

Application of Modern Management Processes in Serbian Public Companies

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Abstract

Permanent changes within the activity of public enterprises require frequent redefinition of goals, mission and vision of this sector. Mentioned processes are conditioned by rapid changes of telecommunication, computer and information technology, as well as enormous growth in the number of new products and services. All of that requires efficient internal organization from public companies, possibility of rapid acceptance of new technologies, active marketing and monitoring the users' requirements in order to obtain the best possible position in the market. That is also followed by the requirement for changing the traditional way of doing business, which implies the increase of interest in mechanisms that are implied by modern management principles, such as knowledge management and innovation processes. The purpose of the paper presented consisted in studying and identifying the extent to which the processes of innovation and knowledge management are applied in Serbian public companies. The facts that Serbia is a country in transition and that market liberalization largely reflects itself on public services' operation, point out to the significance of subject research. Scientific information obtained by research on the title subject could be purposeful to the management of public companies in Serbia, as well as other countries in transition.

Keywords

Knowledge management, innovative processes, organizational design.

I. Introduction

New era of frequent and discontinuous changes requires constant re-examination of organizational routines, in order to secure that making decisions, related to business processes, remains in pace with dynamic changes of the environment. Accordingly, modern management principles determine the processes of innovation and knowledge management, as one of the most important factors in creation and maintaining competitive advantage in today's market.

Today, most companies see the knowledge as crucial factor of their success. For that reason, they find the most optimal ways to capitalize their intellectual potential. This strategy is often called „knowledge management“. Significance of knowledge management is particularly evident, having in mind the extremely competitive market and growth of innovation rate. In order to be successful, knowledge management in practice does not only need to use the existing knowledge of the company, but it also needs to encourage new ideas. Therefore, knowledge management is not a simple gathering of information into organization's framework, but it is also the use of knowledge for the sake of generating new ideas, knowledge and information that will improve the company.

In order for innovation to survive and be successful in a company, it is necessary to change the culture that will

allow risk and uncertainty, in such a way that it monitors and focuses of innovation. Most people in organization are prone to innovation and new things, but the greatest problem and challenge is to relate big groups of people in an organization and put them into the function of building and supporting the innovation. Such a culture is recognizable with organizations that are characterized as innovators in the market and also, when observing internal structure, they are recognizable as dynamic places where open interpersonal relations rule and that are friendly to innovation.

Choice and dealing with problems on the title topic are initiated by today's manner and quality of providing services by public companies in Serbia. Within most public services and enterprises, the inefficiency is manifested. Uniform policy within all parts of the organization is evident, high level of centralization and lack of the need for adapting to users' needs. As opposed to that, liberalization and deregularization of the market have enhanced the emergence of new operators and distributors in the fields in which Serbian public companies were still monopolists and still have a dominant role. In order to survive and be efficient in newly-emerged environment, these companies need to turn to contemporary ways of doing business, i.e. contemporary marketing and management principles. Pursuant to the aforesaid, the purpose of the paper and subject research consisted in identification of the efficiency level of applying knowledge management and innovation processes in Serbian public companies.

II. Literature review

Innovation can be understood as the process of learning and knowledge creation through the definition of new problems and knowledge developed through its solving. Main issue implies a problem of finding a way to translate individual insights into collective knowledge and organizational abilities in an organization. Although some researchers claim that learning is essential through individual activities, most theories of organizational learning stress the importance of collective knowledge as a source of organizational abilities [11].

Collective knowledge represents accumulated knowledge of organization put into rules, procedures, routines and common norms that function as a guide in problem-solving and interaction among its members. Collective knowledge looks like “memory” or “collective consciousness” of organization [19]. It can be either “stock” of knowledge in the form stored data, or it represents the knowledge in the state of the “flow” that emerges from interaction. Collective knowledge exists between, not within individuals. That can be more or less than the sum of individual knowledge, depending on mechanisms that are used in translating individual into collective knowledge [9]. Individual and organizational learning take place in social context, whose nature and limitations make a difference in learning results.

Anand's (2007) studies have dealt with problems of generation

and incorporation of elements for supporting knowledge and innovations in organizational structure. He believes that presence of various competences, continuous development of new knowledge, as well as organizational support through available resources, they are crucial elements for creating a structure that is science and innovation-friendly. In addition, the same expert believes that construction and use of internal network, practices exchange, as well as construction of external network with buyers and market is a great benefit and help in the creation of innovative structure [1]. Froehle (2000) stresses the importance of the participation of people from different functions or different professions in innovation process [8], and Avlonitis (2001) sees multifunctional participation as an important factor in innovative processes. The reason for including the people from various functions or various professions is in the fact that they bring different knowledge and skills, which facilitates creativity, learning and development of knowledge necessary for innovations [2]. The above-mentioned is supported by the research of Fay (2006), who found that multidisciplinary nature has a positive impact on quality of team innovation, creating good team processes in them [7].

A. Relationship between confidence, innovation processes and knowledge management

Confidence among employees is a significant part of the success of innovation processes and knowledge management in the company. The most important is the existence of confidence climate in which knowledge sharing is encouraged. Organization can encourage the knowledge through education, support programmes and managers' examples. However, at the same time it is necessary to develop open environment in which employees feel uninhibited to share their knowledge and use the knowledge of other people, in the atmosphere of confidence. If there is no confidence towards colleagues and managers among the employees, even with availability of different advanced technologies, the cooperation will not be at the expected level. Building confidence between employees and managers, as well as between employees is a means for success of innovation processes and knowledge management [15].

There are many definitions for confidence, which are differently interpreted, depending of the author. According to Cohen and Prusak (2001), "Confidence is an essential fluid for some and for all social activities, allowing people to work and live together without creating unnecessary anxieties and conflicts during negotiations" [3].

People cannot require from other people in organization to have confidence in them. It has to be earned and developed over the time. Expecting and requiring the confidence from other people often leads to the zone of cold behaviour because people mostly believe each other on the basis of moral characteristics. This type of behaviour can lead to distrust environment, rather than mutual confidence. [6].

Organizational climate of confidence allows the employees to express their ideas and feelings and common learning. Organization without confidence can lead people to an unfavourable position that will inhibit learning. Development of confidence occurs in situations where individuals have the freedom of expression in their everyday tasks, without excessive control, monitoring and supervision. Support to such freedoms will also develop an environment of high confidence between employees [6]. According to Sonnenburg (1994), high level of confidence within an organization implies: reduction of discord and conflicts among the employees; joint commitment of the

people; increase of productivity; stimulation of development; promotion of personnel's morale; reduction of employees' abstinence; creation of the environment where innovations can be developed and improved. [18].

B. Involving the employees in the innovation process

It is very important to include the employees in the process of developing new services. Experiences that are acquired during interactions with users can be significant support in the creation of innovations, especially because they are related to information about services that users consider valuable.

De Brentani (2001) has identified the engagement of employees in innovation process as one of the factors of success that influence the final outcome of those processes. Such strategy should contribute to the creation of the alignment between innovation and users' needs [5].

However, Ramirez (2004) claims that involvement of employees in innovation processes, in many cases implies the breaking of institutional authority of the structure [16]. For that reason, involvement of employees in innovation processes can be a challenge for organization and specificity for management that needs to be preparing for ceding some of its formal powers. Sonesson (2007) indicates that one of the contributions on the quality of services innovation occurs by participation of employees from the front sales line, through their managing the processes with buyers, as well as creation of friendly relations and confidence [17]. He concludes that service innovations can benefit from the involvement of employees from the front sales line, but stresses that their participation in innovation processes must be supported by the managers that need to allocate time and resources for the employees that participate in development process.

In the same way, empowerment is another important part of the relationship with employees. Basically, the empowerment process implies giving the chance to employees with knowledge, skills and authority to make decisions that have until then traditionally been made by the managers [14]. The goal of empowerment is the creation of organization made of enthusiasts, the people that do their job because they believe in it and because it is entertaining [10]. Empowerment can encourage the employees in creativity and risk taking, and that makes the key components of organizational advantage in a changing environment [13].

III. Research methodology

A. Goal and tasks of the research

In accordance with theoretical framework about significance of knowledge management and innovation processes in modern business and having in mind current position of public companies in Serbia in their business environment, the goal of the research was to examine to what extent is the attention in these companies paid in application of modern management tools.

Thus conceived, the goal of the research was focused on a several tasks:

- Identification of employees' opinion in public companies of Serbia regarding confidence and knowledge exchange within the company.
- Determination of the relationship of the management of public companies in Serbia towards innovation processes.
- Identification of the level of involving employees' in business processes.

- Determination of the level of encouraging the cooperation and teamwork from the part of the management of public companies in Serbia within own organizations.

B. Sample, research method and applied statistical data processing method

Sample of respondents consisted of employees in public companies in the territory of the Srem region. Research has included 164 respondents from 6 dominant public enterprises: "Post Serbia", "Serbia Gas", "Electro distribution", "Telecom Serbia", "Serbia forests" and "Serbia waters". Depending on the number of employees, the attention was paid to the percentage of respondents from each public enterprise, as well as the percentage of respondents' selection in relation to the gender, age, years of service, education level and functions that they have in public services.

In order to obtain a more reliable and precise image on the real situation in relation to the mentioned research subjects, the respondents are divided into two criteria groups – employees and their managers. In that way, apart from obtaining the information in relation to the opinion and attitudes of employees as a group, the analysis of how different or similar are the employees' responses in relation to managers is provided.

As the most optimal instrument for subject research, the questionnaire was used. Answers in the questionnaire were of closed type and designed on the basis of Likert scale, so that the respondent could choose one out of five answers offered for each question.

Validation of questioner and data was carried out through more statistical methods and tests:

- Application of SPSS program was aimed at determining and displaying the frequencies and cross tabulation.
- MANOVOM (multivariate analysis of variance) analysis it was examined whether in the group as a whole there are differences in responses of the two criteria groups observed.
- By ANOVOM analysis (univariate analysis of variance), differences in responses of the two criteria groups were examined for each question.
- The discriminate analysis has identified difference and distance among two criteria groups.

Coefficient of discrimination existing differences obtained in previous analysis is expressed quantitatively, which was a prerequisite for the formation of the most frequent responses by relevant issues.

Considering that we talking about categorical data, before statistical data summarization, it was made a scaling of data, as a help for realization and application MANOVA, ANOVA, discriminate analysis, and coefficient of discrimination. These results were tested through discriminate analysis and coefficient of discrimination, and they are much more powered than simply testing the reliability of questioner. The resultants tested on that way, can give exact measure of difference and distance among two criteria groups.

IV. Research results

The significance of organizational climate and design was emphasized in many articles as a support to knowledge management and innovation processes. It is assumed that „real“ climate and design should support creativity, generation of ideas and knowledge sharing. When it comes to favorable conditions for using collective and individual knowledge in innovation process, Mascitelli (2000) claims that good "atmosphere" in organization creates the best conditions

for knowledge exchange and generation of innovations. By such atmosphere, he implies the possibility of the divergence of opinion, improvisation and artistic creativity, which can be connected with practical requirements of developmental service processes [15].

Analysis of the possibility of presenting new ideas, acceptance of innovation and creativity in organization, as well as examination of the extent to which company's management is aware of the significance of innovations and knowledge exchange, had the task to collect necessary information and create realistic image about the extent to which current organization design in public companies in Serbia is suitable for the possibility of generating knowledge management and innovation processes.

A. Knowledge exchange

As it was mentioned many times, for the success of innovative processes and programmes of knowledge management, the climate of openness and confidence among the employees is crucial. In order for the knowledge to spread exchange and freely flow within entire organization, it is necessary for the employees to feel unconstrained, without the fear that their knowledge sharing with their colleagues will bring them to a worse business position. On the contrary, instead of seeing the „disclosure“ of their skills and knowledge as a potential loss of their powers in organization, the employees would have to recognize knowledge exchange as a possibility for personal improvement and training, as well as entire organization's improvement and training.

Research results have shown that 65% employees believe that knowledge and information exchange among the employees is present in a small extent, 6% believes that it does not exist at all, while 29% experience knowledge exchange at a satisfactory level.

It was also significant to analyze the data regarding the persons with whom the employees are willing to share their knowledge (Fig.1):

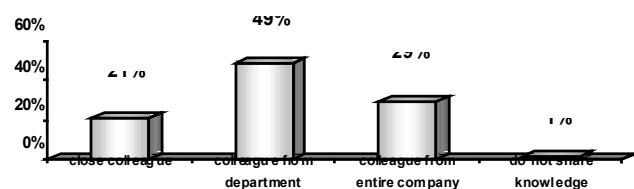


Fig.1: Knowledge sharing within the organization

The data presented show that the greatest number (49%) have confidence in colleagues from their service or department, while 21% respondents share their knowledge with close colleagues only.

B. Relationship of management towards innovation processes and involving employes in business processes

Some organization is successful if good individuals in it are successful. Today's modern and professional workers are not labour, they are capital that is productive and that creates additional value for its organization. As a creative and innovative part of each organization, people have the leading role in creation and maintenance of its competitive advantage. They wish to have an opportunity to show the management that they have abilities to assume responsibilities for the tasks assigned and to realize them with their creativity and teamwork.

When it comes to accepting and evaluating innovations from the part of management in enterprise, 61% or respondents are

completely dissatisfied with the existing treatment, 23% believes that they are evaluated partially, while 16% of employees have positive attitude and evaluation of the same (Fig.2):

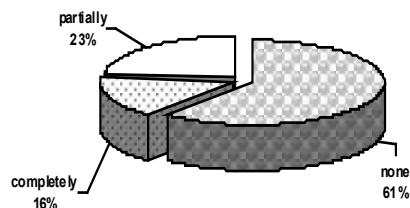


Fig.2: Evaluation of innovations by company's management

C. Encouragement of cooperation and teamwork

Cooperation and teamwork have a very important role in generation of innovations and new knowledge. More innovations come from the cooperation and community that through inventive thinking of individual mind. Multifunctional teams can be particularly good in the creation of new idea that is innovative and practical. These teams bring various skills and knowledge, and thus also the approach to problems from various perspectives, which creates the possibility for offering a great number of creative solutions to the problem.

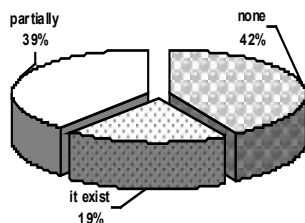


Fig. 3: Existence of teamwork within company

However, in the analysis of employees' attitudes regarding the quality of cooperation and existence of teamwork within the organization, it can be seen that only 19 % of respondents believe that such relations exist in organization, while 42% do not have a positive opinion regarding the same question (Fig.3).

D. Characteristics of responses of the two criteria groups

In order to examine whether there are any differences in the responses of the employees and their managers to the analyzed questions, as well as how much the responses vary, the multivariate analysis of variance was applied (Table 1.):

Table1. Significance of the difference between respondents

	n	F	p
MANOVA	6	4.752	0.02

By MANOVOM analysis, all the questions are observed as a unique whole and the objective is to determine whether there are any differences in responses of the two observed criteria groups in that whole. In order to identify the questions in case of which there is a determined difference, the univariate analysis of variance was applied, by which each question is analyzed separately according to he same parameters as in case of MANOVA analysis. (Table 2.):

Table 2 : Significance of the difference between the respondents by the given questions

	X	R	F	p
Knowledge exchange level	0.146	0.148	1.982	0.163
Empowerment of employees	0.168	0.196	3.216	0.067
Sharing the knowledge within organization	0.123	0.124	1.397	0.240
Attitudes concerning the confidence climate	0.219	0.224	4.704	0.033
Level of cooperation between departments	0.199	0.203	3.817	0.054
Support to cooperation and teamwork	0.229	0.235	5.204	0.025

In order to determine the size differences in the given answers, the discriminate analysis is applied (Table 3.):

Table3. Coefficient of discrimination, between respondents in relation by the answers

	Coeff. of disc.
Support to cooperation and teamwork	0.037
Support to innovations	0.033
Empowerment of employees	0.026
Level of cooperation between departments	0.024
Knowledge exchange level	0.003
Sharing the knowledge within organization	0.001

Data and parameters, obtained through the coefficient of discrimination, have served as basis for determining the most frequent responses to the belonging questions in both criteria groups. (Table 4.):

Table 4. Characteristics of the respondents in relation by the answers

	managers	employees
Support to cooperation and teamwork	Partially	Does not exist
Support to innovations	Partially	Does not exist
Empowerment of employees	To a small degree	Does not exist
Level of cooperation between departments	Satisfactory level	Low level
Knowledge exchange level	To a small degree	To a small degree
Sharing the knowledge within organization	With a colleague within department	With a colleague within department

Based on the data shown in Table 4., it can be seen that in case of the questions, which in their responses have the greatest difference in attitudes of two criteria groups – „support to cooperation and teamwork“ and „support to innovations“, the most frequent answer with managers was „partially“, while with employees, the response „does not exist“ prevailed. As opposed to this, in the responses to the question about „knowledge exchange level“, as well as „sharing the knowledge within organization“, the responses of employees were largely the same.

V. Discussion

Today, the organizations need to be prepared for new era that requires much efficient and encouraging management of innovations and knowledge. Many studies have confirmed that organizations that take the challenge of management with modern management tools, become more prestigious and successful in the market in relation to its competitors. Such organizations have greater possibilities for mobilization of knowledge, skills and experience of employees, and thus they become more capable for successful creation of new products and services in new ways that are faster, better and cheaper. In modelling such an organization, it is necessary to pay great attention to organizational design and make it such that he become the generator of climate, in which knowledge exchange and innovation are welcome.

Processes results in subject research have pointed to deficiencies in elements of organizational design of public companies, which represent relevant factors for the success of innovation processes and knowledge management. Low level of confidence among the employees, poor attention paying to innovations and their inadequate treatment from the part of enterprise's management, as well as insufficient support to cooperation and teamwork, indicate that the significance of innovations and knowledge management are still not understood in the right way, and that there is not sufficient attention paid to it. The employees see their tasks as centralized directives, without a possibility of involving their individuality, creativity and autonomy. They are very dissatisfied by non-acceptance of their ideas, criticism and suggestions

Traditional corporative environment, with its hierarchical structure, will not support innovation processes and knowledge management, which are by far more superior in organizations that encourage autonomy, respect, confidence and self-control as opposed to strict supervisions, rigid business limitations and direct control [4]. For the possibility of generating innovation processes and programmes of knowledge management within an organization, basic preconditions need to be met regarding the reduction of hierarchical structure and bureaucratic policy, giving great independence and responsibility to employees, strengthening the communication between various functional units and expanding the connectedness of employees throughout the company, generation and free knowledge exchange. At the same time, it is necessary to develop an open environment in which all employees, in atmosphere of confidence, feel free to share their knowledge and use the knowledge of other people.

In order for the programme of knowledge management and innovation processes to have an opportunity for successful implementation, one of the relevant preconditions is climate of confidence, openness, cooperation and mutual respect of employees throughout the organization. The employees need to be included in the concept of knowledge sharing. That requires training of employees, as well as a desire of employees to know

in which way knowledge sharing can be useful for them. At the same time, it is necessary to develop open environment in which the employees feel free to share their knowledge are use the knowledge of other people, in the atmosphere of confidence. Building confidence between employees is a means for success of innovation processes and knowledge management. The application of knowledge that will enable the creation of additional value for an organization, requires the role of leaders from managers, which implies owning conceptual skills, emotional intelligence, ability for teamwork, ability for motivation and tendency to constant improvement of employees.

In order for organizational design to be adaptable and able to support the creativity, generation and expression of new ideas, as well as efficient knowledge exchange, contemporary organizational design of public companies in Serbia could go through transformation towards: creation of as flatter as possible hierarchical structure, striving for multifunctional cooperation and teams, creation of the climate of confidence for free expression of new ideas, encouragement of the policy of sharing knowledge and ideas, involvement of employees of different knowledge and skills into innovation processes, respect and evaluation of skills, knowledge and talents, creation of the high level of autonomy for individuals, encouragement and rewarding the creativity and innovation and cooperation instead of competition within organization. [12].

VI. Conclusion

Literature suggests that processes of innovations and knowledge management today represent a significant factor of some organization, and as such they find their place in basic principles of modern business, regardless of the size or activity of organization.

Purpose of the paper at the title topic was reflected in examination to what extent is the application of knowledge management and innovation process in public companies in Serbia successful. Research, as well as the results obtained, point out to the deficiencies in elements of organizational design of public companies, which are relevant factors for the success of innovation processes and knowledge management. Low level of confidence among the employees, poor significance that is paid to innovations and their inadequate treatment from the part of enterprise's management, as well as insufficient support to cooperation and teamwork, point out to the fact that significance of innovations and knowledge management is still not understood in the right way, and that there is not sufficient attention paid to it.

Besides the awareness of the fact that concepts of knowledge management and innovation processes in Serbia are slightly known and applicable, top management of public enterprises in Serbia should seriously deal with current organizational structure and culture in its companies. Having in mind that these companies are in a market game where competitors become more powerful and stronger every day, it is necessary to incorporate modern business principles, which certainly exclude the concept of knowledge management and innovation processes.

In order for organizational design to be able to respond to all challenges of the concept of knowledge management and innovation processes, it is necessary to have a flatter hierarchical structure, which provides: high level of autonomy for individuals; respecting skills, knowledge and talents; reduction of bureaucratic behaviour; rewarding active knowledge sharing and creation of innovations; support to communication and

coordination, both between individuals and between groups and teams, building the climate of confidence and respect. Managers need to be ready to leave certain controls based on traditional business model and facilitate the flow of knowledge through the creation of the environments of learning, research and sharing. Traditional corporate structure and environment need to be modernized to a knowledge-based structure and environment, so that those companies can survive and be profitable.

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