

Organizational learning for sustainable development

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Abstract— Modern societies are characterized by a range of economic, technological, social and environmental challenges that require a rapid transition to a "knowledge society". Additionally, businesses in modern society constantly introduce the necessity for new professions and new skills. Social development stipulate the emergence of the "organizational learning" concept as a process which takes place continuously and improves overall organizational performance and sustainability of business. Nevertheless, the concept of organizational learning necessitates the appropriate organizational structure that enables this process. The process of organizational learning is affected by a large number of factors, including organizational and national culture. The aim of this paper is to discuss the effect of national culture on organizational learning and sustainable development. The research is conducted in local communities in Serbia with the emphasis on the dimensions of national culture, with the aim to identify the optimal organizational structure and culture model that would promote the concept of sustainable development.

Keywords— organizational learning, organizational culture, national culture, learning organization, sustainable development

I. INTRODUCTION

Modern business is characterized by constant changes in terms of new and emerging technologies, the dynamic improvement of markets, the increase of number of competitors as well as the fact that products and services are becoming quickly obsolete, out-of-date. In such conditions, the success can be achieved only by the organizations which are able to react promptly, enhance their values and are always ready to respond to uncertainty or to react to the changes in the surroundings as fast as possible. In other words, they should react before the changes occur in the real time. That actually means that organizations have to adapt to swiftly introduce new technologies, to apply new production technologies, to find some new ways for offering services, have new projects as well as some new advanced concepts and methods of management. All these changes, along with the process of acceptance and application of a new knowledge, make the organizational learning. In order for some definite changes to occur in the organization itself, it is necessary to create the appropriate atmosphere for the initiative for such

changes. Numerous investigations have shown that the processes of initiation and implementation of organizational changes are influenced by multitude of factors including the national culture. The goal of our research was to show that the national culture, besides the acceptance and the implementation of organizational learning and carrying out new projects, is the factor of influence in the acceptance and application of the concept of the organizational learning as a precondition for the sustainable development..

II. DEFINING SUSTAINABLE DEVELOPMENT

Sustainable Development is a pervasive concept that encompasses no less than social, economic, political, and environmental goals. It is a process of adaptive management and systems thinking, requiring creativity, flexibility and critical reflection and describes several different approaches to development with different visions of society and different political commitments to action. Nevertheless, all sustainable development approaches have what might be called the "Brundtland commitment," meaning that societies must meet the needs of today without compromising the livelihoods of future generations [1]. In order to create a sustainable future, it is required that governments, society, organizations and individuals rethink how we use our resources, how we interact, and what we want to achieve.

In practice, sustainable development is faced with many problems. The widespread resistance to adopting sustainable habits, in spite of the apparent environmental crisis, suggests that there are persisting epistemological substrates that inexorably hinder the adoption of sustainable development models. This apparent deficiency can be ascribed to two main factors: insufficient efforts to finding viable and visible alternatives and the failure to thoroughly re-examine dominant cultural paradigms [2].

III. ORGANIZATIONAL LEARNING AND THE LEARNING ORGANIZATION

The organizational learning is comparatively a new concept in management, which appeared at the end of 60's and beginning of the 70's in the twentieth century. The investment into the development of an individual characteristic of the traditional theory and practice has been replaced by the integral process of learning and the

advancement for all employees. A great number of theories were dealing with this concept of organizational learning [3], [4], [5], [6]. The recent interest in this subject could be illustrated by the investigations in this field carried out in the last few years [7], [8].

Organizational learning is a multinational concept and there is no a unique definition of this expression [5], [9]. One of the definitions says that it is “a complex process referring to the development of new knowledge potentials for applying the organizational behavior [3], [7]. Murry and Donegan define the organizational learning as a process which includes the application of individual and organizational behavior [10]. Organizational learning can be understood as a change connected to the adaptation to the external surroundings [4],[5], [9], as well as the transformation of the adjustment to the surroundings [11], then as an acquisition of knowledge [3], and finally, as the acquisition of knowledge and adjustment to the surroundings [8].

One of the overwhelming definitions of organizational learning defines this process as the institutionalization of knowledge and the change in cognitive structures as well as the behavior of the members of the organization, which provides an increment of the ability of the organization to be adjusted to its surroundings [12], [8].

For the application of organizational learning, it is necessary to have the appropriate organizational atmosphere, which can create the so-called “organization that learns”.

The notions of organizational learning and the organization that learns are similar but it is necessary to make the difference between them.

The organizational learning is a process, while the learning organization is at the same time the condition and the cause of that process. That is, under the concept of the learning organization, it is understood the organization develops the abilities of organizational learning, and adopts a convenient framework for learning, which stimulates and directs all efforts of its members to learn. The process of organizational learning consists of the following basic phases: the identification of the existing knowledge; the creation or generation of some new knowledge; the diffusion of the existing and new knowledge; the integration and modification of the knowledge and the use of the knowledge for changing the behavior of the members of the organization .

Grossan suggests 4I model of the organizational learning: intuiting, interpreting, integrating and institutionalizing [12]. The first phase takes place on the individual level, that is, on the level of an individual in the organization. The second phase, the interpreting phase, covers both-the individual and group level of the organization. The case is the same with the third phase-integrating. The fourth phase of the knowledge institutionalizing covers the entire organization, and represents the usage of knowledge for the changing of the behavior of the members of the organization at all organizational levels.

IV. THE CULTURE OF THE LEARNING ORGANIZATION

The organizational learning implies innovation, and it is always related to changes. For the appliance of innovations and the implementation of change, it is necessary to create the appropriate organizational atmosphere and organizational culture which will support learning, innovations and changes.

The organizational culture and the organizational learning have a two-way relation. The culture can be a result of the organizational learning in the form of common suppositions, beliefs, values and standards of behavior in the organization which are developed properly through the process of learning. On the other side, the organizational culture is an important factor which defines the ability of the organization to learn. The ability of the organization to acquire new knowledge from the surroundings, depends to a great extend on the prevailing attitude among the employees, especially the managers in relation to the organization and the surroundings. Building-up of the learning organization, depends on the previous building-up of the organizational culture. Numerous investigations pointed to the following culture's components of the learning organization:

- The learning organization must be open to the surroundings. The existence of such openness to the influences from the surroundings makes it possible to possess data and information from the external surroundings which are very important for the process of learning.
- The final goal of each organization must be the creation of the superior value for consumers. The orientation towards creating the value is of essential importance for each organization, and the basic reason of learning is to enable an enterprise to create values for customers.
- Each learning covers the mistake risk. The organizational culture should be like the one where the employees and manager are not afraid of any risk but are ready to accept it since, if there is no acceptance of any risk in the organization, then there are no innovations, no changes and consequently, there is no learning.
- The employees in the organization must be oriented towards the real questions and problems, and it is the organizational culture which could make it possible for them. The decision- making should be based on real facts and data, not on political interests, status, personal characteristics and other facts which would certainly dispute the development of the organization.
- An important component of the learning organization, is the orientation towards investigations. The employees' tendencies to ask

questions constantly, to collect data and investigate are great factors influencing the organizational learning, and at the same time stimulating the development of the organization.

- The organization that does not tolerate mistakes is not able to learn. The well-known saying that “we learn from mistakes” is completely valid for the case of organizational learning. The mistake tolerance and learning from them is also basic characteristics of the culture of the organization that learns. If managers and employees are to learn they must first learn how to admit their mistakes, and then to learn from them. The culture of the learning organization is characterized by the attitude that the mistakes are in fact, the opportunity to learn something new, that the mistakes are unavoidable and that the admittance of mistakes is not a reflection of weakness but the strength of the one who recognizes the mistake.

V. CULTURE AND MANAGEMENT

One of the recognized definitions of culture is that culture is the learned programming of the mind, which differentiates one group from another [13]. Culture could be identified by observing the external manifestations: the values, perceptions, behaviors, and attitudes of the individuals who make up the group. Cross-cultural analyses are important to show that what may work in one culture, may not be appropriate in another [14]. People from different cultures may have different values, perceive situations differently, act differently in the same situation, and approach life in different ways. The attempts to transport Western practices to other nations where the culture is incompatible with the practices, are likely to fail [15]. As such, culture is conceptualized and measured through different value dimensions identified and measured by numerous scholars [16]; [17].

Many different cultural dimensions have been identified over the years, but one of the most significant and perhaps the most replicated are Hofstede's dimensions. Based on surveying attitudes of 116,000 employees within subsidiaries of IBM in 40 countries and 3 regions Hofstede in 1980, described four basic cultural dimensions, largely independent of each other: (1) Individualism vs. Collectivism, (2) Power Distance, (3) Uncertainty Avoidance, and (4) Masculinity vs. Femininity. Hofstede identified the degree that a society accepts inequality and distribution of power within that society in the dimension power distance - PD; the degree to which a culture feels comfortable in unstructured or ambiguous situations -uncertainty avoidance UA; the degree to which individuals in a culture define themselves as individuals or according to their place in groups - individualism/collectivism IDV; and masculinity/feminism - the degree to which a culture demonstrates certain

characteristics considered to be masculine (for example, valuing achievement) or feminine (such as valuing relationships [18]).

Collectivism is measured by the Individualism Index (IDV) ranging from 0 (low Individualism, high Collectivism) to 100 (high Individualism). Power Distance is measured by the Power Distance Index (PDI) ranging from 0 (small PD) to 100 (large PD). Uncertainty Avoidance is measured by the Uncertainty Avoidance Index (UAI) ranging from 8 (lowest UA country) to 112 (highest UA country). Masculinity vs. Femininity is measured by the Masculinity Index (MAS) ranging from 0 (low Masculinity) to 100 (high Masculinity).

In 1988 one additional dimension was described by Bond and was named- Confucian dynamism [14], to be renamed later to long-term versus short-term orientation. Number of newer and older findings by Asian and European researchers suggest the need for expanding the dominant five-factor model of personality traits, known as the “Big Five,” with a sixth factor, Dependence on Others, in order to keep the model culturally universal [19].

The original research conducted by Hofstede included surveys handed out by IBM to its employees in 1967 and 1971-1973; the one exception to this was in Yugoslavia, where surveys were handed out to an independent company which worked closely with IBM [1017]. This company was based in Ljubljana (Slovenia), with branch offices in Zagreb (Croatia) and Belgrade (Serbia). After the dissolution of Yugoslavia in 1991, Hofstede revisited the original Yugoslav samples in order to obtain cultural dimension scores for three former Yugoslav republics: Slovenia, Croatia, and Serbia. In the second edition of *Culture's Consequences* [17] Serbian national culture is characterized by high Power Distance PDI - 86, high Uncertainty Avoidance UA - 92, Collectivism - low Individualism (IDV)- 25, and high to medium Femininity - low to medium Masculinity (MAS) - 43.

VI. ORGANIZATIONAL CULTURE

Cultures have an important impact on management approaches, so the cultural differences call for differences in management practices [19], [20]. The appropriate design of an organization depends upon many factors, but Hofstede (1983) has argued that organizational system work best when their design is consistent with the underlying values and culture of the society in which they function. For organizational culture to function effectively as a part of managerial mechanism, the organizational culture and the formal organizational structure must be harmoniously interrelated [21]. Thus, the structure and culture of an organization must be aligned with the demands and predispositions of the national culture in which the organization is embedded [22].

VII. RESEARCH OBJECTIVE

The goal of our research was to show the relationship between organizational learning, organizational and national

culture and potential to adopt new paradigm of sustainable development . Our hypothesis was that the process of organizational learning is affected by a large number of factors including organizational and national culture. Therefore, the problems in implementation of sustainable development programs in Serbia are organizational and correlate with dominant national culture. To understand these problems we have made an attempt to analyze a number of organizational characteristics and correlate them with certain cultural dimensions in order to explore optimal organizational design for projects aligned with the predominant national culture. The nature of the successful design of an organization depends upon the values of the society it serves, and a single solution to the issue does not fit all situations. Our hypothesis was that for Serbia with high PDI (86), and Collectivism – low Individualism (IDV- 25) successful organizational design of sustainable development projects has to be strongly supported by leadership, but with dominant collectivistic character. Taking into consideration very high UAI of 92, we can also hypothesize that a new, innovative programs will be difficult to promote and implement in organizations.

VIII. STUDY DESIGN

This study included 67 employees, (35 female, 32 male) with different educational background (38 with higher education), and work experience (as a rule over 5 years). They are all presently engaged in implementation of the development programs in regional and local agencies in East Serbia.

Investigation was conducted by questionnaires and unstructured interviews to assess participant's views on optimal organizational design in reference to implementation of sustainable development projects.

Participants in the survey were asked to grade on a scale from 1 to 5 (1- not important; 5 - very important) particular organizational characteristics. Subsequently they were asked to assign the rank from 1-10 (1- the most important....) to the same set of characteristics:

TABLE I.
ORGANIZATIONAL CHARACTERISTICS

No	Questions : How important for you is:
1.	Support from superiors
2.	Involvement of superiors
3.	Clear instructions from superiors
4.	Independence in choosing own work style
5.	Decision making in own line of work
6.	Good working relations with colleagues
7.	Good communication with superiors
8.	Acknowledge of individual performance through salary
9.	Career advancement through individual performance
10.	Support for continuing education

These organizational characteristics were found in the literature to correlate with organizational culture and structure [23].

IX. RESULTS

The results of investigation of organizational characteristics are presented in the Table 1 and the Fig. 1. Average mark (5 maximum), average rank (1 as the most important) for each investigated characteristic are presented numerically in Table 2.

TABLE II.

AVERAGE MARK AND AVERAGE RANK

	Organizational characteristic	Average Mark (1-5)	Rank (1-10)
1	Support from superiors	4.8	4.8
2	Involvement of superiors	3.6	7.3
3	Clear instructions from superiors	4.4	5.2
4	Independence in choosing own work style	4.4	5.5
5	Decision making in own line of work	4.3	5.7
6	Good working relations with colleagues	4.8	4
7	Good communication with superiors	4.3	3.9
8	Acknowledge of individual performance through salary	4.4	5.9
9	Career advancement through individual performance	4.2	6.3
10	Support for continuing education	4.5	4.5

Average rank for each of investigated characteristic is presented in Fig. 1.

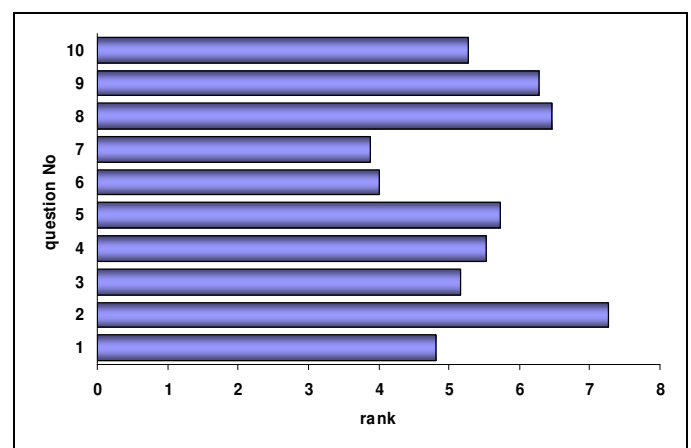


Fig. 1 Average rank for investigated characteristic

X. DISCUSSION

For Serbia, the principles of good governance in municipalities, including effective and efficient use of resources, are the most critical for the sustainable advancement. One of the great challenges in this process is the lack of professional and organizational knowledge of internationally recognized campaigns for the sustainable development of cities and towns, particularly the Local Agenda 21 campaign (LA21). Although strategies of sustainable development have been successfully presented at government level, in local municipalities there is still a general lack of awareness about sustainability at all levels, and inadequate coordination among possible implementing subjects including general public, municipal officers, NGOs, professional association and, more importantly, among legislators and key-decision makers [24].

Participants in this study represent all available employees, at the time of investigation, engaged in development projects in local community Zajecar and Regional agency in East Serbia. We have analyzed their opinions and views on optimal organizational design of the projects they are involved in and evaluated them in relation with our hypothesis.

Communication between colleagues and superiors as well and support from superiors were recognized as the most important organizational characteristic by the majority of participants. Acknowledgement of individual performance and independence in choosing their way of working was found less important. The least important for the participants was the actual involvement of the leadership. It correlated with our hypothesis that organization of the project has to be strongly supported by leadership - high PDI (but participants emphasized that their superiors should not be directly involved which was not foreseen but came out of pilot study), with dominant collectivistic conduct (very important working relations with colleagues and good communication with superiors, clear instructions from superiors), and minor individualistic performance (acknowledge of individual performance through salary, career advancement through individual performance). Nevertheless, some of the characteristics that could be associated with individualism (independence in choosing own work style and decision making in own line of work) were ranked high.

We have already published corresponding studies on implementation of information technology projects in Health Care [25], [26]. In both studies participants have delineated interdependence and team work along with acknowledgement of individual performance, and highlighted clear instructions from superiors, acknowledge of individual performance and independence in choosing their way of working. The least important for the participants, as a rule, was the involvement from the leadership. Once again, we have found Serbian organizational culture in investigated organizations to be "somewhere in between" ("West -East orientation").

Bangert and Doktor (2005) exploring selected organizational categories with US IT professionals, have found involvement and strong leadership, and acknowledgement of individual performance as the most important, while support for continuing education and new things were ranked as the least important. In the same study, IT professionals from South Korea have ranked as the most important to have clear rules to follow and loyal fellowship.

If we should propose an organizational design for the realization of innovative development projects in Serbia, based on our pilot research, we could conclude the following: there needs to be a plausible management support for the project (without the actual involvement of the superiors, but with good communication and clear instructions), with a strong emphasis on harmonious teamwork and achievements (with the potential to make your own decisions concerning your work) and support for continuing education. Regarding the last statement, it may seem that organizations in Serbia have suitable organizational culture to support the acceptance of the concept of continuing education as one of the characteristics of learning organizations indicative of positive climate for organizational learning. However, the need for clear instructions from the superiors, which is also highly ranked, indicates a high level of uncertainty avoidance, which definitely is not in favor of a suitable climate for organizational learning. Although organizational learning implies the culture which nourishes teamwork, which in our study is found to be very important for the employees, innovation and creativity on individual level, which is also very important for the learning organization was not highly regarded by participants in our study (as hypothesized). In accordance with our hypothesis, combination of high uncertainty avoidance and low individualism is not a constructive combination for innovative sustainable development projects. The very low number of successfully conducted projects in investigated area is another indicator of this statement (data not presented in this study). It will require additional effort and energy to promote and implement innovative sustainable development projects and this is important to consider in the process of planning and development of these projects.

Critics of Hofstede's work believe that he takes too simplistic a view of the multifaceted, complex dimensions which comprise the notion of culture. Although his work has been criticized by various authors [27], [28], the usefulness of the categories he developed remains very popular and is utilized by scholars in a variety of fields. Nevertheless, most studies have been developed using a limited range of nations. That is natural since researchers are particularly able to study phenomena that are culturally familiar. We find it important that this research has been performed in a country which has not been studied frequently [29]. To quote Professor Hofstede: "Understudied parts of the world have the potential to provide a basis for new concepts and innovative theory [19]."

Hofstede's cultural dimension framework had become a paradigm for comparing cultures and was externally validated in enormous number of cases (over 100 000 citations in scholarly literature). The intent of our research was not to validate the cultural dimensions in Serbia, but to apply the framework as an attempt to understand complex interrelationship of organizational culture and adoption of sustainability. We were very much astonished by the level of prediction of organizational climate for organizational learning we were able to attain by using the framework of cultural dimensions. In our recent research we have expanded the framework with additional dimensions (masculinity – femininity, and long term vs. short term orientation), which along with more qualitative approach generate convincing results and make the use of the framework even more accurate for our purpose.

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