity vs. determination, lack of confidence in management vs. determination) in actual economic situation in Serbia.

[5] There are different overall types of organizational change, including planned versus unplanned, organization-wide versus change primarily to one part of the organization, incremental (slow, gradual change) versus transformational (radical, fundamental), etc... (Black, 2003)

[6] Coercion is the practice of forcing another party to behave in an involuntary manner (whether through action or inaction) by use of threats, intimidation, trickery, or some other form of pressure or force. Such actions are used as leverage, to force the victim to act in the desired way (Orbach et al., 1982; Ramirez et al., 1992).

[7] Learned helplessness, as a technical term in animal psychology and related human psychology, means a condition of a human being or an animal in which it has learned to behave helplessly, even when the opportunity is restored for it to help itself by avoiding an unpleasant or harmful circumstance to which it has been subjected (Henry, 2005).

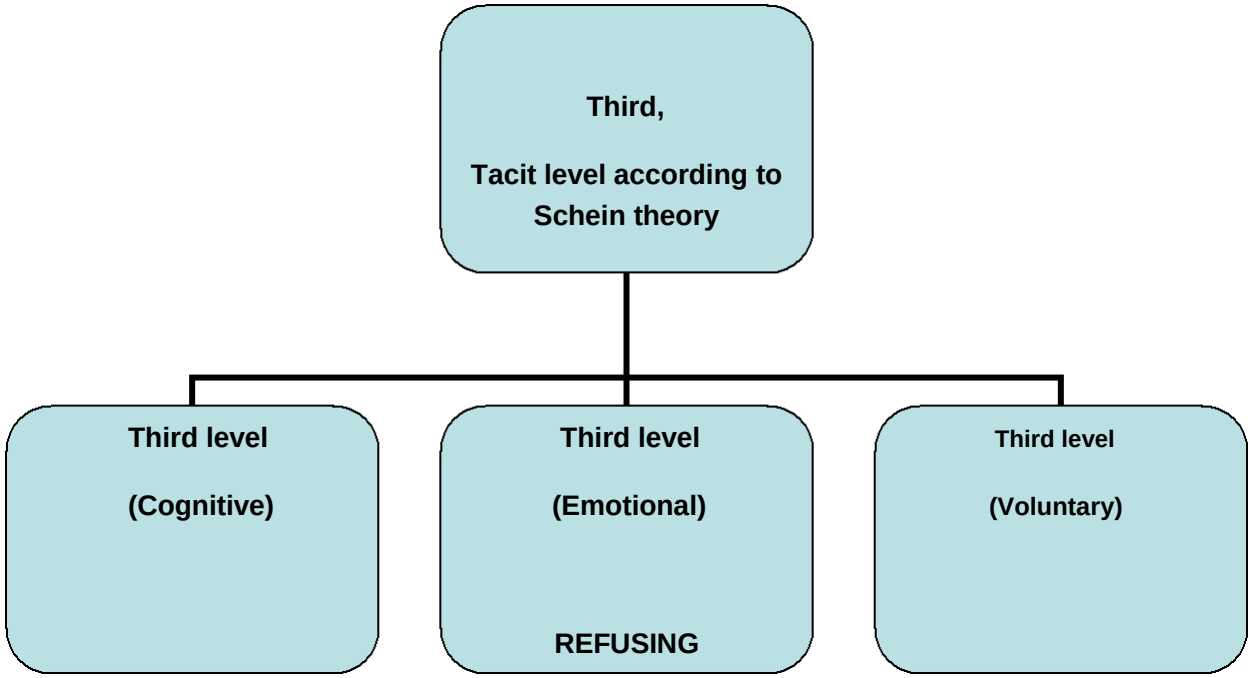

Figure 2. Third cognitive level of organizational culture in Serbian companies (innovation aspect).

Conclusions

These results clearly suggest that the nature of the third, invisible level aspect of organizational culture in Serbian companies is predominantly emotional despite the cognitive nature of the first extracted factor "*Conditions for introducing innovation"* (Figure 2) . This analysis shows that our respondents think that innovations are necessary for their companies' survival (values, second cognitive level according to the Schein`s theory). Deeper analysis of the results show that the respondents' behaviour in a complex situation of introducing innovations consists of complex interdependence of their emotions, states and wishes (third cognitive level according to the Schein`s theory). Their determination for introducing innovations is basically declarative (it does not signify that they will do their best in the real situation of introducing innovation). Serbian transitional economy and growing effects of economic crisis by its coercive nature increases employees' fears (this matches with Peterson et al., 1995 and Welbourne et al., 2007).

Only in-depth analysis (reaching organizational culture, the third cognitive level, and employees' assumptions) provides the exact data about all invisible employees' assumptions in Serbian organizations. This research shows that it is possible to complete this difficult task using a questionnaire (Schein excludes that possibility).

Performed EFA shows that on the third level employees in Serbian companies have serious doubt about the innovation introduction. Low level of confidence in company resources as well as employees' passive approach indicate that introducing innovation will face huge obstacles despite great determination. Thus, it is possible to reach the third, cognitive level of organi-zational culture (its aspect which deals with innovation process) by using EFA. If data analysis was completed on the descriptive level, a distorted picture about Serbian em-ployees' attitude towards innovations would be provided and made wrong conclusions as follows:

1. Employees in Serbia are convinced that introducing innovations is necessary for the development and survival of their companies.
2. Company's management has to establish clear rules for their introduction.

These results are from the second cognitive level (values) of Schein's theory and lack to provide a real picture about this aspect of organizational culture in Serbian companies. So what should be done? First of all, data from the third cognitive level (employee`s assumptions) should be followed.

1. Changes in Serbian companies have to be managed in

accordance with the well established procedures (fulfilling employees' assumptions about conditions),
2. With well examined and checked approaches (improving employees' confidence in company resources)
3. Process of introducing innovations has to carry the least risk (satisfying employees' assumptions about caution).
4. Companies should provide coordinated strategy with their organizational structure (improving employees' active approach in the process of introducing innovations).

The key managerial question is which Serbian companies organization components should be changed to strengthen their ability for making changes of innovative character. According to the data obtained from the third cognitive level these are our answers:

1. Future innovative Serbian company's structure should be flat, without hierarchical control (to stimulate employees' active approach).
2. Companies should create special teams for specific tasks (stimulate employees' active approach).
3. Strategic planning should be flexible, financial and operational controls should serve to the strategy (reinforce their determination for introducing innovation).

Finally, companies create climate for the innovation acceptance and implementation (rebuilding mutual confidence and decreasing the level of employees' refusing innovation introduction). So which story is true? If the data of the descriptive level analysis is accepted as the only possible solution, the only conclusion is that introducing innovations in Serbian companies is a relatively simple task. Thus, clear rules for their introduction should be established. EFA (in depth analysis) is the other possible solution; it provides the data for the third, cognitive level of organizational culture so the conclusions are different. Introducing innovations in Serbian companies fails to be a simple managerial task. Acceptable solution should be found to satisfy all gathered data of the third cognitive level in order to establish a successful innovation process. Carefully constructed questionnaire and proper EFA using will make half of the business done.

REFERENCES

Amabile TM (1996). Creativity in Context. Boulder, Colo.: Westview Press, 1996.
Amabile TM, Kramer SJ (2010). What Really Motivates Workers. Harv. Bus. Rev., 88(1): 44-45.
Barras R (1984). Towards a theory of innovation in services. Res. Policy., 15: 161–173.
Bartlett MS (1937). The statistical conception of mental factors. Br. J. Psychol., 28: 97-104.
Black RJ (2003) Organizational Culture: Creating the Influence Needed for Strategic Success, London UK.
Calás MB, Smircich L, Bourne KA (2009). Extending the Boundaries: Reframing 'Entrepreneurship as Social Change' through Feminist Perspectives, Acad. Manage. Rev., 34(3): 552-569.
Chakravorti B (2003). The Slow Pace of Fast Change: Bringing Innovations to Market in a Connected World. Boston, MA: Harvard Business School Press.
Chesbrough HW (2003). Open Innovation: The New Imperative for Creating and Profiting from Technology. Boston, MA: Harvard Business School Press
Cummings TG, Worley CG (2005), Organization Development and Change, 8th Ed., Thomson South-Western, USA
Davila T, Epstein MJ, Shelton R (2006). Making Innovation Work: How to Manage It, Measure It, and Profit from It. Upper Saddle River: Wharton School Publishing
Ettlie J (2006). Managing Innovation, Second Edition. Butterworth-Heinemann, an imprint of Elsevier.
Evangelista R (2000). Sectorial patterns of technological change in services, economics of innovation. Econ. Innov. New Technol. 9: 183–221.
Fagerberg J (2004). Innovation: A Guide to the Literature. In Fagerberg, Jan, David C. Mowery and Richard R. Nelson. The Oxford Handbook of Innovations. Oxford University Press, 1–26.
Freeman C (1982). The Economics of Industrial Innovation. Frances Pinter, London.
Glass GV, Maguire TO (1966). Abuses of factor scores. Am. Educ. Res. J., 3(4): 297-304.
Grice JW (2001). Computing and evaluating factor scores. Psychol. Methods, 6(4): 430-450.
Harris SG (1994). Organizational Culture and Individual Sense making: A Schema-Based Perspective. Org. Sci., 5(3): 309-321
Henry PC (2005). Life stress, explanatory style, hopelessness, and occupational stress. Int. J. Stress Manage., 12: 241–256.
Hesselbein F, Goldsmith M, Somerville I (2002). Leading for Innovation: And organizing for results. Jossey-Bass.
Hitcher W (2006). Innovation Paradigm Replaced. Wiley and Sons.
Kotter J (1992). Corporate Culture and Performance, Free Press.
Luecke R, Katz R (2003). Managing Creativity and Innovation. Boston, MA: Harvard Business School Press.
Mansfield E (1985). How Rapidly Does New Industrial Technology Leak Out? J. Ind. Econ., 34(2): 217–223.
Miles I (2000). Services Innovation: Coming of Age in the Knowledge Based Economy. Int. J. Innov. Manage., 14(4): 371–389.
Miles I (2004). Innovation in Services. In Fagerberg, J., Mowery D. C.and Nelson, R. R. The Oxford Handbook of Innovations. Oxford University Press. 433–458.
Moneta GB, Amabile TM, Schatzel E, Steve J, Kramer SJ (2010). Multi-Rater Assessment of Creative Contributions to Team Projects in Organizations. Eur. J. Work Organ. Psychol. 19(2): 150-176.
Nelson R (1977). In search of a useful theory of Innovation. Res. Policy 6(1): 36–76.
O'Donovan G (2006). The Corporate Culture Handbook: How to Plan, Implement and Measure a Successful Culture Change Program, The Liffey Press
Orbach E, Hadas Z (1982). The elimination of learned helplessness deficits as a function of induced self-esteem. J. Res. Personality, 16: 511–523.
O'Sullivan D (2002). Framework for Managing Development in the Networked Organizations. J. Comput. Ind, 47(1): 77–88.
Peterson C, Maier SF, Seligman M (1995). Learned Helplessness: A Theory for the Age of Personal Control. New York: Oxford University Press.
Phegan B (1996-2000) Developing Your Company Culture, A Handbook for Leaders and Managers, Context Press.

Ramirez E, Maldonado A, Martos R (1992). Attribution modulates immunization against learned helplessness in humans. J. Personality Soc. Psychol., 62: 139–146.
Rogers EM (1962). Diffusion of Innovation. New York, NY: Free Press.
Roth S (1980). A revised model of learned helplessness in humans. J. Personality, 48: 103–133.
Schein E (1985). Organizational Culture and Leadership 3rd Ed., Jossey-Bass ISBN 1-55542-487-2
Schumpeter J (1934). The Theory of Economic Development. Cambridge, MA: Harvard University Press.
Scotchmer S (2004). Innovation and Incentives. Cambridge, MA: MIT Press.
Stein M (1974). Stimulating creativity. New York: Academic Press.
Utterback JM, Suarez F (1993). Innovation, Competition, and Industry Structure. Res. Policy 22(1): 1–21.
Veneris Y (1990). Modelling the transition from the Industrial to the Informational Revolution". Environ. Plan., 22(3): 399–416.
Von Hippel E (2005). Democratizing Innovation. MIT Press.
Welbourne JL, Eggerth D, Hartley TA, Andrew ME, Sanchez F (2007). Coping strategies in the workplace: Relationships with attributional style and job satisfaction. J. Vocat. Behav., 70: 312–325.