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ВЗАИМОСВЯЗЬ СТРУКТУРЫ ПСИХОЛОГИЧЕСКИХ МЕХАНИЗМОВ МЕЖГРУППОВОЙ АДАПТАЦИИ С ТИПОМ УПРАВЛЕНЧЕСКИХ СИТУАЦИЙ ПЛАТФОРМЫ *CYNEFIN* В ОРГАНИЗАЦИЯХ

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THE RELATIONSHIP BETWEEN GROUP STRUCTURE OF THE PSYCHOLOGICAL MECHANISMS OF INTERGROUP ADAPTATION AND PLATFORM *CYNEFIN* MANAGEMENT SITUATIONS IN ORGANIZATIONS

Аннотация. На примере изучения межгрупповой адаптации (МГА) сотрудников с различным статусом 6 российских предприятий (140 чел.) проведено качественное и количественное соотнесение управленческих ситуаций по Д. Сноудену и вкладов психологических механизмов (ПМ) межгрупповой адаптации в их разрешение.

Объектом исследования является МГА сотрудников с различным статусом в организациях наукоемкого производства, торговли, услуг. Предмет исследования – взаимосвязь структуры психологических механизмов МГА с типом управленческих ситуаций платформы *Cynefin* в организациях. В качестве гипотезы выдвинуто предположение: психологические механизмы МГА сотрудников с различным статусом в организации – межгрупповая неадаптивность, организационная идентификация, совместная деятельность групп, – составляя единый комплекс разноуровневых психологических механизмов, вносят различный вклад в развитие конкретной организации по критериям потенциалов взаимодействующих групп: адаптационного, организационного, мотивационного. Знание доминирующего механизма будет способствовать прогнозу тенденций развития организации, раннему определению возможного типа возникновения управленческой ситуации, обоснованию рекомендации по управлению персоналом.

Схема эмпирического изучения представляет собой соотнесение управленческих ситуаций платформы *Cynefin* в 6 организациях с результатами корреляционных исследований по выявлению вкладов психологических механизмов МГА в развитие этих организаций. Итогом таких исследований стало построение для каждой из организаций 3-факторной модели использования в ней психологических механизмов МГА сотрудников с различным статусом. Общим результатом всей опытно-экспери-

Abstract. The author studied the intergroup adaptation (IA) of the employees of six Russian enterprises with different status (140 people) and carried out the qualitative and quantitative comparison of the administrative situations according to D.Snowden and the contribution of psychological mechanisms of intergroup adaptation into their solution.

The object of the study is the IA of the employees with different status in organizations with science intensive methods, trade organizations, and service organizations. The subject of the study is the interconnection between the structure of IA psychological mechanisms and the type of management situations of Cynefin platform in the organizations. As a hypotheses the author offers a supposition that IA psychological mechanisms of the employees with different status in the organization - intergroup disadaptation, organizational identification, joint activity of groups, - have different impact on the development of the organization, though they are combined into one complex of multilevel psychological mechanisms. Their impact is assessed on different criteria: adaptive, organizational, and motivational. If the dominating mechanism is known then it'll be possible to predict the tendencies of the organization development; as well as to predict beforehand possible management situations and to substantiate the guidelines of personnel management.

The scheme of the empirical study is the correlation of management situations of platform Cynefin in 6 organizations with the results of the correlated researches aimed at detecting the degree of the impact of IA psychological mechanisms on the development of these organizations. The result of such research is the construction for each of the organizations the 3-factor model of using IA psychological mechanisms of employees with different status. The general result of the whole research work has become the correlation of the received

ментальной работы – соотнесение полученных структур вкладов психологических механизмов МГА с ситуациями платформы *Cynefin*, а в дальнейшем построение эмпирически апробированной типологии.

В основу исследовательской методики обследования сотрудников организаций с различным статусом легла система апробированных критериев, показателей и методик. Обработка полученных результатов проводилась с использованием методов математико-статистического анализа.

Подсчет вкладов психологических механизмов МГА сотрудников с различным статусом проводился по алгоритму: 1) после факторного анализа веса факторов переводились в доли; 2) далее согласно теоретической модели ПМ межгрупповой адаптации по каждой группе сотрудников проходила группировка факторов; 3) построение сравнительной модели ПМ межгрупповой адаптации сотрудников с различным статусом в каждой организации. На примере головного предприятия ОАО «Научно-исследовательская корпорация «Системы прецизионного приборостроения» проиллюстрированы основные позиции опытно-экспериментальной работы и ее анализа.

Результаты проведенного исследования могут стать основой разработки технологий управления персоналом организаций в сложных ситуациях.

Ключевые слова: межгрупповая адаптация, организационная психология, организационные изменения, организация, психологический механизм, социально-когнитивная психология.

structures of IA psychological mechanisms with the situations of the platform Cynefin, and afterwards construction of an empirically tested typology.

The basis of the research method of examining the employees of organizations with different status was the system of tested criteria, indicators and methods. The results were processed with the use of the method of mathematical and statistical analysis.

The calculation of IA psychological mechanisms of the employees with different status was performed according to the following algorithm: 1) after performing the factor analysis the weight of factors was converted into fractions; 2) according to the theoretical model of IA psychological mechanisms the factors of each team of employees were grouped; 3) the comparative model of IA psychological mechanisms of employees with different status was constructed in each organization. On the example of the parent enterprise of the "Research corporation 'The Systems of Precision Instrument Making' "PLC main items of the research work and its analysis are shown.

The results of the research performed can become a basis for developing the technologies of human resource management in the organizations in difficult situations.

Key words: intergroup adaptation, organizational psychology, organizational changes, organization, psychological mechanism, socio-cognitive psychology.

The study started in May 2011. It was intended as an illustration of possibilities of social and cognitive analysis of the organizational development capacity for real enterprises in trade and services in the context of the IGA in organizations [Bulgakov, 2012]. *The object of study* is the intergroup adaptation of the employees with different statuses in the organization of high-tech manufacturing, trade and services. *The subject of the study* is the relationship between group structure of the psychological mechanisms of intergroup adaptation and platform Cynefin management situations in organizations.

As a **hypothesis** we suggest that the IGA *psychological mechanisms of the employees with different statuses in the organization – intergroup non-adaptivity, organizational identification, joint activity of groups, – making up a single set of differently leveled psychological mechanisms, contribute variously into the development of a given organization according to specific criteria for the interacting groups potentials: adaptational, organizational, motivational. The contribution may be defined qualitatively as the realization of the potentials for the transfer and transformation of the organization motion, and quantitatively according to the number of elements of IGA psychological mechanisms: the number of degrees of freedom in terms of the algebra of events, trajectory, and speed. The IGA psychological mechanism which makes the most important contribution to the development of a specific organization is defined depending on the type of management situation of platform Cynefin. The adequate information about the dominant mechanism will contribute to the prognosis of trends in the organization development, to early detection of possible type of the management situation, the justification of recommendations for the management of staff.*

The scheme of the empirical study is the correlation of management situations of platform Cynefin in 6 organizations with the results of studies of the intergroup adaptation PM input in the development of these organizations. The outcome of such studies should amount to the construction

for each of the organizations a 3-factor model that describes how the psychological mechanisms of IGA of employees with different status are employed. And the common result of all the experimental work will be the correlation of the resulting structures of psychological mechanisms IGA's contribution with situations of platform Cynefin, and the construction of empirically proven typology. Before we compared the organizations we held, first, the equalization of samples by socio-demographic characteristics, the identification of possible uncontrolled variables, related to them, and secondly, we studied the efficiency of employees.

The characteristics of the samples. Table 1 shows the performance of a sample of 140 people who work in six organizations: those of the production and science (1) commerce (1) services (1), manufacturing and trade (1) manufacturing and services (2). 82% have a university degree (42% men, 58%women), 20 to 55 y.o., the average age difference between high and low status groups is 2-8 years depending on the scope of activities. The expert assessments of the effectiveness of employees in organizations showed a slight variation of the average data for groups with different status in all organizations, that is, 83-87%. The role of the experts was performed by the supervisors of employees who participated in the survey. The experts used the expert's questionnaire "The evaluation of individual performance" in their work [Bulgakov, 2012].

To specify the management situation of enterprises we conducted the expert assessment procedure of the organizations' development using the platform Cynefin. Since young researchers were neither internal nor external consultants, but the members of those organizations with a high degree of confidence, the examination was disguised as a professional conversation of a young enthusiastic employee with an experienced contemporary leader. In the beginning of the meeting the basics of platform's Cynefin were briefly introduced with demonstration of the platform visual aids: drawings, diagrams, tables. There were provided the links and references to the results of using the platform Cynefin in foreign and Russian Internet resources. The leader kind of estimated how progressive and well-timed these materials were for their organizations. He further defined

Table 1

Research sample mix in the context of the management situations of platform Cynefin (according to expert estimate of the heads of organizations)

Business area	Organization	Managers	Subordinates	Total
The management situation "*Know*"				
Manufacture and sale of spices and flavorings	LLC "Kolvi"	**15**	**15**	**30**
Science and industry, military industrial complex	Parent company (PC) of "Research Corporation "Precision Instrument Systems""	**8**	**12**	**20**
Commerce	"AromaLux"	**5**	**15**	**20**
The management situation "*Knowable*"				
Manufacture and sale of measuring devices	LLC "Meteco"	**15**	**15**	**30**
The management situation is "*Complex*"				
Services	Ltd. "SPSR-Express"	**5**	**15**	**20**
Производство и услуги, военно-промышленный комплекс	Experimental plant JSCo "Scientific Research Corporation "Systems Precision Instrument ""	**9**	**11**	**20**
	Total	**57**	**83**	**140**

the place of his organization, uttered the prognosis of events, and his management decisions.

As a result, the management situation "Known" for their organizations was identified by the business leaders of the following organizations : LLC "Kolvi", the parent company, JSCo" AromaLux"; the situation "*Knowable"* for LLC "Meteco"; "*Complex*" for "SPSR-Express", Experimental plant.

We will give a brief description of the model [Bulgakov, 2012] or platform by D. Snowden, which is a model of knowledge management ecology. In a series of his articles he has developed an approach to knowledge management based on cognitive science, semiotics and epistemological pragmatics. Snowden develops action-oriented knowledge system consisting of four elements: 1) the explicit and implicit knowledge; 2) knowledge assets; 3) faith, and 4) the certainty and uncertainty of decisions in relation to the goals and causal relations. Under this model, a decision matrix is made, which will manage the process of the four types of transient action: 1) the exchange of explicit knowledge through the system and structure; the exchange of implicit knowledge through psycho-social mechanisms; 3) the conversion of implicit knowledge into explicit based on BPR; 4) the release of the implicit knowledge through the faith and its driving force. All of this leads to the ecology of knowledge management in the firm [Gretchenko, 2009].

Snowden D. typologizes organizations on the basis of perception and sense of the problem, in which the organization finds itself. There are five such management situations. The areas of Cynefin have irregular boundaries between its fields, on Snowden's plan such visualization is to show contrast between Cynefin and the other four block matrices that are common in psychology and business sciences – the meaning of X or Y axes is not particularly important (Fig. 1).

Diagnostics of the organization	***Correction of the organization***
COMPLEX Cause and effect relations are clear only retrospectively and are not recurrent	KNOWABLE Cause and effect are separated by time and space
CHAOS Cause and effect relations can not be detected	KNOWN Cause and effect relations are clear, stable and predictable
COMPLEX Internal and external marketing, PR, personnel management	KNOWABLE Logistics, supply chain management, resources, and finances. Production based on personal expertise
CHAOS Extraordinary situations management	KNOWN Safety and discipline. Production based on documented technology

Disorder – the shimmering area

Fig. 1. Typology of Areas of organizations Cynefin by Snowden, D. (2006)

Known – is the area of prime order in which events and phenomena have clear and unambiguous reason, they always lead to definite and invariable consequences. This fact makes it possible to predict accurately the results of an action, to make exact predictions of the results of management decisions. To this area belong the organizations which are built on clear and strictly enforced laws, charters, regulations, rules. In such organizations exists the developed bureaucracy (a large part belongs to formal, documented branch of control). Sharing knowledge consists in (over)learning the rules and regulations and practicing them. The strong point of these organizations is in high performance, its weakness – in the risk of a situation going beyond the regulations. In this case, members of the organization are deprived of the possibility of an adequate response to events. The typical style of leadership is hierarchical, the most important aspect of the head is the distribution of the budget. Some production processes may be assigned to this area if the technology is not too complicated.

Knowable – is the area of complex order. The situations in the organization are due to fixed cause and effect, but the connections between them are confused. Figuring determinations requires high analytical resources; there is a clear lack of resources and time. At the heart of building the organization is its own system of concepts, models and practices. Education of the employees is aimed not at the assimilation of rules, but on the acquisition of language, adopting the model methods. To support and clarify the status of its members, such organizations use certification systems. The main feature of the social and cognitive management is (along with the development of its system of concepts and language) gradually reducing susceptibility to new ideas that goes beyond the established representation system. Simple appeals to the importance of new ideas are useless in the process of compensation of this strain. The administration shall "shake up" (N. Machiavelli) from time to time the forming traditions of behavior, thinking and formulating ideas and activities in order to cope with the increasing conservatism and stagnation in the organization. The typical style of leadership is oligarchic, collegial. To deal effectively with situations of ordering area one needs to have the matured knowledge and experience in the field of a wide range of business functions related to the management of financial resources and organization, logistics, supply chain management, which are production functions that are based not on simple technologies but on personal experience of an expert.

Complex – the area of complex nonlinear systems in which it is necessary **to study the configuration or conflicting identities in the enterprise-market system, resulting from the interaction of a large number of groups and situations:** "*These interactions have their own cause and effect, but a large number of agents and even more interactions between them do not allow to use the classification or analysis for the sense of the situation*" [Snowden, 2007]. Emerging configuration seems explicable only in retrospect - such configurations may be perceived, explained but not predicted. They can be repeated, but one can not base himself on them as on solid patterns because configurations are variable, they have hidden basic interactions that do not allow to predict the development. Social and cognitive sequence in this area: 1) testing and probing the situation to identify, "to wake up" the possible configurations, 2) to perceive and observe appearing configurations, 3) to respond, trying to fix the desired configurations, destabilize the undesirable, to draw a series of small interventions in a situation to make an appearance of the desired configurations more likely to happen. Snowden lays emphasis on the fact that the success of perception and understanding in this area requires a multiplicity of points of view on the situation. It is important not to jump to immediate conclusions, "seizing" the first familiar configuration but quietly and intently continue the search for new alternative understanding of the situation. This area would include the organizations that link its members via shared ideas and values, shared experience. The organization in the area of complexity is cemented with trust and mutual obligations of its members, the voluntary desire to cooperate. Narrative art

techniques promote the exchange of knowledge, particularly the usage of stories. Leadership in the area of complexity is based on the naturally occurring authority; it is matriarchal or patriarchal in style. In the area of complexity are the organizations in which the number of significant factors fundamentally exceeds the analytical capacity.

Chaos – the area of relationships between cause and effect seems to be missing. The situation is chaotic, turbulent. It is impossible to consistently relate the present situation to any familiar category. The situation is not analyzable. The uncertainty of the situations in the field of chaos creates the impression of "danger", "discomfort". Even if you may see roots of the future order in this chaos, it requires courage and determination to take action in such circumstances. Probably the only reasonable socio-cognitive sequence of actions in this area is: 1) to act quickly and decisively against chaos and uncertainty, 2) to observe an immediate response to their actions, and 3) to adjust their actions and proceed dynamically. This tactic is to withdraw the situation finally to one of the other three more "comfortable" areas. It is important to understand that **it is the area of chaos that is a source of innovation and radical change**. That's the area in which the various levels of systems are intertwined in a singular unit, so that the transition from one level here is simple (up or down ...). Therefore, in search of change it is sometimes advisable to sink into chaos area deliberately, although it can not be done without risk. This area belongs to organizations that are undergoing a structural crisis in the process of destruction or restructurization. In such circumstances it requires the crisis management and rapid and dynamic steps pointed at maintaining control of the organization and the withdrawal of chaos. For the success of the organization it is necessary that the leading role in it should be played by people who are able to make decisions and to act in conditions of extreme uncertainty. The chaos area supports a tyrannical or charismatic leadership style. The area of chaos can consist of the management in the circumstances of an emergency or crisis situations. However, in a rare organization there is no area of "permanent chaos" which is often located at the junction of the areas of responsibility of various departments. Another source of chaos in organizations are the reorganization and the innovations introduced by the administration, that are the first stages of creating chaos.

The fifth area – Disorder – the management situation in which the members of the organization have a tendency to attribute the problem to the area in which they feel most confident. Typical role functions are performed as follows: "a Legalist" aims to create the rules and adhere to them persistently, "an Expert" is inclined to initiate studies and collect data, "a Politician" aims to increase the number and range of their contacts "a Dictator" prefers the idea of using chaos as a chance to gain absolute control. To the area of uncertainty are related such aspects of the situation, with respect to which the consent of the members of the interacting groups has not yet been reached. The task of collective discussion, organized by counselor, is the gradual narrowing of the area of uncertainty and agreement between the parties about which how the situation should be classified, situation's various aspects, and, therefore, reaching the agreement about the sense of the problem, what solutions are to be taken and what methods are to be used. The uncertainty is the *flashing area of social – cognitive component of organizational psychology*, which are both specific areas of the collective consciousness of the whole community, and specific areas of individual consciousness. Speaking figuratively, in the style of Francoise Sagan: they are the reflection of the sun over the ocean in a drop of cold water.

The basis of our research methodology of the employees of organizations having different status survey lies in a system of approved criteria, indicators and methods (Table 2). Processing of the results was carried out using the methods of mathematical and statistical analysis. The calculation of the PM contributions to the intergroup adaptation of employees with different status was conducted by simple algorithm: 1) after the factor analysis of the factors weight was transferred to the fractions, 2) further, according to the theoretical model of intergroup PM adaptation for each

Table 2

The criteria, indicators, methods of identifying the IGA psychological mechanisms in employees with different status

I GA psychological mechanisms	Criteria	Data	Indicators (scales of methods)	Methods
Of intergroup non-adaptivity	Socio-psychological adaptation potential of interacting groups	Indicators of socio-psychological adaptation potential of interacting groups	Adaptability / non-adaptivity Self-acceptance / self-rejection Acceptance of others / rejection of others Emotional comfort / emotional discomfort Internal / external control Dominance / subordinate Escapism	Method of diagnosis of social and psychological adjustment by K. Rogers, R. Diamond
Of social (organizational) identification	Organizational and cultural potential of the interacting groups	Indicators of organizational culture of interacting groups	Relations (Democratic, familial) Result (Business) Creativity (achtocratic) Order (hierarchical)	Methods of assessing organizational culture and by K.Quinn and R.Kameron, adapted by A.V.Bulgakov
Of cooperation	Motivation potential of the co-operating groups	Professional motives of the members of the interacting groups	MF-1. The need for high wages and tangible rewards MF-2. The need for good working conditions and comfortable surroundings MF-3. The need for a clear structuring of the work, the presence of feedback and information MF-4. The need for social contact MOF-5. The need to establish and maintain long-term stable relationships MF-6. The need for winning recognition of others MF-7. The need for setting sophisticated goals and achieve them MF-8. The need for influence and power, the desire to lead others MF 9. The need for diversity, change and stimulation, the desire to avoid routine MF-10. The need to be creative, analyzing worker, open to new ideas MF-11. The need for improvement, growth and development MF-12. The need interesting, socially useful work	The test "Motivational profile" by Martin and Sh.Richi, adapted by A.V.Bulgakov and A.I.Goncharov.

group of employees the grouping of the factors was performed, 3) then we built a comparative model of intergroup PM adaptation of employees with different status in each organization. After processing the results the generalized models of PM intergroup adaptation organizations were correlated (the element of PM is the dynamics or speed of the organization) with the elements of a Boolean algebra (the TM element is the probability of events including a certain PM, e.g. their

degree of freedom), and in the context of the platform Cynefin (element PM is the direction of the organization movement). All the results of the primary statistics on a range of techniques processed by the participants in creative groups are not given in this article. They are traditional enough and also are of a large volume.

On the example of the parent company of research corporation "Precision Instrument Systems "(hereinafter - PC) we'll illustrate the basic positions of the pilot testing and analysis.

The diagnostic results of social and psychological adaptation of Rogers, R. Diamond (Table 3) shows that members of the interacting groups are well adapted to the organization, feel comfortable, do not seek to make changes in its operations, the forecast of a complex conflict situations between groups with different status is optimal, since such situations are perceived by the groups equally.

Evaluation of organizational culture groups after C. Quinn and R. Cameron (Table 4) clarified the nature of values, interpersonal relationships, mutual expectations in groups. For the analysis of the data was udes the standardized measure of organizational culture (OC), including indicators of subcultures: OC democratic (relationship), OC achtocratic (creativity), OC hierarchy (order), OC entrepreneurship (the result). The results show that *employees in groups with different status (engineers, researchers and heads of departments)* the dominant relationship is OC relationship. Groups are attached to the value of a high degree of cohesion, social and psychological climate. The leaders are perceived as mentors. A possible problem may appear in a difference in performance between

Table 3

Results of the study of social and psychological adaptation of employees with different GP status (scored on a scale of 100, n = 20 people)

Criteria	The average values for groups with different PC status	
	Research engineers (low status)	The department heads (high status)
"Adaptation"	78	81
"Introspection"	37	32
"Acceptance of others"	70	77
"The emotional comfort"	63	60
"Internality"	43	65
"Expansion"	49	33
"Escapism"	22	23

Table 4

Organizational culture (OC) the parent company of research corporation" Precision Instrument Systems "(scored on a scale of 100, n = 20 people)

Name of culture	Research engineers		Heads of departments	
	Available OC	Preferable OC	Available OC	Preferable OC
Relationships OC	**32**	43	**30**	45
Creative OC	18	26	17	29
Business OC	20	15	26	15
Order OC	31	17	30	16

Table 5

Motivational factors (MF) of group of employees of the parent company scientific research Corporation "Precision Instrument Systems" (in the medium group, n = 20 people)

Motivational factors	Research engineers	Heads of departments
MF-1	35	37
MF-2	26	33
MF-3	28	22
MF-4	27	24
MF-5	26	25
MF-6	28	37
MF-7	*26*	*25*
MF-8	28	27
MF-9	*26*	*28*
MF-10	35	37
MF-11	33	35
MF-12	36	42

the preferred and owned by OC in each group. Otherwise, we can confidently say that this OC combination contributes to the successful IGA, not to the basis of its failure.

The study of PC employees using the test "Motivational profile" by S. Richie, P. Martin revealed characteristic and major motivational factors of professional activity for each of the groups (Table 5).

A group of PC engineers and researchers have three dominant factors 1) the need for high wages and tangible rewards (MF-1), 2) the need for good working conditions and comfortable surroundings (MF-2), 3) the need to build and maintain long-term stable relationship (MF-5). These factors are relevant to the content of professional engineers and researchers, who will certainly need a comfortable environment, good working condition. For this group of employees it is very important to maintain long-term relationships with their customers, because they determine the salary of the group. The relatively low value is attached to factors associated with the achievement of group goals, the impact on the group, a manifestation of power, self-improvement, the external manifestations of interest in the job (reduced rates on the MP-7, MF-9).

Motivational profile of heads of departments is characterized on the one hand by inflated figures for the factors of material incentives and the need for good comfort (MF-1, MF-2). On the other hand are low values of factors of setting for themselves challenging goals for themselves and achieving them (MF-7) and the desire to avoid a routine operation (MF-9). t is important to note that a group of heads of departments shows a low value in the power needs and a desire to lead others. This may indicate either a filling of these needs or unwillingness to apply to themselves the role of a manager, and the lack of commitment of willpower. Observation and interviews with representatives of high status groups recently confirmed this fact.

Thus, the dominant identified factors-motivators of interacting groups are not the basis of a complex conflict relations between them, the failure of IGA.

Having analyzed the results of methods that determine the psychological mechanisms of IGA between groups with different status, a Student's t-criteria for statistical testing of the differences was used. In the organization of PC only mo-

Table 6

The results of the factor analysis of the organization of PC engineers (N = 12 Varimax normalized, Extraction: Principal, components (a marker identifies significant indicators> 700000)

Variable	Factor Loadings (Varimax normalized) (Spreadsheet1) Extraction: Principal components (Marked loadings are > ,700000)						
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
МФ1	0,362199	0,778615	0,151041	0,263920	0,153669	-0,283535	0,129939
МФ2	-0,412993	0,726932	0,187469	0,005986	-0,306254	-0,137183	0,218762
МФ3	0,128763	0,822223	0,004849	0,038382	0,464324	0,049772	-0,047753
МФ4	-0,804467	-0,383741	0,243693	0,041396	-0,052780	0,009448	-0,174609
МФ5	-0,939632	0,039628	0,129708	-0,253824	0,036089	0,101797	-0,088971
МФ6	0,100516	0,371368	-0,277567	0,175343	0,472579	0,008243	0,682573
МФ7	-0,210339	-0,150702	-0,124097	-0,773012	-0,417237	0,291945	0,201502
МФ8	0,222619	-0,326416	-0,561538	-0,353113	-0,529138	0,067763	0,027343
МФ9	-0,294365	-0,684480	-0,132391	0,348478	-0,150889	0,242527	-0,304491
МФ10	0,244088	-0,931920	-0,028612	-0,027836	-0,060372	0,174072	0,055687
МФ11	0,026080	-0,741004	0,342441	0,330081	0,269584	-0,219142	-0,307914
МФ12	0,928798	-0,163729	0,017081	-0,006394	0,081314	0,045016	-0,124426
ОКОИ	0,657898	0,143114	0,026239	0,656284	0,148103	0,038271	-0,224926
ОКТИ	-0,599705	-0,080586	-0,041343	0,499004	-0,447340	0,286610	0,245199
ОКДИ	-0,663205	-0,439839	-0,243554	-0,057364	-0,366616	-0,171758	0,249721
ОКПИ	-0,086034	0,066054	0,091950	-0,940669	0,210738	-0,138228	-0,020422
ОКОП	0,187130	0,679931	0,154472	0,419921	-0,076950	-0,477587	-0,055529
ОКТП	-0,317641	-0,365822	0,109318	-0,174821	-0,788953	0,183965	0,083858
ОКДП	0,024767	-0,127584	-0,942309	-0,051844	-0,017013	0,152701	-0,063616
ОКПП	0,082282	-0,315534	-0,112082	-0,248010	0,879206	0,186619	0,013331
Адаптация	-0,306489	0,352237	0,098890	-0,322023	-0,044255	-0,517660	0,548334
Самовосприятие	0,577458	0,000627	-0,595708	0,387852	0,226901	-0,078633	0,069653
Принятие других	0,417254	0,601310	-0,489276	0,156843	-0,066688	0,136595	0,236490
Эмоциональная комфортность	0,621027	-0,473921	0,130862	0,199097	0,125389	0,478136	-0,083185
Интернальность	0,056490	-0,029898	0,016275	0,120735	0,175807	-0,172180	-0,912245
Доминирование	-0,040432	0,062491	-0,956627	0,037126	0,141159	0,060417	0,110218
Эскапизм	0,016735	0,126128	0,187630	0,011743	0,018058	-0,943260	-0,164125
Expl.Var	5,337178	5,807327	3,256123	3,294906	3,047494	2,237960	2,246268
Prp.Totl	0,197673	0,215086	0,120597	0,122034	0,112870	0,082887	0,083195

**Adaptation*
Self-acceptance
Acceptance of others
Emotional comfort
Internality
Dominance
Escapism

tivational factor (MF-6 - the need for winning respect from other people) revealed significant differences (p <0.011). The rest of the group of research engineers and heads of departments are of the same type in the structure of indicators of IGA psychological mechanisms.

The subsequent factor analysis of empirical data allowed the construction of a three-factor model of the contributions of psychological mechanisms of IGA groups with different status in each of the six organizations.

Factor analysis of the data of research engineers GP (Table 6) identified the following system factors: **Factor 1.** Motivational factor (20%). The group expresses the need for an interesting and socially useful work. There is a desire to be

useful to the organization, meet the goals and to follow the mission of the organization. No need for social contact. **Factor 2.** Motivational factor (24%). Members of the group express the need for high wages, good working conditions, comfortable surroundings, clear structuring of work, the presence of feedback and information. No need to be creative and analyzing employee is found; there is a defined trend in the unwillingness of personal growth and professional development. **Factor 3.** Organizational factor (12%). The group prefers not the OC matters, does not express the desire to dominate, prefers someone to perform the tasks. Members of the group are driven in a professional activities.

Factor 4. Motivational factor (14%). There is no need in the group to set challenging goals for themselves and achieve them. Team members are not satisfied with the OC in which they find themselves. They deny the PC procedure, despite the fact that they are developing within it. **Factor 5.** Organizational factor (13%) is characterized by a low value subculture PC creativity, there is no clear-cut dynamic creative and innovative promotions, order OC dominates. **Factor 6.** Adaptational factor (10%). Members of the group have no desire to dominate, they are led in their professional work and relationships in team. There are no clearly identified leaders who can take responsibility for making and developing solutions to service problems in an organization. **Factor 7.** Adaptational Factor (9%). In the group external control rate is prevailing, a tendency to shift the processes and their causes to external indicators was revealed.

A single set of intergroup PM adaptation used by a team *of PC engineers and researchers* consists of the following mechanisms:

1) The psychological mechanism of IGA "Intergroup inelasticity on the socio-psychological adaptational potential of the group criterion" is determined by summing the adaptation factors. The total weight of this group of factors is 19%. There is no trend of dominance in the group, the group is led in their professional work and in relationships in a team. There are no clearly identified leaders who can take responsibility for making and developing solutions to service problems in an organization. In the group external control rate is prevailing, a tendency to shift the processes and their causes to external indicators was revealed.

2) The psychological mechanism of IGA "Social (organizational) identification on the organizational and cultural potential of the group criterion" is the sum of the organizational and subcultural factors. Total weight is 25%. Team members are not satisfied with the OC in which they find themselves. Research engineers deny the order OC. Rigid rules and routines reduce their adaptability. The nature of professional work logically corresponds with OC creativity, but that culture is not expressed in an organization, order OC dominates together with relationship OC. There are no clearly expressed dynamic, creative and innovative promotions, creativity OC is not shown. The need to be a creative and analyzing employee remains potential. Within the group prevails the culture of relations and the order in which the formal rules, smoothness and regularity of professional activity reduces cited contradictions of the OC.

3) The psychological mechanism of IGA "Co-operation on the motivational potential of the group criterion" is defined by the sum of the identified motivational factors. Total weight is 56%. For the members of the group of research engineers are relevant the high wages, good working conditions, comfortable surroundings, clear structuring of work. There is a desire to be useful to the organization, meet the goals and mission of the organization to follow. There is no need for social contact. There is a need for clear structuring of the work, the presence of feedback and information. The need to be a creative and analyzing employee is fulfilled. In the group there are no clear leaders who can take responsibility for suggesting the problem, so there is no need to set challenging goals for themselves and achieve them.

The factor analysis of the data of the heads of PC departments (Table 7) has identified the following factors: **Factor 1.** Motivational factor (20%). For this group wages and mission of the organization are not a basis for the formation of stimulation for work, a need for a clear structuring of the work, need for social contact and the

Table 7

The results of the factor analysis of the heads of departments of the PC organization (N = 8 Varimax normalized, Extraction: Principal, components (a marker identified significant indicators> 700000)

Variable	Factor Loadings (Varimax normalized) (Spreadsheet1) Extraction: Principal components (Marked loadings are > ,700000)						
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
МФ1	0,362199	0,778615	0,151041	0,263920	0,153669	-0,283535	0,129939
МФ2	-0,412993	0,726932	0,187469	0,005986	-0,306254	-0,137183	0,218762
МФ3	0,128763	0,822223	0,004849	0,038382	0,464324	0,049772	-0,047753
МФ4	-0,804467	-0,383741	0,243693	0,041396	-0,052780	0,009448	-0,174609
МФ5	-0,939632	0,039628	0,129708	-0,253824	0,036089	0,101797	-0,088971
МФ6	0,100516	0,371368	-0,277567	0,175343	0,472579	0,008243	0,682573
МФ7	-0,210339	-0,150702	-0,124097	-0,773012	-0,417237	0,291945	0,201502
МФ8	0,222619	-0,326416	-0,561538	-0,353113	-0,529138	0,067763	0,027343
МФ9	-0,294365	-0,684480	-0,132391	0,348478	-0,150889	0,242527	-0,304491
МФ10	0,244088	-0,931920	-0,028612	-0,027836	-0,060372	0,174072	0,055687
МФ11	0,026080	-0,741004	0,342441	0,330081	0,269584	-0,219142	-0,307914
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Эскапизм	0,016735	0,126128	0,187630	0,011743	0,018058	-0,943260	-0,164125
Expl.Var	5,337178	5,807327	3,256123	3,294906	3,047494	2,237960	2,246268
Prp.Totl	0,197673	0,215086	0,120597	0,122034	0,112870	0,082887	0,083195

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formation of long-term relationships is more important for them.

Factor 2. Organizational factor (19%). Group members are not satisfied with the OC in which they find themselves, they deny the culture of order and results and want to develop within a relationship OC or creativity OC. They do not have enough space to develop their creative abilities. They do not want to dominate within the present culture; this may explain the absence of clear-cut leader in the organization. **Factor 3.** Adaptational factor (14%). A high level of social and psychological adjustment of group members. The department heads think posi-

tively about themselves and others, their needs for communication, interaction, collaboration is fulfilled. They are satisfied with the degree of their personal characteristics. **Factor 4.** Motivational factor (14%). In the group of department heads the need for good working conditions is not expressed - it is fulfilled. There is no need to gain recognition from other people, experience the attention of other people. They are stable in their job position, every day they decide the conflict situations with customers remotely (from a distance, without participation), as a result in the importance of affection for others is blurred. **Factor 5.** Organizational factor (17%). A culture of creativity is preferred and the order culture is rejected. This culture defines the dynamic creativity and the desire to experiment. Success for them means providing unique and new relationships and contacts. **Factor 6.** Adaptation Factor (3%). There is a feeling of emotional discomfort. The department heads feel insecure, depressive, apathy – possibly because of a consequence of a large number of difficult situations that are to be solved by an administrator during their working day. Often they do not want to take responsibility and be dominant in decision making. **Factor 7.** Motivational factor (3%). The department heads do not seek to lead others.

A single set of intergroup PM adaptation used by a group of PC heads of departments *consists of the following mechanisms.*

1) The psychological mechanism of IGA "Intergroup inelasticity on the socio-psychological adaptational potential of the group criterion" is determined by summing the adaptation factors. The overall percentage of this population factor is 17%. This group of factors is characterized by a high level of social and psychological adaptation in the group, same as in the organization as a whole. The department heads positive about themselves and others, satisfied with communication, interaction, collaboration, the degree of their personal characteristics. However, there is a certain sense of emotional discomfort. Uncertainty, depression, lethargy are not rare – probably it is a consequence of a large number of difficult situations which are solved by the head of the department during his working day. Often they and their subordinates have no desire to take responsibility in decision making.

2) The psychological mechanism of IGA "Social (organizational) identification on the organizational and cultural potential of the group criterion" is the sum of the organizational and subcultural factors. The total weight of this group of factors is 44%. Team members are not satisfied with the OC in which they find themselves. In fact, they do not explicitly (openly) deny the culture of order and results. They want to develop within a relationship OC or creativity OC. They do not have enough space to develop their creative abilities. They do not want to dominate within the present culture; this may explain the absence of clear-cut leader in the organization. Success for them means providing unique and new relationships and contacts. At the same time, this group of line managers is held by virtue of the devotion and traditions of the organization. After all, the scientific research corporation "Precision Instrument Systems" the emphasis is put on the long-term benefit, improving of employees' individuality. Therefore, department heads tend to be united and to maintain a healthy social and psychological climate within their teams and within the enterprise as a whole.

3) The psychological mechanism of IGA "Co-operation on the motivational potential of the group criterion" is defined by the sum of the motivational factors. The total weight of this group of factors is 39%. For this group wages and mission of the organization are not a basis for the formation of stimulation for work, a need for a clear structuring of the work, need for social contact and the formation of long-term relationships is more important for them. The need for good working conditions, a sense of self-worth is fulfilled. The department heads do not want to gain recognition from the others, and to induce affection for the others. They are, paradoxically, does not seek to lead the others.

The comparison of the PM used intergroup adaptation of groups with different statuses in the central office of JSC "Research Corporation" Precision Instrument System "is illustrated in Fig. 2. The contributions of various PM inter-

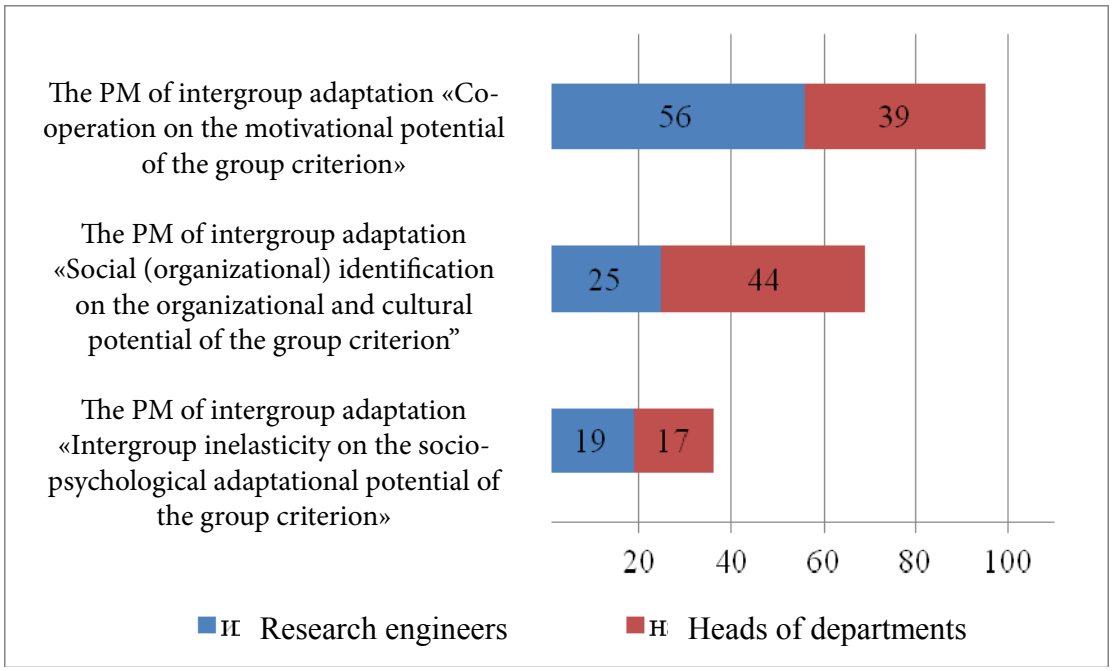

Fig. 2. Contributions of psychological mechanisms at IGA in groups with different status (research engineers and heads of departments) the parent company of "Research Corporation" Precision Instrument Systems "(in%, n = 20 people)

group adaptation for groups of research engineers (low status group) and a group of heads of departments (high status group) are identified here. By analyzing the structure of the deposits it is possible to draw the following conclusions on the assessment of the management situation in the organization as a whole.

First of all, the equality of PM intergroup adaptation deposits of "Intergroup inelasticity on the socio-psychological adaptational potential of the group criterion " (19 and 17%) are consistent with the stability of the group's status in the organization, their consistency, which is the basis of the forecast, is not only a successful IGA, but explains the correct current management actions PC in Human Resources.

Secondly, the prevalence in the structure of intergroup adaptation PM deposits in a group of heads of departments mechanisms of "Social (organizational) identification on the organizational and cultural potential of the group criterion " (44 and 25%) is fully consistent with the normative behaviors of middle managers in a successfully working knowledge-based organization of military-industrial complex.

Third, the dominance of the engineers and researchers contribute intergroup adaptation PM of the "Co-operation on the motivational potential of the group criterion" (56 and 29%) emphasizes the lack of implementation of the professional needs of this group and reveals a significant motivational potential.

Thus, the psychological content of the identified structure of intergroup adaptation PM deposits of the PC employees with different status is largely consistent with the results of diagnostics of the organization and with its determination in its managerial "Order" situation in the Cynefin platform (Fig. 1). These are the results of the traditional approach without taking into account the elements of psychological mechanisms.

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