Differences between the state/public and private sectors in organizations in Serbia regarding the functionality of managers' decision making*

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The aim of this paper is to present and analyze the relevant factors affecting functional decision making, which are related to specific organizations in terms of undefined conditions, as well as manager's characteristics in the given circumstances. The decision-making process has been studied in specific socio-economic conditions at the time of radical changes. The study was carried out on the sample of 162 managers in organizations varying by sectors and ownership status. Two questionnaires were used and the obtained results were statistically processed in accordance with the most convenient statistical methods. Thus, it is necessary to measure and manage the influential factors on a daily basis in order to make functional decisions. Based on the study, the key factors that affect the functional decision-making process are identified. These are the managers' demographic characteristics (career progress, managerial level), the manager's decision-making characteristics (risky or rational), and the type of activity (manufacture or service), as well as the ownership status of the organizations (public or private). In organizations that were subjected to this study, a functional decision-making involves consideration of organizational, managerial and personal prerequisites for measuring performance in all stages of decision-making process.

Key words: functional decision-making, manager characteristics, performance, organizations (JEL: D81, J24)

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Introduction

The business world today is in the process of very rapid and numerous changes, i.e. globalization of economy, swift growth of electronic commerce, increasing pace of business operations, rapid obsolescence of technological novelties, rapid expansion of new companies in the world market, which inevitably imposes the need for the development of new models and forms of leadership. The companies' ability to survive future surprises largely depends on their top management – capability to manage the company as a whole in the face of changes (Mitrovic et al. 2014). The business environment in Serbia is plagued by problems of decaying organizations that are not based on market economy, the lack of small and medium-sized entrepreneurial organizations, a large number of unemployed, vague goals of education and the labour market, as well as the growing economic crisis. The approach to decision making process in Serbian organizations has been examined insufficiently, while it has largely been considered as an individual process undertaken by general manager or responsible person. As a result of changes in the economic and political system, the decision making process emerged as one of the most important problems in organizations experiencing tremendous changes; at the same time, it has remained at the level of collective irresponsibility.

Managers frequently have to make complex decisions (Gilmore/Pine 1997, Lampel/Mintzberg 1996; Anderson et al. 1997) There is a consensus, in both strategic management and operations strategy literature, that organizations should strive for consistency between their competitive strategy and operational capabilities, with decision making being the key process critically influencing the above (Brown/Blackmon 2005; Swink/Narasimhan/Kim 2005; Venkatraman/Prescott 1990).

Differences observed between the current situation in Serbia and indicators from the developed countries have focused our research on the ways decision is being made, factors that contribute to these decisions and the possible consequences drawn by such decisions. Changes in the ownership structure have also influenced certain changes in applied methods and responsibilities in decision making, but the clear preconditions required for the decision making procedure to be effectively managed are still not recognizable.

Theoretical background

Managers should make functional and high quality decisions that are also appropriate for the given moment due to improve of the work processes and relationships with the environment. Thus, no one seeks a manager who dislikes decision making (Brooks 2011).

Making a decision means choosing between options, i.e. alternatives. In order to make a sensible decision, the attractiveness of these options has to be assessed

(Heerkens et al. 2011). Decision have important consequences for organizational performance and it is often the result of the involvement of participants both from inside as well as outside the organization (Hickson et al. 1986; McKenzie et al. 2009).

Decision-making has long been considered a central and essential building block in management (Mintzberg 1973; Rausch/Washbush 1998). More recently decision-making is still considered the core activity of managers and the function that separates the responsibilities of managers from employees (Robbins/De Cenzo 2008). Additionally, recent studies have made it clear that the availability of information, knowledge, and support system are crucial to handling decision-making under uncertainty. Managers try to make sound and practical decisions which allow work to progress smoothly given the relative available information within the context of any resource and time constraints (Tversky/Kahnerman 1974).

The decisions are usually made from several alternatives which are tested in more criteria. Critical point in decision-making process is estimation of importance of certain criteria. So, there are more alternatives, more criteria. The criteria are of various importance and the effect of decision depends on the moment of making the decision (Kirin et al. 2010).

Managerial decision-making is a dynamic and interdisciplinary process that involves all forms of activities in the organizations and its importance is reflected in the fact that all the activities begin and finish with decision-making. Management analysts and theorists differ in their reflection regarding the location where decisions are made, but they agree regarding their importance. Careful decision results in action of better quality, and therefore, the overall managerial performance is higher and it is a very important feedback from employees. Feedback is generally regarded as a crucial and powerful instructional technique to improve knowledge and skills within a wide range of educational contexts (Azevedo/Bernard, 1995; Bangert-Drowns et al. 1991; Epstein et al. 2002; Nicol/Macfarlane-Dick 2006; Pridemore/Klein 1995; Race 1998; Sadler 1983).

Every day managers are confronted with numerous decisions, and so even those which are fairly mechanical in nature and have rather high task certainty require managerial common sense (Dinur 2011). However, with the advent of increasing globalization, work ambiguity, and task complexity, there is a need for managers to be more adaptable and have greater rapid response (Pearce/Robinson 2011). Moreover, the managerial role is highly important because the most local and state governments have policies and programs designed to support entrepreneurs and small businesses are not necessarily well suited to meet the needs of the businesses and the most likely are declarative with no practical results (Jankovic-Milic et al. 2014).

Decision-making is the foundation of management, given that it means making decisions, which is the manager's most important job. Decision-making is critical to the management, because this is the way to realize its role. While decisions are made also by other parties in the organizations, the most important decisions are still the responsibility of managing bodies (Assembly and Board of Directors) and the management.

Scott and Bruce (1995) distinguished between five different decision making styles. These styles reflect an individual's approach to different decision making situations. The rational decision making style is characterized by the use of logical and structured approach to decision making. The search for information, its assessment and evaluation are all carried out in a logical manner. A risky decision making style is opposite to the rational approach. This style is identified by trying to postpone a decision situation and to avoid making a decision. The dependent style is characterized by individuals seeking information and advice from others before the decision is taken. Intuitive decision making style is emotional because the individual listens to the feelings and impressions in a decision situation. Finally, a spontaneous decision making style seeks to finalize a decision process as quickly as possible.

The main focus in this paper is rational and risky decision making styles. Decision makers who prefer a rational approach to decision making have a sense of personal responsibility and control which is opposed to the managers who prefer risky decision making.

Risky decision making exists when consequences of possible courses of action are partly uncertain, but the decision maker is able to estimate the probability of their occurrence. This can be determined using statistical methodology, but it is also based on the manager's subjective assessment. Risk in decision making occurs when the manager decides to invest money in developing a specific product. He assesses the probability of its market success and certainly is opting for the product with the highest probability of success. The risk of decision-making is equal to the probability that the selected product may fail to penetrate the market.

For successful decision-making it is important to understand the key dimensions of managerial decision-making process, including:

- organizations, i.e. place of managerial decision-making;
- levels of management where decisions are made;
- managerial abilities and skills;
- importance of decisions for organization's future;
- rationality, given that managerial decision-making is primarily rational because it is oriented towards the achievement of organization's long-term goals;

- strategies are an integral part of managerial decision-making, given that they indicate when and how to achieve the goals of organization;
- the result, i.e. achieving the objectives of the organization;
- uncertainty – it is constantly present in managerial decision-making and can never be removed.

In addition to the above dimensions, and since decisions should be qualitative and implemented effectively and efficiently, Welch points out that manager should have the ability to assess his team in a proper manner, i.e. to appoint right people at right places, to assist them, train and provide them with support and recognition, in order to gain self-confidence (Welch 2007).

Due to be successful, it is also necessary for organization to include the employees in decision making process, empowering them for independent decision making, and allowing them to participate in introducing changes in the organization and development. Employee empowerment also aims to ensure the preconditions and include the employees in achieving the goals, as well as provide access to competent, motivated, well-informed and stable workforce that creates the desirable future of the organization.

The starting point in defining the differences in individual decision making is stated in the theory of Carl Gustav Jung, which involves two ways of gathering information (based on sensing and intuition) and two criteria of decision making (thinking and feeling). According to Jung's view, individuals are prone to certain style of logic and reasoning; its combination makes the cognitive style. Thus, there are four cognitive styles (Nelson/Quick 2003): sensing/thinking, sensing/feeling, intuiting/thinking, and intuiting/feeling. Each of these styles affects managerial decision-making.

Managerial decision-making should be efficient and effective, because it is the only way to secure the organization's progress and future in today's uncertain and turbulent environment. Indeed, it is the decision-making by which successful organizations are differentiated from unsuccessful organizations (McLaughlin 2005). Namely, successful organizations outperform their competitors by making decisions better and faster, as well as putting their decisions into practice.

Milkman et al. (2008) noted that in the knowledge-based economy, a knowledge worker’s primary task is a good decision. The ability of organizations, corporations and entities to contemplate, evaluate and implement quality decisions is dependent upon a multitude of intrinsic and extrinsic factors (James/Arnold 2011). While the management of extrinsic variables may be more difficult to control, the identification and management of human variables such as emotion and logic are pivotal in the effort to increase the quality of decisions and decision-making process. Researchers have recently focused their attention on the impact of human emotion variables on decision-making. Hilary and Hui (2008)

found that both individuals and organizations exhibiting high level of religious convictions display lower level of risk exposure in decision-making. Similarly, Fernando and Jackson (2006) noted that outcomes of difficult decisions, both good and bad, were in some way attributable to a religious, spiritual or value characteristic.

Decision-making efficiency depends not only on the information presented to the decision maker, but also on the interpretation of that information in relation to the proposal; the calculated risk decision makers are prepared to take a risk, and understand its impact towards the organization (Van Riel et al. 2004). In an organizational setting, the way decision makers perceive, organize, and process information affect the quality of collective decision-making, as well as how these interpretations are used for guiding actions, (Hayes/Allison 1988).

Theoretical background explanations of managerial decision making can be seen through Dynamic capabilities theory, which was first introduced to explain firm performance in dynamic business environment. The Dynamic capabilities theory will be tested further on against four key decision making processes that characterize the most influential decisions made within the management of supply chains as contribution to better understanding practitioner field (Teece/Pisano 1994).

Research methodology

The sample of this study consists of 162 managers from eight different organizations from both manufacturing and service sector. Regarding the legal form of organization, four are in state/public ownership and four in private ownership.

Description of the sample

As for the survey respondents' gender structure, 106 (65.4%) of them were males and 56 (34.6%) females.

The educational level of the employees in the survey was the following:

- 19.9% of managers hold secondary education;
- 9.3% of managers hold college education;
- 67.7% of managers hold higher education; and
- 3.1% of managers are specialists, holding master's or doctoral degree.

88% of the total number of managers working in public organizations hold higher education degree, while private organizations are dominated by managers with secondary school education (45.9%). Based on the research conducted in state/public and private organizations, they are dominated by managers aged 30-60. The average age of the managers as expressed by median is 45 (interquartile range is 16). The youngest manager is 23 and the oldest 67 years old.

In state/public organizations the research primarily included managers of engineering occupations (66.3%); the number of managers of social occupations was

somewhat lower (33.7%), while in private organizations the coverage was 84.2% and 15.8% in favour of the managers of engineering occupations. Due to the low frequency, managers of natural science occupations were excluded from the analysis of occupation-based differences between managers.

Based on the data on the managers' work experience, it can be noted that the average number of years of service as expressed by median is 19 (interquartile range is 17). The minimum length of service in a given organization is one year, while the maximum is 40 years.

Regarding their levels of managerial position in state/public and private organizations, the structure is the following:

- top level management (director, deputy, technical director) makes 17.4%;
- mid level management (sector manager, branch manager) makes 34.8%;
- lower level management (head of department, office) makes 25.5%;
- the lowest level management (foreman) makes 22.4%.

Regarding the activities of the organization, the research sample comprises manufacturing and service sector managers with the following structure:

- 90 managers are from service sector and
- 61 managers are from manufacturing sector.

Ten respondents from the overall sample who have categorized their organization as a manufacturing/service company were not taken into account.

The *subject* of this paper is to analyze the way and the quality of decision-making of managers from the surveyed organizations, the functionality of decisions, as well as factors related to the organizations and its features, as well as the characteristics of decision makers.

This paper analyzes the involvement of management and employees of the organizations in decision-making process, the differences in the way decisions are made in private and state organisations, manufacturing and service organizations, and differences regarding the functionality of decisions as perceived through the following dependent variables: the degree of participation of employees in decision making, the level of participation of management in decision making, as well as risky decision making and rational decision making. The independent variables of the study are developments in managers' career, type of activity of the organization, management level and managers' previous occupation.

The *study aims* to identify the relevant factors of environment, organizations and personal characteristics of managers that affect the functionality of decision-making.

Research instrument

This problem was studied based on two questionnaires. The questionnaire on how the managerial decisions are made (Mitrovic 2011) consisted of 11 questions with five-scale Likert-type answers (1-strongly disagree, 2-disagree, 3-neither agree nor disagree, 4-agree, 5-strongly agree) with the purpose to identify the quality and intensity of measured indicators. Managerial behaviour in decision-making process was measured by this instrument, i.e. personal requirements in decision-making. This was based on Jung's cognitive styles of information gathering and decision-making (Nelson/Quick 2003). The reasons why we choose this questionnaire could be found in the approach to the research, its objectives and simplicity of interpretation. We believed that the use of a questionnaire with several variables affect the clarity of the research objectives.

The questionnaire on involvement in decision-making (Mitrovic 2011) consists of 16 questions with five-scale Likert-type answers (1-strongly disagree, 2-disagree, 3-neither agree nor disagree, 4-agree, 5-strongly agree) with the purpose to identify the quality and intensity of the measured indicators. The subject's degree of involvement in the decision-making process was measured by this instrument, i.e. management and employees' degree of involvement in the decision-making process.

Hypotheses:

1. *There are differences in decision-making depending on managers' career in organizations of public and private ownership*
2. *There are differences in decision-making between managers from manufacturing and service sector in public and private ownership*
3. *There are differences in decision-making depending on the level of management*
4. *There are differences in decision-making depending on managers' previous occupation*

Data processing methods

The research results were statistically processed in accordance with the most convenient and best accepted statistical methods.

The sample was described by descriptive statistical analysis (determination of mean, median, and standard deviation).

The data were processed by the following statistical analyses:

Representative statistical analysis (method of samples)

- T-test
- One-way analysis of variance (ANOVA)

Multiple regression analysis

- Multivariate analysis:

Factor analysis: the method of principal components

Reliability analysis of questionnaires – Reliability analysis

These methods were aimed to specify problems that arise when making decisions.

Results

Based on the factorial analysis (extraction method, principal components) two factors were selected for the first questionnaire and two factors for the second questionnaire, as shown in Tables 1 and 2.

Table 1: Matrix assembly

Item	Factor	
	1	2
1. The organization has clearly defined the framework in the terms of individuals responsible for making decisions		.838
2. The organizational structure provides a decision-making authority		.841
3. All employees are included in decision making regardless of the complexity and importance of decisions	.733	-.473
4. In demanding situations nobody does anything; everyone is waiting for someone "responsible" for the solution and decision	-.446	
5. Employees in the organization are eager to take responsibility and make decisions related to their jobs	.717	
6. In our organization it is clearly defined what is important and what is unimportant for the business	.533	
7. Planning business process exclusively depends on top management		.449
8. Decisions on rewarding and punishing employees are made at the organizational level	.494	
9. Employees have a need for independent decision-making within their competence	.387	
10. So far, the top management's decisions have had a positive impact on job performance		.657
11. Decision-making in our organization is greatly influenced by the current political situation	-.545	
12. If there are some alternatives in decision-making that could also contribute to success, there is a delay in decision making	-.515	
13. There are clearly defined consequences for wrong decisions	.676	
14. People are willing to share responsibility for decisions which were brought without their inclusion	.654	
15. Employees usually accept that others make decisions for them	-.496	
16. The value system of the organization facilitates influence decision making	.462	.405

The first factor is related to the organizational prerequisites of functional decision making.

Table 2: Matrix assembly

Item	Factor	
	1	2
17. People who know me describe me as a cautious person	.470	-.501
18. The word "risk" I associate with the word "opportunity"		.384
19. I accept a substantial financial risk that brings substantial income		.817
20. I consider the problem at hand in details and carefully analyze the data in order to assess it as accurately as possible	.704	
21. I really enjoy performing challenging tasks	.486	.437
22. I am able to consider the problem from perspectives that others fail to recognize	.656	
23. When faced with obstacles, I "think fast, act appropriately and quickly move on to the next problem"	.369	.465
24. I devote considerable time to identify the most important things in a situation I am resolving	.555	
25. Before taking action, I carefully assess the consequences and outcomes	.729	
26. I am aware of new trends and their consequences that are related to the main decisions I make	.617	
27. I am capable of "looking forward", reducing in my decisions the degree of unpredictability and uncertainty	.564	

The second factor is related to the personal prerequisites of functional decision making.

The above factors were subjected to the Cronbach's alpha test of reliability, which is 0.834 for the overall questionnaire, 0.707 for the questionnaire used to measure the level of participation of management in decision making, 0.765 for the questionnaire that measures the degree of participation of employees in decision making, 0.716 for the part of questionnaire that measures risky decision making, and 0.711 for rational, analytical decision-making.

The research results are described and presented in a tabular form.

Regarding trends in the career:

a) For managers employed in organization in state/public ownership, as indicated by T-test, there are no statistically significant differences in decision-making regarding the promotion (promoted, non-promoted) at work in relation to the analyzed variables.

b) For managers employed in organization in private ownership, as indicated by T-test, there are significant differences in decision-making with regard to promotion at work with respect to the following (Table 3):

- the level of involvement of management in decision-making ($t = 2.86$, $df = 56$, $p \leq 0.05$). The level of involvement of management in decision-making is rated higher by managers who were promoted than by those who were not promoted (promoted managers $M = 17.33$, $s = 2.50$, non-promoted managers $M = 15.00$, $s = 2.89$).
- risky decision-making ($t = 1.75$, $df = 56$, $p = 0.09$ this difference is marginally significant). Risky decision-making is rated higher by managers who were promoted than by those who were not promoted (promoted managers $M = 15.36$, $s = 1.82$, non-promoted managers $M = 14.23$, $s = 2.68$)

Table 3: Differences in decision-making depending on the advancement / Levene's test of homogeneity of variance and T-test for managers of organizations in private ownership

Dependent variable	Levene's test		t-test				
	F	p	t	Df	P	Differences in M	Std. error of dif. in M
The level of involvement of employees in decision-making	2.00	.16	.05	56	.96	.09	1.72
The level of involvement of management in decision-making	.00	.98	2.86	56	.01	2.33	.82
Risky decision-making	2.66	.11	1.75	56	.09	1.12	.64
Rational decision-making	4.20	.05	.98	14.64	.34	.91	.93

Regarding the progress in career, i.e. promotion, the level of involvement of management in decision-making and risky decision-making were rated higher by managers who were promoted than by managers who were non-promoted in organizations in private ownership.

Regarding the type of activity:

As indicated by T-test, there are significant differences regarding the type of activity (Table 4):

- the level of involvement of employees in decision-making ($t = -3.23$ $df = 103.89$, $p \leq 0.01$). The level of involvement of employees in decision-making is rated higher by the managers employed in manufacturing organizations, than by managers employed in service organizations (managers of manufacturing organizations $M = 30.15$, $s = 5.91$, managers of service organizations $M = 27.31$, $s = 4.27$)./

- the level of involvement of managers in decision-making ($t = -3.98$, $df = 149$, $p \leq 0.01$). The level of involvement of managers in decision-making is rated higher by managers employed in manufacturing organizations than by managers employed in service organizations (managers of manufacturing organizations $M = 16.65$, $s = 2.76$, managers of service organizations $M = 14.88$, $s = 2.63$).
- Risky decision-making ($t = -2.90$, $df = 150$, $p \leq 0.01$). Risky decision-making is rated higher by managers of manufacturing organizations than by managers of service organizations (managers of manufacturing organizations $M = 14.79$, $s = 2.30$, managers of service organizations $M = 13.71$ $s = 2.20$).
- Rational decision-making ($t = -3.06$, $df = 149$, $p \leq 0.01$). Rational decision-making is rated higher by managers of manufacturing organizations than by managers of service organizations (managers of manufacturing organizations $M = 20.95$, $s = 2.09$, managers of service organizations ($M = 19.88$, $s = 2.13$).

Table 4: Differences in decision-making regarding the type of activities of the organizations / Levene's test of homogeneity of variance and T-test for managers from enterprises in state and private ownership

Dependent variable	Levene's Test		t-test				
	F	p	T	df	p	Differences in M	Std. error of dif. in M
The level of involvement of employees in decision-making	5.48	.02	-3.23	103.89	.00	-2.83	.88
The level of involvement of management in decision-making	.72	.40	-3.98	149	.00	-1.77	.44
Risky decision-making	.02	.88	-2.90	150	.00	-1.08	.37
Rational decision-making	.08	.78	-3.06	149	.00	-1.07	.35

As for the types of activities of organizations, the involvement of management and the employees in decision-making, as well as risky and rational decision-making is rated higher by managers of manufacturing organizations than by managers of service organizations.

Regarding the level of managerial position:

a) For managers employed in organizations in state/public ownership, the Levene's test of homogeneity of variance has indicated that the homogeneity of variance requirement is not satisfied in organizations of state/public ownership.

The sample of managers from the public sector has been subjected to one-way analysis of variance and no differences were found in decision-making regarding the level of management with respect to the variables of the level of involvement in decision-making and the way of making managerial decisions.

b) For organizations of private ownership
As indicated by Levene's test of homogeneity of variance (Table 5), the homogeneity of variance requirement is not satisfied for:

- risky decision-making ($F = 4.29$, $p \leq 0.01$);
- the level of involvement of employees in decision-making ($F = 8.86$, $p \leq 0.01$);

ANOVA analysis has also been performed for these variables, and the results were tested with the Kolmogorov-Smirnov test.

Table 5: Differences in decision-making depending on the level of management / Levene's test of homogeneity of variance in organizations of private ownership

Dependent variable	F	df1	df2	p
Risky decision-making	5.80	3	57	.01
Rational decision-making	3.73	3	57	.04
The level of involvement of management in decision-making	.63	3	57	.60
The level of involvement of employees in decision-making	8.86	3	57	.00

Other variables were analyzed by using the one-way analysis of variance (Table 6), which indicated that there are differences regarding the manager's level of management in organizations of private ownership regarding:

- Risky decision-making ($F (3; 57) = 5.80$, $p \leq 0.01$)

Table 6: Testing the differences between individual groups in organizations of private ownership by using Scheffé's test

Dependent variable	(I) Level of management	(J) Level of management	Differences in M (I-J)	Std. error	p
Risky decision-making	director general, deputy director general, financial manager	head of the sector (department), office	2.09	0.80	0.09
		head of the department, section-agency	2.82	0.76	0.01
		foreman	2.70	0.71	0.00
	head of the sector (department), office	head of the department, section-agency	0.73	0.75	0.81
		foreman	0.61	0.69	0.85
	head of the department, section-agency	foreman	-0.13	0.64	1.00
Rational decision-making	director general, deputy director general, financial manager	head of the sector (department), office	2.32	0.89	0.09
		head of the department, section-agency	1.95	0.84	0.16
		foreman	2.51	0.78	0.02
	head of the sector (department), office	head of the department, section-agency	-0.37	0.82	0.98
		foreman	0.20	0.76	1.00
	head of the department, section-agency	foreman	0.56	0.71	0.89

As revealed by Scheffé's test, risky decision-making is rated higher by managers in privately owned industry systems, i.e. top management (director general, deputy director general) than by those at lower levels (heads of departments, offices and foremen ($p \leq 0.01$)). In Table 6 there are differences between the first-level and lower-levels manager in terms of risky decision-making, suggesting that the first-level managers are more prone to risky decision-making than lower-level managers. This is reasonable because in organizations of private ownership top managers make strategic decisions in all business conditions.

- rational decision-making ($F (3; 57) = 3.73$, $p \leq 0.05$)

As revealed by Scheffé's test, rational decision-making is rated higher by the first level managers (director general, deputy director general) of privately owned industry systems than by the fourth-level managers ($p \leq 0.05$). In Table 6, there are differences between the first-level and lower-level managers in terms of rational decision-making, suggesting that the first-level managers are more prone to rational decision-making than the fourth-level managers. It is also

important to note that the third-level managers are more prone to rational decision-making than the managers from the second and fourth level.

As for the level of management, in organizations of private ownership, risky and rational decision-making is rated higher by top managers than the managers of the other three levels of management. This suggests that strategic decisions are the responsibility of the first-level managers. Rational decision-making in our business conditions is burdened with numerous problems such as insufficient sharing of responsibility, lack of information and untrained management.

Regarding manager's previous occupation:

a) For organizations of state/public ownership
   As indicated by T-test, there are no statistically significant differences in decision-making regarding the type of the managers' occupation in organizations of state/public ownership

b) For organizations of private ownership
   As indicated by T-test, there are statistically significant differences in decision-making regarding the type of managers' occupation in organizations of private ownership (Table 7) regarding the following:

   - the level of involvement of employees in decision-making ($t = 4.30$, $df = 55$, $p \leq 0.01$). The level of involvement of employees in decision-making is rated higher by managers of technical occupations then by managers of social occupations (technical occupation $M = 32.31$, $s = 4.64$, social occupation $M = 25.00$, $s = 4.90$);
   - the level of involvement of management in decision-making ($t = -6.40$, $df = 53.21$, $p \leq 0.01$). The level of involvement of management in decision-making is rated higher by managers of social occupations than by managers of technical occupations (technical occupation $M = 26.31$, $s = 2.69$, social occupation $M = 19.11$, $s = 0.60$);
   - Risky decision-making ($t = -1.79$, $df = 55$, $t = 0.08$, this difference shows marginal statistic significance). Risky decision-making is rated higher by managers of social occupations than by managers of technical occupations (social occupation $M = 16.11$, $s = 1.17$, technical occupation $M = 14.71$, $s = 1.17$);

Table 7: Differences regarding the type of occupation / Levene's test of homogeneity of variance and T-test for respondents from organizations of private ownership

Dependent variable	Levene's test		*t-test*				
	F	p	t	df	p	M_1-M_2	*Std. error M_1-M_2*
Job satisfaction (the way of making and implementing your decisions)	0.48	0.49	-1.30	55	0.20	-0.40	*0.31*
The level of involvement of employees in decision-making	.55	.46	4.30	55	.00	7.31	1.70
The level of involvement of management decision-making	10.58	.00	-6.40	53.21	.00	-2.80	.44
Risky decision-making	3.09	.08	-1.79	55	.08	-1.40	.78
Rational decision-making	3.01	.09	-.38	55	.70	-.33	.85

Regarding occupations in organizations of private ownership, the level of involvement of employees in decision-making is rated higher by managers of technical occupations, while the level of involvement of management in decision-making, as well as risky decision-making, is rated higher by managers of social occupations.

Discussion

Distinctiveness of managerial decision-making in organizations and its interaction with the external and internal environment are a prerequisite for their successful operation.

The results have confirmed that there are differences in decision-making among the managers regarding their advancement in relation to the way of decision-making and the level of involvement in that process. The findings show that managers in privately owned organizations that have been promoted estimate that employees should be involved in decision-making and they are also more prone to risky decision-making.

Based on the results of this research and the above differences related to the type of activity of the organizations, it can be concluded that managers of manufacturing organizations think that in addition to management, employees should be also involved in decision-making, both rational and risky.

Also, shifting the management system towards participatory management would contribute to more functional decision making

As suggested by the analysis of differences in decision-making between managers regarding their managerial level, top managers and their deputies are more prone to risky decision-making than those at lower levels of management. This is reasonable, because all depends on the first-level management, given that this is the level where strategic decisions are made in the existing authocratic style of management.

The results have also confirmed the differences in decision-making regarding the type of the manager's occupation. As suggested by the results, managers of technical science occupations in privately owned industry systems believe that employees should be involved in the decision-making process, i.e. that there is a participatory style of decision-making. In addition, managers of social science occupations believe that management involved in decision-making is prone to risks, while in the same time behave correctly in business.

To understand the results obtained from our organizations, it is useful to consider also the research results with respect to decision-making obtained worldwide.

Regarding the practice of decision-making, studies in the world suggest that there are certain differences from country to country (Robbins/DeCenzo 2008). The way of making decisions – either by groups or team members, in participative or autocratic manner by individual managers – and the degree of risk that decision maker is willing to take are only two examples of decision variables that indicate the cultural environment of country.

In India, for example, there is high power distance and uncertainty avoidance, and decisions are made only by high level managers; therefore, it is likely that they will be reliable. Managers in Sweden are not afraid of making risky decisions and decision-making is often left to lower levels, encouraging lower-level managers and employees to take part in decision-making that affect them. In countries like Egypt, where the pressure of meeting deadlines is low, managers make decisions in more balanced pace and manner than managers in the United States. In Italy, where history and tradition are highly valued, managers tend to rely on traditional ways. The Japanese appreciate consent and cooperation. Before making any decision, Japanese CEOs gather a large amount of information, which is then used in group decision-making by consensus, called ringsei. Since the job security of employees in Japanese organizations is very high, management decisions have a long-term perspective, rather than focused on short-term profits, which is almost a common practice in the U.S. Senior managers in France and Germany, adjust their style of decision-making to the culture of their countries. In France, for example, autocratic decision-making is widely used, while managers avoid risks. In Germany, management styles reflect the concern of German culture for structure and order (Robbins/Decenzo 2008). Therefore, German organizations generally operate in the framework of extensive legisla-

tion and policy. Responsibilities of managers are clearly defined and managers accept the fact that decisions run through certain channels.

Conclusion

Many studies have found that managers want more timely accounting information, incorporating external and non-accounting data, focused on a range of functional areas and decisions, if there is more uncertainty of the environment and the task and if there are more interdependencies between organizational units and tasks (Chenhall/Morris 1986; Chenhall/Morris 1995; Gul/Chia 1994; Chong 1996).

According to our research carried out in organizations, the general conclusion is that functional decision-making involves consideration of organizational, managerial and personal prerequisites of measuring their performance in all stages of decision-making process, and thus, on the basis of the existing results it is necessary to direct decision-making towards more successful and better business. The results cannot be applied on general population for several reasons: firstly it is the sample, then the questionnaire, and distinction that they carry with them.

What position should the management take in relation to the conditions that result from the crisis and instability of production and business processes? How to encompass the changes in the environment and system, and how to incorporate them appropriately into the processes of the system? These are the problems addressed by managers on daily basis (with more or less success). Making functional decisions in unstable economic conditions is important for achieving stated objectives and desired results. After many years of socialist self-management, in which all employees made decisions, we are now slowly establishing a system of managerial decision making, which is still insufficiently differentiated.

Limitations of the present research are reflected in insufficient research sample, as well as in specific circumstances in which the study was carried out, including insufficiently differentiated management roles and uncontrolled connection with political influences on decision-making.

The research presented in this paper is only one of the possible perspectives and approaches in researching methods and quality of managers' decision-making process in the above studied organizations as well as particularities and factors related to the features of decision makers.

The complexity of the problem of manager’s decision making in organizations causes great care in researching and interpreting the obtained results. We are aware of the limitations of our study as well as socio-economic situation in Serbia nowadays, but we think it is very important to start this kind of research on decision-making efficiency and subsequent implementation of decisions, because the functional decision-making is prerequisite of organization success.

This topic is increasingly important in Serbia which aims at closer relationship with EU countries.

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