

***Evaluation of the key factors of effective leadership
in the process of implementing public sector reforms
of the Republic of Serbia***

Tatjana JANOVAČ¹, Milja ORLANDIĆ², Marijana VUKČEVIĆ³

Abstract: Public sector reform is one of the Government of the Republic of Serbia strategic goals. The strategy envisages the improvement of the human resources management system, which includes the development of professional capacities. In order for public sector reform to achieve its contribution, it is necessary to develop effective leadership at all levels. The effectiveness of the leadership process is influenced by many factors. One of the factors refers to the characteristics of the leader, his abilities and skills to make and implement optimal decisions. The decision-making process itself also depends on the circumstances, i.e. the situation in which the decision is made, as well as the environment that affects the decision-making process. There are situations that are certain, where the decision maker has sufficient information and can immediately see the effects of each alternative before implementation. In that case, decision-making is significantly facilitated, because it boils down to the technical problem of quality assessment of alternatives and their comparison. But, in most cases, the circumstances, that is, the environment is uncertain and complex. The decision-maker in such situations usually does not have enough information and therefore it is difficult or impossible to check their effectiveness and develop potential alternatives. The main goal of the work is to use the new multicriteria decision-making method PIPRECIA to evaluate and define the importance of key factors influencing the behavior of leaders and contributing to the effectiveness of the leadership process important for the implementation of reforms in the Republic of Serbia public sector. The results of this method application indicate that the key factor influencing the leader's behavior is C5-Characteristics of the leaders. The results provide important information to managers of public organizations on how to manage change more effectively.

Keywords: factors of effective leadership, public sector, Republic of Serbia, PIPRECIA method.

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¹ Associate Professor PhD, University Business Academy in Novi Sad, Faculty of Applied Management, Economics and Finance, Belgrade, Serbia, Accredited lecturer of the National Academy of Public Administration, e-mail: tatjana.janovac@mef.edu.rs. ORCID: 0000-0001-7436-0752

² PhD student, University Business Academy in Novi Sad, Faculty of Applied Management, Economics and Finance, Belgrade, Serbia, e-mail: miljaorlandic@mef.edu.rs. ORCID: 0000-0002-4152-3567

³ English language teacher, Ph.D. student, University Business Academy in Novi Sad, Faculty of Applied Management, Economics and Finance, Belgrade, Serbia, email: marijana.vukcevic@mef.edu.rs. ORCID: 0009-0009-9137-3630

Introduction

Public sector reform is one of the Government of the Republic of Serbia's strategic goals. In this regard, the Public Administration Reform Strategy of the Republic of Serbia for the period 2021-2030. was defined, as well as the Action Plan for the implementation of the Strategy. The public administration reform strategy is focused on service provision policy and capacity management, as well as improving coordination in the implementation and monitoring of public administration reform. The strategy foresees the improvement of the human resources management system, which implies the development of professional capacities, which indicates a good direction for the reform because the success of the process itself depends on the development of human resources.

The report of the European Commission (2022) states that the Republic of Serbia is moderately prepared in terms of public administration reform and that limited progress was made in the area during the reporting period. The reason for such weak progress relates to the lack not only of institutional leadership but also to the absence of effective leadership at all levels. One of the findings of the European Commission's report is that "half of the positions of senior managers are filled on the basis of acting duties". Precisely, this represents a key problem in the functioning of organizations in the public sector with a long tradition of bureaucratic organizational culture, more difficult to adapt to changes, where the dominant authoritarian leadership style with centralized decision-making, a high degree of control and communication takes place "from top to bottom", and where initiatives are organized (Claver et al., 1999; Hendryadi et al., 2019; Van der Voet, 2016; Park et al., 2021). Implementing reforms is a challenge for public sector organizations. According to Mora & Ticlau (2012), the trends in the implementation of public sector reform emphasize creativity, innovation, flexibility, quick response, effectiveness and response to citizens' needs. This context is suitable for a transformational type of leader who represents the initiator of such reforms. In addition to these authors, in the scientific literature there is a large number of researchers who are of the same opinion that transformational leadership is effective in the process of implementing reforms and that it can have a positive impact on the acceptance and implementation of organizational changes in public sector organizations (Van der Voet, 2016; Orazi et al., 2013; Wright & Pandey, 2010; Molines et al., 2020; Pyle & Cangemi, 2019; Campbell, 2018; Moynihan et al., 2013; Elmasry & Bakri, 2019; Busari et al., 2020; Hoai et al., 2022).

In order to reach the realization of the strategic goals defined by the Action Plan and for the reform of the public sector to realize its contribution, it is necessary to develop leadership at all levels of the organization (Brosnahn, 2001). Effective leadership involves a complex process influenced by many factors. Effective leadership can contribute to an increased level of employee satisfaction, building organizational culture (Van Wart, 2003) as well as greater efficiency for the organization (Zhihong et al., 2013; Trong Tuan, 2017), in general. Apart from the functioning of the public

sector, effective leadership is also important for the quality of services to citizens and other interested parties (Janovac et al., 2022). By reviewing the scientific literature, a gap is observed when it comes to research related to the assessment of factors that influence the effectiveness of leadership in the process of implementing reforms. For the above reasons, the essential aim of the work is to use the new multicriteria decision-making methods PIPRECIA to evaluate and define the importance of key factors that influence the behavior of leaders and contribute to the effectiveness of the leadership process important for the implementation of reforms in the public sector of the Republic of Serbia.

This paper is structured in the following order. Section 1 presents the theoretical background. Research methodology is presented in section 2, while results and discussion is presented in section 3. Section 4 presents the conclusion.

1. Theoretical Background

In the book "Leadership for the 21st Century" Joseph Rost (1993) defines leadership "as a relationship of influence between leaders and followers in order to achieve a common goal and necessary change". A similar definition was given by the author Peter Northouse: "Leadership is a process in which an individual exerts influence on a group in order to achieve a common goal" (Northouse, 2008, p.2). Authors Zendeh, & Aali, (2011) believe that the process of "social influence" is very important in which an individual provides support and help to others in achieving tasks and goals. In this regard, leadership is also the way in which the leader prepares employees to accept changes (Ratcliffe, & Ratcliffe, 2015). Apart from the mentioned authors, there are a large number of studies in the research literature that explain the complexity of the leadership process (Bennis, 1959; Antonakis & Day, 2018; Bass & Stogdill, 1990; Gardner et al., 2020; Hickman, 2012; Maxwell, 2007; Greenwood, 1996; Mumford et al., 2000). Despite the fact that leadership is a multidimensional phenomenon that has been extensively studied over the years, the famous theorist Bennis believes that it is "the most studied and least understood topic in the social sciences" (Benmira & Agboola, 2021).

In an effort to answer the question of what makes good leadership, researchers have approached leadership from the perspective of traits, skills, and behaviors. By studying this phenomenon, numerous theories were created. The most famous leadership theories are the Great Man Theory of Leadership (1840) and the Trait Theory of Leadership (1930–1940). The Great Man Theory of Leadership (1840) developed in the middle of the 19th century (Organ, 1996). According to this theory, it was considered that the qualities of a leader are special and that leaders are born, that is, individuals are destined to be leaders. This theory was popularized by Thomas Carlyle, a writer and professor, and later, in 1860, Herbert Spencer challenged this theory. At the beginning of the 20th century, Frederick Taylor was the first to study the concept of management from a scientific perspective. He believed that leaders are people with innate talents and predispositions, and that there is only one form of

effective leadership. Through two meta-analytical studies, researcher Ralph Stogdill identified ten key traits and skills that make leaders effective (Stogdill, 1974). Ralph Stogdill noted that various researchers have identified specific traits associated with ability that this author categorizes and associates: physical traits (energy, outward appearance); personality characteristics (adaptability, aggressiveness, enthusiasm, self-confidence, honesty, integrity) work-related characteristics (desire to achieve, motivation, ambition, persistence and initiative), social characteristics (willingness to cooperate, communicative, interpersonal skills, administrative skills) and leader intelligence (Wehrich & Koontz, 1998, p. 493). The approach to leadership as a set of traits has certain limitations, if we bear in mind the fact that we are born with certain traits and that we cannot change them during our lifetime. This approach has not been completely abandoned, but has evolved into a skills-based approach to leadership. As well as regarding the determination of leadership qualities, many researches have been conducted in the direction of determining leadership skills that influence the effectiveness of the leadership process. According to Robert Katz (2009), an author who has published several works on this topic, effective leadership requires three basic skill sets, such as technical, humanistic, and conceptual skills. In this direction, the authors Mumford et al. (2017) identified nine key skills, such as 1) problem definition, 2) cause/goal analysis, 3) constraint analysis, 4) planning, 5) forecasting 6) creative thinking, 7) idea evaluation, 8) wisdom, and 9) sensemaking/visioning that people in leadership positions should use when solving a problem, i.e. consider individual and situational contingencies that shape the effective application of these skills. In addition to the skills, the author Cacioppe (1998) believes that the elements of effective leadership include Action Learning, Observe Models of Leadership, Integrated Model of leadership and Development, Global Focus, Networking, Reshape Mindset. Thus, effective leadership behavior depends on the leader's ability to solve complex social problems that occur in organizations (Mumford et al. 2000). In this regard, effective leadership also implies rational decision-making. Leadership decision-making is a dynamic process of choosing between different alternatives in order to solve a problem. The decision-making process is, first of all, a cognitive, mental process that is influenced by psychological factors conditioned by personality characteristics, potentials, as well as personal preferences of the decision-maker. The decision-making process itself also depends on the circumstances, i.e. the situation in which the decision is made, as well as from the environment that affects the decision-making process. There are situations that are certain, where the decision maker has sufficient information and can immediately see the effects of each alternative before implementation. In that case, decision-making is significantly facilitated, because it boils down to the technical problem of quality assessment of alternatives and their comparison. But, in most cases, the circumstances, that is, the environment is uncertain and complex. The decision-maker in such situations usually does not have enough information and therefore it is difficult or impossible to check their effectiveness and develop potential alternatives.

When it comes to the future of the organization, leaders must have a vision of the organization and make decisions in accordance with the vision. According to the author Ejimabo (2015), the decision-making process is influenced by many factors, starting from the specificity of the situation in which decisions are made, the availability of information, leadership styles, characteristics of leaders (experience, education, cognitive biases), organizational culture, organizational politics, the influence of technology, organizational change, etc.

Therefore, in practice, there are many factors that shape and define the quality of the leadership process. Starting from the characteristics of the leader himself (characteristics of personality, knowledge, skills, experience), but also from the characteristics of employees (competence, degree of motivation, training, experience), as well as from the requirements and characteristics of the environment itself, such as the internal environment (type of organizational culture, company policy, work organization, motivational system) and the external environment (political, economic, technological, social factors, competition activity). All the mentioned factors in mutual dependence and interaction affect the leadership process. Because leadership also depends on the context (Hickman & Akdere, 2018), the authors of Seiler & Pfister (2009), single out five factors that influence the leader's behavior and therefore the leadership process, which will be analyzed in this paper, and refer to:

Factor Individual competence, which includes professional competence (job knowledge, technological knowledge), strategic competence (strategic decision-making, knowledge management, problem-solving), personal competence (resistance to stress, motivation), social competence (empathy, tolerance, leadership skills, communication skills) and intercultural competence.

The Group factor refers to the structural (group composition, goals, norms) and dynamic aspects of the group (interpersonal relations, communication).

The Organization factor includes the organization's strategy, organizational culture, organizational structure and processes.

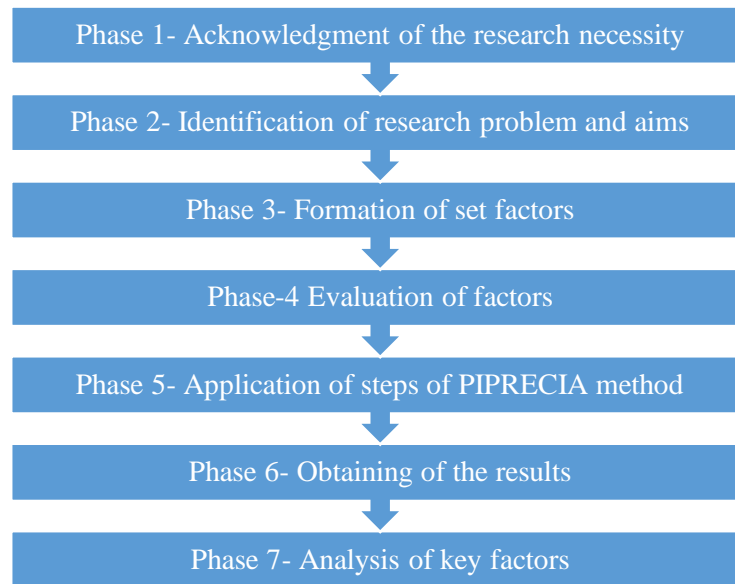
The Context factor includes political, economic, and social factors.

Factor Situation refers to clarity (availability and relevance of information) and pressure such as time limit and pressure regarding decision-making, and risk.

2. Research methodology

The research methodology is shown in Figure 1, where Phase 1- Acknowledgment of the research necessity, Identification of the research problem and aims in Phase 2, Phase 3- Formation of the set factors influencing the effectiveness of the leadership process. Phase 4-Evaluation of the factors. Phase 5 implies the application of steps of PIPRECIA method, Phase 6- Obtaining the results, and Phase 7-Analysis of key factors.

Figure 1. Research methodology



Source: Authors' contribution

Multi-criteria decision-making (MCDM) aims to enable the decision-maker to choose the best options from the final set of alternatives by analyzing them from several angles, i.e. through several criteria/attributes (Stanujkić et al., 2021), which is especially important for people in leadership positions in practice.

2.1. Method

The Pivot Pairwise Relative Criteria Importance Assessment - PIPRECIA method is a relatively new multicriteria decision-making method (MCDM) developed in 2017. (Stanujkić et al., 2017). The main purpose of this method is to determine the importance or the weight of the evaluation criteria, but this method can also be applied to solve MCDM problems, that is, to evaluate alternatives (Stanujkić et al, 2021). Otherwise, the PIPRECIA method is a modified SWARA method (Kershulienet al., 2010). Due to the limited lack of the SWARA method to pre-sort the criteria by expected importance, the authors of the PIPRECIA method have made certain adjustments, so that it does not require prior sorting of the criteria, but allows a simple and comprehensible definition of importance. The calculation procedure of the mentioned method is presented in the following steps:

Step 1. Selection of criteria to be included in the evaluation process.

Step 2. Determination of the relative importance of s_j , starting from the second criterion, as follows:

$$s_j = \begin{cases} >1 & \text{when } C_j \succ C_{j-1} \\ 1 & \text{when } C_j = C_{j-1} \\ <1 & \text{when } C_j \prec C_{j-1} \end{cases} \quad (1)$$

Step 3. Determination of the k_j coefficient as follows:

$$k_j = \begin{cases} 1 & j=1 \\ 2-s_j & j>1 \end{cases} \quad (2)$$

Step 4. Determination of the converted value of q_j , as follows:

$$q_j = \begin{cases} 1 & j=1 \\ \frac{q_{j-1}}{k_j} & j>1 \end{cases} \quad (3)$$

Step 5. Determining the relative weights of the considered criteria as follows:

$$w_j = \frac{q_j}{\sum_{k=1}^n q_k} \quad (4)$$

where w_j denotes the relative weight of criterion j .

3. Results and discussions

In order to assess the factors that influence effective leadership, important for the implementation of reforms, five key factors were analyzed based on the theoretical background. Bearing in mind that it is necessary to obtain objective results, the hierarchical structure is balanced (Vesković et al., 2020), that is, each main factor has an equal number of sub-factors. By applying the PIPRECIA method, factor and sub-factor weights will be determined based on the views of one of the managers from the organization belonging to the public sector. Only one decision-maker is involved in the decision-making process, due to the nature of the leadership process and the role played by leaders or managers, as well as for indicating the simplicity and applicability of the PIPRECIA method in practice.

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Table 1. Factors and sub-factors of effective leadership

Factors	Sub-factors
C ₁ Characteristics of the internal environment	C ₁₁ Organization of work
	C ₁₂ Interpersonal relations
	C ₁₃ Motivational system
	C ₁₄ Type of organizational culture
	C ₁₅ Company policy
C ₂ Characteristics of the external environment	C ₂₁ Cultural factors
	C ₂₂ Competition activity
	C ₂₃ Economic factors
	C ₂₄ Technological factors
	C ₂₅ Political factors
C ₃ Situation	C ₃₁ Availability of information
	C ₃₂ Relevance of information
	C ₃₃ Experience with comparable circumstances
	C ₃₄ Time limit
	C ₃₅ Risk
C ₄ Characteristics of the group	C ₄₁ Degree of motivation
	C ₄₂ Competences
	C ₄₃ Degree of training
	C ₄₄ Initiative
	C ₄₅ Predilection for authority
C ₅ Characteristics of a leader	C ₅₁ Control of employees
	C ₅₂ Professional competence
	C ₅₃ Strategic competence
	C ₅₄ Social competence
	C ₅₅ Personal competence

Source: Adapted from Seiler & Pfister, 2009.

For the analysis, it is important to determine which factors and sub-factors have the greatest and which have the least importance for the effectiveness of the reform implementation process. The importance of each factor and sub-factor was determined using formulas (1)-(4).

Table 2. The relative importance of effective leadership factors

	S _j	K _j	Q _i	W _j
C₁		1	1	0.17
C₂	0.95	1.05	0.95	0.16
C₃	1.2	0.8	1.19	0.21

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	S_j	K_j	Q_j	W_j
C₄	1.05	0.95	1.25	0.22
C₅	1.1	0.9	1.39	0.24
			5.79	1

Source: Authors' contribution

The relative importance of the factor of effective leadership shows that the Characteristics of the leader (C₅-0.24) have the greatest importance, while the factor Characteristics of the external environment (C₂-0.16) have the least importance in the process of implementing reforms.

**Table 3. The relative importance of the sub-factor – characteristics
of the internal environment**

	S_j	K_j	Q_j	W_j
C₁₁		1	1	0.18
C₁₂	1.2	0.8	1.25	0.22
C₁₃	0.95	1.05	1.19	0.21
C₁₄	1.1	0.9	1.32	0.23
C₁₅	0.6	1.4	0.94	0.17
			5.71	1

Source: Authors' contribution

Among the sub-factors Characteristics of the internal environment influencing the leadership process during the implementation of the reform, we can see that the sub-factor Organizational culture (C₁₄-0.23) has the greatest relative importance. Bearing in mind that public sector organizations are traditionally dominated by a bureaucratic organizational culture that is difficult to adapt to changes, i.e. reforms, the role of the leader is very significant. The sub-factor - Company policy (C₁₅-0.17) has less relative importance.

**Table 4. The relative importance of the sub-factor - characteristics
of the external environment**

	S_j	K_j	Q_j	W_j
C₂₁		1	1	0.16
C₂₂	1.1	0.9	1.11	0.18
C₂₃	1.2	0.8	1.39	0.23
C₂₄	0.9	1.1	1.26	0.21
C₂₅	1.05	0.95	1.33	0.22
			6.09	1

Source: Authors' contribution

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Within the factor Characteristics of the external environment, the sub-factors Economic factors (C₂₃-0.23), then Political factors (C₂₅-0.22), and Technological factors (C₂₄-0.21), which influence the leadership process in the implementation of reforms, have the greatest relative importance. Namely, the process of implementing changes depends on the economic and political situation in the environment. Also, technological factors can sometimes be the cause of reforms. The lowest relative importance has the sub-factor Competition activity (C₂₂-0.18), which is understandable for organizations in the public sector, as well as Cultural factors (C₂₁-0.16).

Table 5. The relative importance of sub-factors - situation

	S _j		K _j	Q _j	W _j
C ₃₁			1	1	0.26
C ₃₂	0.9		1.1	0.91	0.24
C ₃₃	0.85		1.15	0.79	0.20
C ₃₄	0.8		1.2	0.66	0.17
C ₃₅	0.7		1.3	0.51	0.13
				3.87	1

Source: Authors' contribution

Within the Factor Situation, the sub-factor Availability of information (C₃₁-0.26) has the greatest importance for the process of implementing reforms, while the Risk brought by change (C₃₅-0.13) has the least relative importance.

Table 6. The relative importance of sub-factors - characteristics of the group

	S _j	K _j	Q _j	W _j
C ₄₁		1	1	0.24
C ₄₂	0.95	1.05	0.95	0.23
C ₄₃	0.9	1.1	0.87	0.21
C ₄₄	0.85	1.15	0.75	0.18
C ₄₅	0.65	1.35	0.56	0.14
			4.13	1

Source: Authors' contribution

When it comes to the sub-factors related to the Group Characteristics factor, the greatest importance is Employee Motivation (C₄₁-0.24), which is extremely important for accepting and implementing changes. An important sub-factor is the Competences of employees (C₄₂-0.23), as well as the Training of employees (C₄₃-

0.21) for certain changes brought about by reforms. The least relative importance for the reform implementation process is the Tendency towards authority (C_{45} -0.14).

Table 7. The relative importance of sub-factor - characteristics of leaders

	S_j	K_j	Q_j	W_j
C_{51}		1	1	0.17
C_{52}	1.05	0.95	1.05	0.18
C_{53}	1.2	0.8	1.32	0.23
C_{54}	0.95	1.05	1.25	0.22
C_{55}	0.9	1.1	1.14	0.20
			5.76	1

Source: Authors' contribution

When it comes to the sub-factors related to the Leader Characteristics factor, which has the greatest impact on the process of effective leadership, the Strategic Competence sub-factor (C_{53} -0.23) has the greatest relative importance. Strategic competence implies the ability to foresee, strategic thinking and planning, rational decision-making. This competence refers to the leader's ability to inspire and motivate employees in the direction of change, achieving organizational goals and ensuring a brighter future for the organization.

Social competence (C_{54} -0.22) refers to the emotional intelligence of the leader, that is, empathy, communication skills, which is extremely important for the motivation of employees and the success of the leadership process. In the process of implementing reforms, the least relative importance is the control of employees (C_{51} -0.17).

By multiplying the defined local significances of the observed factors and subfactors, the global significances of the subfactors are determined.

Table 8. Global importance of incentive sub-factors and ranking

Subfactors	Global importance of sub-factors	Rank
C_{11}	0.030	15
C_{12}	0.038	11
C_{13}	0.036	12
C_{14}	0.040	9
C_{15}	0.029	16
C_{21}	0.027	17
C_{22}	0.038	11
C_{23}	0.038	11
C_{24}	0.034	14
C_{25}	0.036	12

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Subfactors	Global importance of sub-factors	Rank
C ₃₁	0.053	2
C ₃₂	0.048	5
C ₃₃	0.042	8
C ₃₄	0.035	13
C ₃₅	0.027	17
C ₄₁	0.052	3
C ₄₂	0.050	4
C ₄₃	0.045	6
C ₄₄	0.039	10
C ₄₅	0.029	16
C ₅₁	0.042	8
C ₅₂	0.044	7
C ₅₃	0.055	1
C ₅₄	0.052	3
C ₅₅	0.048	5

Source: Authors' contribution

If we look at the rank of the sub-factors, which is shown in Table 8, the highest rank is the Strategic competence of the leader (C₅₃), which is the most important when implementing reforms. Availability of information (C₃₁), Social competence of leaders (C₅₄), as well as Employee motivation (C₄₁) are important in the process of implementing reforms for effective leadership. The least importance, i.e. rank refers to the Cultural factors of the external environment (C₂₁) and the Risk brought by change, i.e. reform (C₃₅). Based on the ranking results, it can be seen that certain sub-factors have the same rank, which means that they have the same importance for the decision maker.

When it comes to the process of effective leadership, authors such as Papadakis et al. (1998) conducted research on the relationship between strategic decision-making and contextual factors. The results of this research indicate that the process of making decisions is related to characteristics specific to decisions, characteristics of leaders, and contextual factors related to both the internal and external environment, which are analyzed in this paper. Also, our findings correspond to the findings reached by the authors Seiler & Pfister (2009), especially in terms of practical application in order to make the leadership process more effective. Namely, the aforementioned authors examined an integrated five-factor model of influencing factors on leader behavior through a scenario approach and defined the influence of each factor based on an assessment of the importance and relevance of the main components of the factor in relation to a certain type of leadership. Through several

hypothetical situations, the leader's behavior scenario was evaluated. The evolution of the scenario is directly related to changes in immediate situational circumstances. The findings of this research indicate that identified differences in the importance of individual factors cause changes in leader behavior over time.

4. Conclusions

In order to assess the key factors that influence the process of effective leadership, important for the implementation of reforms, the multi-criteria decision-making method PIVot Pairwise RELative Criteria Importance Assessment—fuzzy PIPRECIA was applied. An evaluation was performed and the importance of five key factors was defined, which were elaborated into appropriate sets of sub-factors based on the decision-maker's attitudes, due to the nature of the leadership process and the role played by leaders or managers.

Based on the results of this method application, it can be seen that the C₅-Characteristics of leaders represent a key factor for effective leadership in the process of implementing reforms. Leadership competencies are closely related to the individual characteristics of the leader, his traits, knowledge, charisma, intelligence, emotional intelligence, social intelligence, experience, and motivation. Individual characteristics of leaders influence vision, perception, problem-solving skills, social reasoning skills, and activity, which overall contribute to leadership effectiveness. The factor C₂ - Characteristics of the external environment was singled out as the least significant factor.

The limitation of this study is reflected in the fact that only five factors that can influence effective leadership in the process of implementing reforms were taken into consideration. Also, the limitation refers to the fact that the determination of factor and sub-factor weighting was carried out based on the views of one of the managers employed in the public sector organization. Future research should include the views of a larger number of managers or supervisors, especially if it refers to the research of effective leadership factors of organizations not belonging to the public sector.

The results of the research provide significant information to managers of public organizations on how to manage change more effectively. Also, the contribution of this work is in providing the possibility of applying the PIPRECIA method in practice for leaders, chief executives, managers and supervisors in order to make the leadership process more effective. This work is also a stimulus for new research questions. Further research could include the evaluation of leadership factors in crisis situations as well as in different cultural environments. Further research will be focused on the evaluation of leadership styles in the process of implementing public sector reforms. The study can be replicated in different sectors, as well as in different industries.

Conflict of interest

There is no conflict of interest.

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