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INTERFERENCES AFFECTING CREATIVITY OF INNOVATION TEAM

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Abstract: *Interferences affecting creativity of innovation teams were investigated on the basis of organizational behaviour and leadership psychology statements. The research of the processes that taking place during team formation, differentiation, integration, and maturity stages, was made. Also, the article studies the team members' relationships change and the potential psychological problems of the team moving from one stage to another stage. It was found that the negative influence on the working efficiency arising from the composition of the team, work process design, and contextual situation problems is decreasing when innovation team moving through formation, differentiation, and integration stages. The negative impact of these problems to the team work efficiency during maturity stage greatly reduced, but remains the most important.*

Key words: Innovation team, creativity, interferences, spirituality

1. INTRODUCTION

Creativity and innovativeness are closely linked. Von Stamm (2008) [1] argues that innovativeness is creativity and successful implementation of created ideas. Creativity can bring a radically new idea, service or product, which are achieved through innovation (Amabile 1997 [2]; Von Stamm 2008 [1]), but innovation occurs and through adapting of existing products or services, that were created outside the organization (Woodman et al., 1993 [3]). The new direction of existential analysis psychology pioneer V. E. Frankl (2007) [4] distinguishes three categories of values: creativity, survival, and provisions. He states that a person realizes himself only to the extent that implements something meaning: self-realization occurs naturally as a consequence of the implementation of the sense, but not as a goal. Provisions values will depend on the people's relationship with his life limitations. Teamwork specifics in the innovation sphere should be associated with harmonization of the creative values and attitudes. The company provides chance for innovative team to implement the one, and another category of values. Often, it requires a team to implement creative values and that force to look into the provisions values by causing stimuli and restrictions for creative work.

The goal of the work: is to examine the innovation team performance problems systematically and, on the basis of organizational behaviour and leadership psychology statements, to identify interferences that affecting creativity.

The subject of research: innovation team work efficient problems and creative stimuli.

2. PROBLEM STATEMENTS

Innovative activity is specific. It calls for greater creative potential of the team. Creative personalities are more sensitive to the company's organizational behavioural factors. Studies showed that the republic industry companies personnel little going deeper into the innovation team formation process. The team problems and their

causes have not been analysed soundly. Little attention was paid to the organizational behaviour factors having a negative impact on unfolding of the innovation team members' creative potential.

3. APPLICATION AREA

Main application area for the research results is development of the industrial enterprises personnel creativity. The research involved 60 representatives of the personnel with an engineering degree.

4. RESEARCH COURSE

The aim of the research was formulated at the first step. At the second step the research of the factors that have influence on the innovation team creativity took place. For research we selected the factors that affect the team work efficiency during the team formation, differentiation, integration, and maturity stages. Third step involved the analysis of organizational behaviour factors during the team development stages. The fourth step involved the analysis of the empathy and social-psychological reflection skills affect on the team members' creativity during ideas generation and implementation stages.

5. METHOD USED

Applied methods were a survey of scientific literature and other information sources, structural system analysis, logic analysis, a sociological inquiry of people working in innovation teams, and regression analysis of quantitative survey data.

6. TEAM WORK EFFICIENCY PROBLEMS RESEARCH RESULTS

Innovation team forming is the process of which management is complex and requires experience and knowledge. A study the processes that taking place in the various stages of the innovation team formation was conducted. The study was based on the verbal questionnaire survey of the innovation teams that working in the industry.

S. P. Robbins (2003) [5] grouped into four categories key components that promoting creation of an effective team: the work design, composition, context, and process. The research of the problems arising from the composition of the team, work design, work process context and impact on innovation team's efficiency in various stages of its formation was made.

According to the G. Rice (2006) [6], the managers should seek to recruit individuals for whom self-direction is a relatively salient value type: those individuals who consider creativity, curiosity, and choosing one's own goals as being relatively more important for them as guiding principles in their lives.

S. da Costa et al. (2015) [7] research results confirm that creativity is associated with emotional intelligence (e.g., high empathy, emotional expressiveness, and good capacities of affect regulation), divergent thinking, creative personality, openness to experience, positive affect, intrinsic motivation, and androgyny. To a lesser degree it is associated with age, intelligence, extrinsic motivation, self-efficacy, and somewhat less with pro-risk attitude and the female sex.

H. Sarooghi et al. (2015) [8] study suggests a strong correlation between creativity and innovation at the team level. This finding presents another avenue for future research since little is known about project management practices and leadership styles in new venture teams and the interaction of activities related to idea generation and idea implementation in such a context.

Team work efficiency research was based on the questionnaire and verbal survey of 60 respondents. Team work efficiency - y_1 and the problems caused by the composition of the team - x_{11}, work design - x_{12}, context - x_{13}, and work process -

x_{14}, were judged on a scale from 1 to 5. Innovation teams work efficiency approximating function for the formation y_{11}, differentiation y_{12}, integration y_{13}, and maturity stages y_{14}, were established:

$$y_{11} = 5.432 - 0.132x_{11} - 0.145x_{12} - 0.154x_{13} - - 0.001x_{14}; \quad (1)$$

the correlation coefficient was r = 0,781,

$$y_{12} = 5.418 - 0.084x_{11} - 0.126x_{12} - 0.092x_{13} - - 0.118x_{14}; \quad (2)$$

the correlation coefficient was r = 0,812,

$$y_{13} = 5.301 - 0.03x_{11} - 0.075x_{12} - 0.061x_{13} - - 0.135x_{14}; \quad (3)$$

the correlation coefficient was r = 0,779,

$$y_{14} = 5.098 - 0.008x_{11} - 0.022x_{12} - 0.014x_{13} - - 0.056x_{14}; \quad (4)$$

the correlation coefficient was r = 0,785.

Analysis of the functions parameters showed that when the innovation team moving through the formation, differentiation and integration stages, the negative impact on work efficiency decreases, and that was caused by the problems arising from the composition of the team, work design, and context. The negative impact on the effectiveness of the team is growing constantly when it is moving from the team formation to the integration stage. When the team reached the integration stage, these kinds of problems are beginning to decrease. During team formation stage similarly significant problems arise, but work process problems still having small negative impact. At the differentiation stage the greatest negative impact on the work of the team has a problem that arising from the work design. During the integration stage as the most important the work process problems becoming. At the maturity stage negative impact of the work process problems on the team working efficiency was greatly reduced, but still remains the most important.

7. CREATIVITY STIMULUS RESEARCH RESULTS

At present, the majority of the companies' employees are viewed creativity only as an opportunity to increase revenue and profits, and completely ignores the workers' intellectual capacity and independence of expression. At the companies any effort to recognize the value of an employee without any prior conditions and requirements, e.g. take it as it is, were not added in many cases. An employee can feel safe only when feel that was considered as it is, when some leaders, knowing the potential of personality characteristics, believe in potential. Only when the leader is able to empathize with what the employees thinks, feels, perceives, the employees can feel safe to express their views. Only by understanding and recognizing the human personal freedom to act according to the beliefs it can be meaningful to talk about the employment of creative potential in the companies.

Simontono (2000) [9] presented two popular models of creativity. One involves the investigation of the creative process, product, and personality. Another model, according Simontono, is economic-commercial. The author argues that, under this model, any reference to the theory can be, but rather encouraged to investigate the manifestations of creativity and to invest in the "creativity" as in the precious commodity. The model principle was guided by the business practice in the Lithuania. Many business managers do not realize that consolidation of the creativity as a value in the company is a long process and that the length of this process primarily depends on how managers perceive the value of the reconceptualisation.

Creativity is associated with personality actualization, originality, understanding of the life mission, and intrinsic motivation. Runco (2004) [10] argues that creativity is a complex of various qualities: originality, flexibility, dynamism, ability to solve the problems, to meet challenges, and to determine the changes in both technology and culture. Rogers (2005) [11] considered

creativity as universal human characteristic and to the novelty and originality he raised another - social usefulness. The author argues that the main factor to unfold creativity of personality is the need to actualize themselves, to extract their potential opportunities and to experience the satisfaction of creating.

According to the Rogers [11] claims, the research of organizational behaviour factors, affecting team creativity in the enterprises, was made evaluating situation in its various formation stages. The research was based on the innovation teams' members from industrial enterprises inquiry form and verbal questionnaire survey.

Team creativity - y_2 and organizational behaviour factors: evaluation of the team member by preconditions and requirements - x_{21}; evaluation of the team member according to the company administration, that supervising the work of the team, self-imposed system of values - x_{22}; company administration, that supervising the work of the team, lack of empathy skills - x_{23}. Parameters were evaluated on a scale from 1 to 5. Innovation teams creativity approximating functions for formation y_{21}, differentiation y_{22}, integration y_{23}, and maturity y_{24} stages were established:

$$y_{21} = 4.981 - 0.163x_{21} - 0.151x_{22} - \\ - 0.130x_{23}; \quad (5)$$

the correlation coefficient was r = 0,795,

$$y_{22} = 4.872 - 0.177x_{21} - 0.159x_{22} - \\ - 0.139x_{23}; \quad (6)$$

the correlation coefficient was r = 0,803,

$$y_{23} = 4.945 - 0.182x_{21} - 0.164x_{22} - \\ - 0.145x_{23}; \quad (7)$$

the correlation coefficient was r = 0,811,

$$y_{24} = 4.895 - 0.191x_{21} - 0.173x_{22} - \\ - 0.159x_{23}; \quad (8)$$

the correlation coefficient was r = 0,793.

Analysis of the functions parameters showed that when the innovation team moving through formation, differentiation, integration, and maturity stages, the organizational behaviour factors increasingly affecting team creativity. The more focused team becomes less tolerance to the organizational behaviour stimuli. Approximating function parameters showed that the greatest stimulus for creativity is a team member evaluation in accordance with the prerequisites and requirements. Company manager's, who is supervising the work of the team, lack of the empathy skills does not have a significant impact on team creativity. These skills are more important for the team members, when the skills "to stand in another place and watch with his eyes" are required. It is easier for individuals with extensive experience. When team members feel what is going with a colleague, then relationships are going otherwise and their subjective reflection-psychological climate. Empathy principle can be successfully applied in the professional activity. This is one way of dealing with the most complex problem of the innovative work, of how to break away from traditional thinking.

Social-psychological reflection skills are also needed to communicate with other team members. This understands of how other perceives you. This ability to "look at itself from the side". A look at the own behaviour, language, the propositions "from the side", it is possible to understood other reaction to a certain gesture discrepancy to the language content and form of presentation, or the statements presented persuasively, etc. When innovation team consists of the specialists of different fields, without skills of reflection, lots of time is spent in order to understand the whole problem and to find common points of contact with the integration of different areas knowledge for the specific tasks.

The research of the empathy and social-psychological reflection skills affect on the team members' creativity during ideas generation y_{31} and implementation y_{32} stages was made. Team member creativity, lack of empathy - x_{31} and lack of the

social-psychological reflection - x_{32}, were evaluated on a scale from 1 to 5. Team members appreciated each other.

$$y_{31} = 4.892 - 0.391x_{31} - 0.293x_{32}; \quad (9)$$

the correlation coefficient was r = 0,892,

$$y_{32} = 4.937 - 0.38x_{31} - 0.411x_{32}; \quad (10)$$

the correlation coefficient was r = 0,873.

Approximating function parameters showed that during the ideas generation stage for the team member's creativity significant negative impact has the lack of empathy skills. Lack of the social-psychological reflection skills was an important internal stimulus for creativity during ideas the implementation phase.

8. CONCLUSIONS

After examination of the thematic problem of this article following conclusion are available:

1. Organisational behaviour interferences that affecting creativity of innovation teams can be reduced by the transformational leadership principles implementation in to the practice. Transformational leader can motivate to do more than the employees expect. In order to be a transformational leader and to make influence on the innovation team work, it is needed to use all energy and insight to inspire subordinates by the enthusiasm, trust, and loyalty.

2. Stated (Robbins 2003 [5]), that many managers fail to change that to lead the teams. They have to obtain these skills: to exchange information in patience way; to trust the others; to relinquish the power; to know when to intervene. Therefore, it is very important the level of emotional intelligence. Team members are motivated not only by the belief that efforts will be linked to the salary, but also the perception of how much fair contribution and reward ratio is. Employee assess what he puts in the specific work (contributions), and what he get (reward), then compares contribution and reward ratio relative to the other team members' contribution and reward ratio.

3. Organisational behaviour interferences that affecting creativity of innovation teams can be reduced by the spiritual organization's principles implementation into the practice. Spirituality at work is defined (Ashmos et al., 2000 [12]) as a recognition that people have an inner life, which promotes meaningful work taking place in the context of the community, and that this work is meaningful to develop abilities. During the studies (McCormik 1994 [13]; Leigh 1997 [14]; Mirvis 1997 [15]; Robbins, 2003 [5]) it was found that spirituality in the organization positively related to the creativity. The literature examines what distinguishes spiritual organizations from unspiritual. Wagner-Marsh and Conley (1999) [16] highlights the following features inherent spiritual organizations: a strong sense of purpose, focus to the employees' personal development, confidence and openness, empowerment of employees, freedom of tolerance. Spiritual organizations developing their own culture for the meaningful objectives. Although the profit for the organization managers and investors is important, but it may not be the most significant value of the organization. Spiritual organizations not only gives for a person a job, but also recognizes its value. They seek to establish such a relationship and psychological climate at work that encourages a person to learn constantly and to do improvements. It is not easy to develop such workers freedom in the organization that they would open their views. People would rather not like to present not real but socially acceptable assessments and views. So, sometimes employees not tell what they think, but presented an opinion, which will be obliged to follow, which was supported by the leaders and supported by colleagues. It is therefore necessary to monitor the actions of employees, particularly in the event of a crisis situation.

4. Company organizational behaviour affecting unfolding of the personnel creativity. Analysis of the approximation function parameters showed that when the innovation team moving through stages of formation, differentiation, integration, and maturity, organizational behaviour factors increasingly affecting the creativity of the team. The more focused team becomes less tolerance to the organizational behaviour stimuli.
5. Approximation function parameters showed that the greatest stimulus for creativity was a team member assessment in accordance with the preconceived prerequisites and requirements.

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