

Comparative Method of Diagnostics of Organizational Culture of Innovative University

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Abstract

We propose a method for diagnostics of the organizational culture of university which allows determining the readiness of university research and teaching staff to be involved in innovation activities. This method is based on the idea of comparing the organizational culture of the university with the organizational culture of innovative corporations, as well as on the assessment of work motivation profile of university employees. We have selected a "Double S Cube" – a three-dimensional model created by R. Goffee and G. Jones – as an instrumental basis for determining the type of the organizational culture of the university. This method has been tested on the case of Lobachevsky State University of Nizhni Novgorod – National Research University.

Keywords: innovative university, diagnostics, organizational culture, work motivation profile

1. Introduction

The model of a modern "post-Humboldtian" university is based on the so-called "knowledge triangle" which is a combination of three basic functions of university: "education", "research" and "innovation". It is a known fact that not every university is capable of functioning even on the basis of the Humboldtian paradigm that is to generate advanced scientific knowledge and provide research-based education. Even more problems arise when such a university tries to become an innovative university. While the "Humboldtian culture" is based on the tendency of the vast majority of employees to apply creative scientific thinking in their activities, the "innovative culture" of the university, being based on the entrepreneurial skills of individual (not necessarily a majority) members of the teaching staff, is supported by a certain most suitable combination of personal characteristics of different participants of the educational, research, and innovation processes, enabling a university as a whole to function as an "entrepreneurial organization" (Grudzinskiy, 2003).

In this paper within the framework of a typological approach we propose a comparative method for diagnosing the readiness of university staff to perform their duties on the basis of the innovation university paradigm. This method is based on determining the type of organizational culture of the university and its comparison with the type of organizational culture of an innovative corporation. Of course, this method can be applied only if we choose to accept certain axioms. We believe that the type of organizational culture (no matter how it is called by a particular sociological theory) that demonstrated a real progress in innovation is the very type that can contribute to the innovation development. On the basis of this assumption we conclude that if the type of organizational culture of university is similar to the ones of global innovative companies such a university has a potential for innovative development (Grudzinskiy & Bednyy, 2012). The second major assumption is to take as an axiom the fact that the world's leading universities, including the Russian ones, already have organizational cultures that ensure their innovative development. This assumption allows us to test our method (Grudzinskiy & Bednyy, 2012).

The study of the organizational culture of corporations over the past decade has primarily resulted in the notion that culture is an important factor for the success of the company and therefore should be a subject to control from the management side. The interest to the organizational culture as to an indirect method of organizational management is most pronounced in the so-called "organic" companies working in the field of innovation, where changes and volatility in combination with high intellectual level of employees make traditional management methods less effective. Modern innovative university and modern high-tech companies have many similarities in the organization of their work (Clark, 1998). As a whole innovation infrastructure of university which

includes technology incubator, all the small innovative enterprises, and system of contractual interaction with external high-tech corporations functions on the principles of a business structure (Makarkin, Tomilin, & Britov, 2004).

2. Materials and Methods

Studies of organizational culture of Russian universities began relatively recently (Tyunikov & Maznichenko, 2005). The aim of these studies was, as a rule, the identification of the type of organizational culture of a particular institution. At the same time the majority of the studies used the OCAI technique created by K. Cameron and Robert Quinn (Cameron & Quinn, 2001) as the primary diagnostic tool. However, these studies did not involve the use of this technique for the diagnosing the organizational culture of the university in order to determine its readiness for innovation (Bogdan & Parfenova, 2009).

In our work we relied, as did many other researchers, on the well-known typological approach to understanding the organizational culture, according to which the organizational culture is an integral characteristic of organization (its values, behavior patterns, methods of assessing performance) formulated in the terms of a specific typology. The use of typological approach, despite the risk of simplifying the organizational realities, allows concentrating the diagnostics and management of the organizational culture only on its core values (Pokholkov, Pushnykh, & Mitrofanova, 2011).

As it has already been noted, our proposed comparative method of diagnosing organizational culture of the university is based on the idea of comparing the type of university culture with the culture of successful innovative companies. In addition to that, we compare the motivational profile of the teaching staff with the motivational profile of innovation project managers. Since the most important functions of research and teaching staff of an innovative university are production of innovation, creation of small innovative enterprises, ensuring their success, as well as business cooperation with foreign enterprises, such a comparison not only seems to be justified, but also has a high prognostic value (Peters & Waterman, 1999).

We used an approach based on a three-dimensional model of R. Goffee and G. Jones "Double S Cube" (Goffee & Jones, 2003) as a method of determining the type of organizational culture (Figure 1). In this model the core values of the organizational culture are the "solidarity" (similarity in understanding the goals and objectives of the organization) and "sociability" (friendliness), and the third dimension of the model is formed by the positive or negative manifestation of the type of culture.

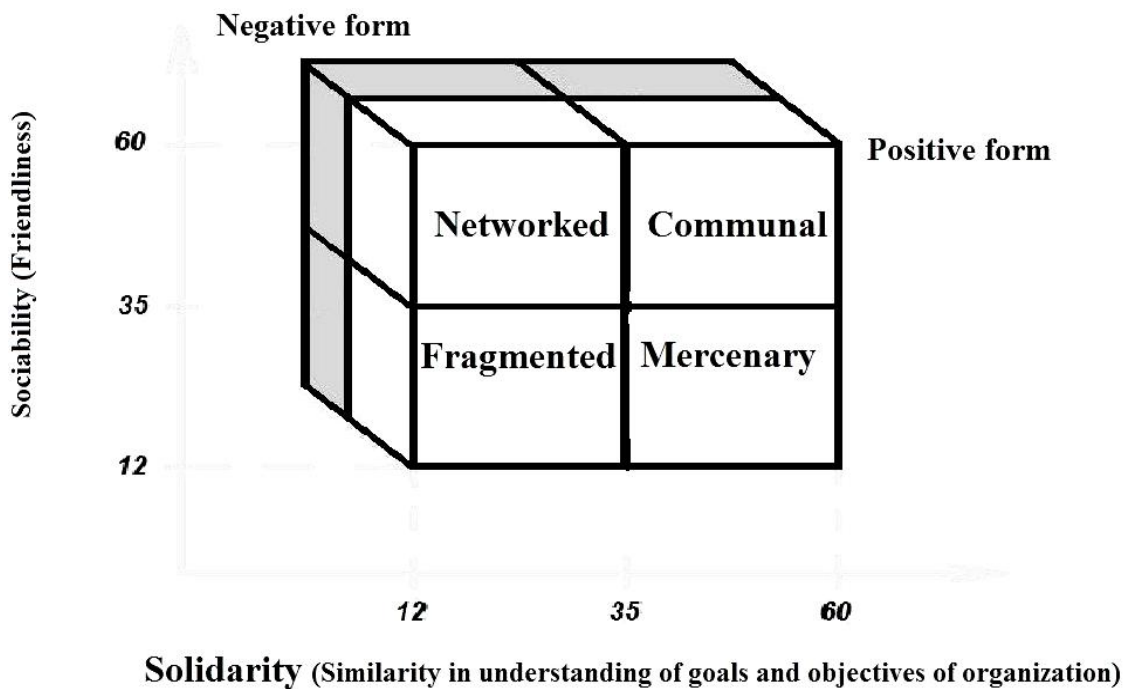


Figure 1. "Double S Cube" – a model of organizational culture created by R. Goffee and G. Jones

According to the approach of R. Goffee and G. Jones the combination of high and low levels of sociability and solidarity can create four types of organizational culture:

- *Networked culture* is characterized by a high level of sociability and low level of solidarity: the atmosphere of the networked culture is extremely friendly and carefree, people communicate a lot in a relaxed and informal manner. This culture can be described by a metaphor: «Between Friends».
- *Mercenary culture* - low level of sociability and high level of solidarity: the preferred communication style is formal (business-like), idle conversations are considered a waste of time, all actions are dedicated to the achieving the set goal. Metaphor: «Get to Work on Sunday».
- *Fragmented culture* - low levels of sociability and solidarity: people who work in such a culture tend to identify themselves not so much with the organization but with the profession. Metaphor: «All Together Alone».
- *Communal culture* - high level of sociability and solidarity: people in these organizations are friendly to each other, actively communicate both about professional and personal matters and have the commitment to achieve organizational objectives. Metaphor for this type of culture: «We Are Family».

If the type of culture indicates the presence of common organizational and cultural preconditions for establishing an innovative university, then the profile of work motivation of employees confirms their motivational readiness to be involved in the innovation process. To diagnose the profile of work motivation of research and teaching staff of the University we use the "Motivational profile" method by P. Martin and S. Ritchie, which was designed on the basis of consumerism motivation theories (Richie & Martin, 2004).

3. Results

Based on the abovementioned comprehensive comparative diagnostic method we have studied the organizational culture of Lobachevsky State University of Nizhni Novgorod - National Research University. UNN is a leading university in Russia and operates on the basis of the concept of innovative university. This fundamental principle of UNN has been reflected in its "Mission" (Strongin, & Grudzinskiy, 2008) and in the "Strategy of Knowledge Transfer" (Grudzinskiy & Bednyy, 2010). We considered the study of the organizational culture of UNN to be a comparative test of our proposed method of diagnostics.

The selection of 485 respondents consisted of research and teaching staff of UNN, representing 17 Faculties and research institutes of the university. In Fig.2 the results of the diagnostics of the type of organizational culture are presented in the form of dots, where each one of them represents the organizational culture of one of UNN's units. It is easy to see from the figure that in spite of certain differences in the cultures of Faculties and institutes, all of them are located in the communal culture quadrant, that is, they are characterized by high levels of sociability and solidarity.

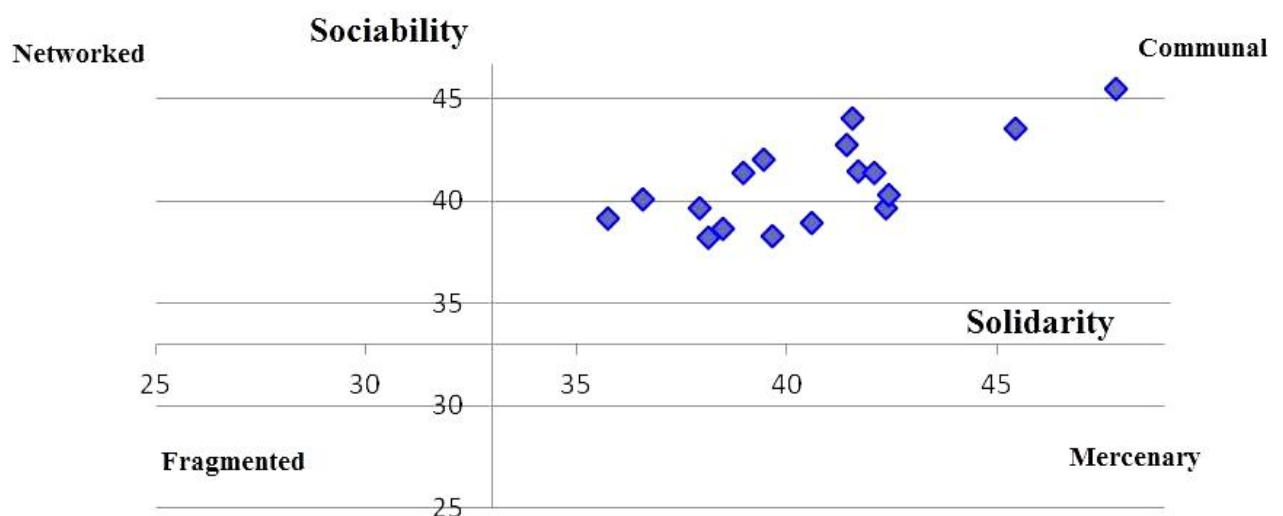


Figure 2. Results of the diagnostics of the organizational culture types of the faculties and research institutes of Lobachevsky State University of Nizhni Novgorod

An important component of the diagnostics of the type of organizational culture according to the "Double S Cube" model by R. Goffée and G. Jones is to evaluate the positive and negative forms of culture. The evaluation of the type is based on the idea that each dimension - sociability and solidarity - has both positive and negative side. Thus, sociability supports the creativity because it promotes the exchange of information and team-work (Preffer, 1994). At the same time, with high level of sociability comes the risk of creation of groups (cliques); and the actions of such groups can damage the decision-making process in the organization. The situation with solidarity is similar: on the one hand, it promotes unity and coordinated work to achieve common goals, and on the other hand, a high level of solidarity can lead to the isolation of employees that have different views (Davenport & Prussak, 1998). A positive form of communal culture is characterized by the prevalence of the following rules: "Become a part of the family", "Love your product", "Live according to the accepted beliefs", "Follow the Leader", "Fight for the best". In contrast, the rules of the negative form of communal culture are quite different: "Exclude your own family from your priorities", "Do not care about the competition", "Do not change yourself for a customer", "Trust others. They know better", "Obey the Leader".

Expert evaluation of communal form of culture in UNN was conducted by the senior management of the university: Rector, Deans and Heads of departments. Survey of experts demonstrated that the communal culture in UNN has a positive form.

4. Discussion

Thus, the study showed that UNN as an innovative university has a communal culture of a positive type. At the same time, the studies by R. Goffée and G. Jones (Goffée & Jones, 2003) showed that leading innovative companies such as Hewlett-Packard, Electronic Arts, Apple, Johnson and Johnson have the same type of organizational culture, and that the communal organizational cultures are also prevalent in start-up companies, most of which are innovative single-product companies that are managed directly by their founder. Therefore, we conclude that the method can adequately assess the readiness of university employees to be involved in innovation activities.

In the course of diagnostics we also conducted a more detailed study of the type of university organizational culture. We made a statistical comparison of the organizational culture of the two core groups of university departments: Natural Sciences and Mathematics group and Socioeconomics and Humanities group. Statistically significant differences in the level of significance $\alpha = 0,05$ have only been found for the average value of solidarity: the level of general understanding of the goals and objectives of the unit in the departments of Natural Sciences and Mathematics group is higher than in the departments of Socioeconomics and Humanities group. In our view, this difference is caused by specific methods of organization of innovation in compared groups. For Natural Science departments a higher level of solidarity is a necessary condition for success in the field of technology transfer, as this is initially a team-work type of activity which requires a common understanding both in the formulation of the final goals and in the decisions concerning the intermediate objectives. In contrast, the specialists of Socioeconomic and Humanities fields are more inclined towards the individual innovation which allows for a higher level of differences in opinions concerning the goals, objectives and ways to achieve them. The results of the diagnostics are shown in Fig.3 and Table 1. The figure shows that one of the faculties of socioeconomic profile of UNN has the highest result in sociability and solidarity. This is a special entrepreneurial, project-oriented unit of the University. The basic idea of the functioning of such a unit is described, for example, in the article by R. G. Strongin, A. O. Grudzinskiy (Strongin & Grudzinskiy, 2008).

The second component of the proposed comparative method of diagnostics is to diagnose the profile of work motivation of research and teaching staff of the University in order to assess the degree of employee readiness to be involved in innovation activities.

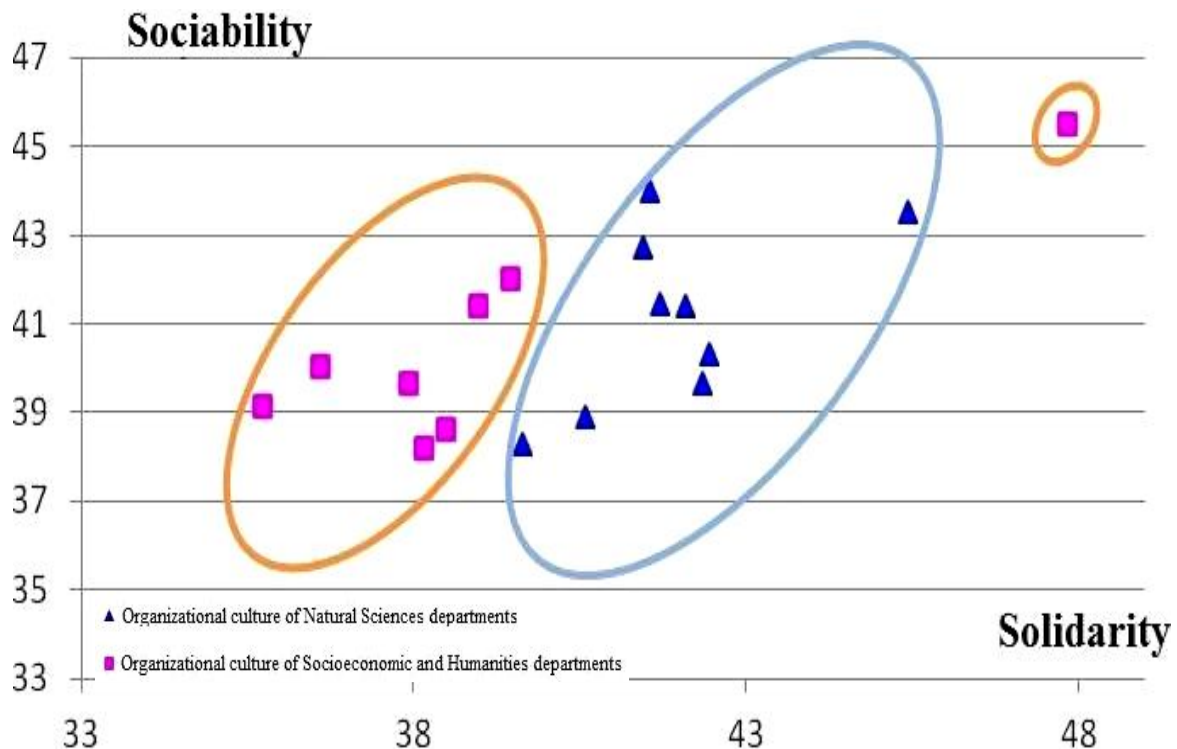


Figure 3. Results of the diagnostics of the type of organizational culture in the departments of Natural Science and Socio-humanitarian profiles of UNN

Table 1. Comparison of the average values of sociability and solidarity in the units of Natural Science/Mathematics and Socioeconomic/Humanities groups

Groups of Departments	Sociability		Solidarity	
	Mean value	Standard Deviation	Mean Value	Standard Deviation
Natural Sciences and Mathematics	41.21	6.53	41.94	7.38
Socioeconomics and Humanities	40.41	7.32	39.28	8.84
t-criterion and F-criterion values	t=1.15	F=0.80	t=3.52	F=0.70

The study of work motivation of research and teaching staff of UNN rendered the following results. Figure 4 shows the average profile of work motivation of research and teaching staff. We can see that the most important factors of work motivation of research and teaching staff of Lobachevsky State University of Nizhni Novgorod are the following:

- high salary and tangible rewards (factor 1) ;
- interesting and socially useful work (factor 12);
- recognition of merit, achievements, and successes (factor 6).

The factors of work motivation of average importance are:

- independence and personal self-improvement (factor 11);
- curiosity, creativity and open-mindedness (factor 10);
- complex tasks and their achievement (factor 7);
- diversity and changes (factor 9).

And the least significant factors of work motivation are:

- clear structure of work and feedback (factor 3);

- good work conditions (factor 2);
- social contacts and easy communication with a wide range of people (factor 4);
- long-term stable work relations (factor 5);
- influence, power, and establishing control over the others (factor 8).

Qualitative analysis of the most important factors of work motivation and comparison of the hierarchy of motivation factors with a similar hierarchy of innovation project managers (Alvesson, & Karreman, 2001) signifies a rather high motivational readiness of research and teaching staff of the University to be involved in innovation activities.

5. Conclusion

Results of the diagnostics of the type of organizational culture and motivational profile of university staff suggest that these two methods supplement each other forming a diagnostic system that allows to assess, on the one hand, the cultural preconditions for the involvement of staff in innovation activities, and on the other hand, the level of motivational readiness of employees (Avraley & Efimova, 2014).

Thus, this study shows that the proposed comparative method of diagnostics of organizational culture can adequately assess compliance of university's organizational culture with the requirements for becoming an innovative university and can be used in practice.

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