

Mechanism of organizations adaptive behavior to external medium

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Received 1 March 2015, www.isma.lv

Abstract

In recent years became actual new approaches to management, such as “Studying organizations” and “Intellectual organizations”. In these directions, in the literature specified what characteristics the self-training or intellectual organizations have to possess, but at that, there is no integral theory rest on which might have create alike organizations. There is presented mechanism of adaptive behavior of organization to external medium in the article including two feedback circuits. Many present-day organizations adapts to external medium due to feedback circuits. Midpoint in mechanism of adaptive behavior of organizations to external medium is the second (negative) feedback. There is approved how it is possible to frame negative feedback in the organization. Organizations behavior in large measure depend upon managers activity, that is why, as the main object of external medium exposure were selected managers. To create mechanism of the second feedback, in organization should be identified highlights of each manager activity. Hereafter, it is necessary to present highlights in terms of two limited marks. According to mechanism of the second feedback, the task of managers will consist not only in achievement of objectives of organization but therein to highlights won't grow out of limited marks. If highlights are beyond the scope then act the system “Programmed decisions”, so manager pass into acting status and status preserves till manager has not return highlights in limit marks frames. Manager may undertake any administrative actions to return highlights in limit marks frames, proceed by trial and error. There are presented recommendations of choice and fixation of highlights in the article. Also, there are presented, how many shall be such indicators how to establish limiting marks for highlights, how is involve rotation of managers etc. Basic result of introduction of this mechanism is consist in what after the each cycle of deviation and return of highlights, there is developed second type of behavior by way of acquisition in organization. The more environmental factors have an effect on highlights, the more often go deviation and return cycles of highlights and the organization getting better.

Keywords: adaptive behavior, external medium, communication channel, first feedback, second feedback, negative feedback, managers activity, organization highlights, black box, acquisition, programmed decisions, personnel rotation

1 Introduction

Let's take a look at management theories from a position of what significance is attached to factors in environment, and at the expense of what mechanisms of the organization adapt for environment. The organization isn't in vacuum, there is an environment where any organization carries out the activity. Each organization has border, this border at the different organizations can differ from each other, but everything that is out of organization border refer to environment. It is possible pertain to environment of the organizations consumers, suppliers, competitors, partners, and also social, economic, technology, political and other factors. The purposes, employees, structure, systems, technologies, corporate culture and other elements belong to the internal environment of the organization. It is separately possible to allocate team of managers which belongs to the internal environment, but it is responsible for interaction with environment, after all it make these or those administrative decisions. During the whole period of existence of the organizations, the role and environment influence in activity of the organization was different, but every year the role and influence of environment increases. In the light of these tendencies, it is actually to consider the mechanism of adaptive behavior of the organizations to environment. Management as separate scientific area began with scientific approach. Scientific approach allowed the organizations to become much more effective, than earlier,

for example, from the point of view of labor productivity increase. According to Eytken, F.U. Taylor "the first synthesized and systematized the best from that was known of management of people, and offered methods thanks to which this art could gain the further development" [1]. During the period from 1905 to 1970 management was enriched with various approaches and tools, since Taylor, Weber and Fayol's classical era, an era of "a human factor" E. Mayo and era of "managements on the purposes" P. Drukera which significantly improved practice of management [2-7]. However, in the 70th years after oil crisis, a condition demanding more adaptive behavior from the organizations promptly changed. From the organizations now under the law of a necessary variety it was required not only efficiency, but also productivity. So, according to Moshe F. Rubenstein and Iris R. Firstenberg to develop the abilities, management of the organizations masters various systems and approaches. Here that they write: "... They mastered system of total quality management (TQM), system of continuous measured improvement (CMI), underwent a daunsaying, franchizing, determined the optimum sizes, carried out reengineering, developed campaigns for reduction of expenses, formed the integrated teams of design of production, integrated service teams, carried out diversification of workplaces, carried out changes in corporate culture, preached "think globally and act locally", adapted view of global business and learned to see global prospects. They delegated powers, inspired,

motivated, trained, and participated in partnership and management. The companies were transformed to the learning organizations introduced new products and new services – along with it the organizations operated at registration of merges, implementation of absorption, consolidation of one parts of the company and transformation in affiliated the organizations of others..." [8]. However all these actions do not allow to solve a problem of modern management fully. What is the problem of modern management as scientific area? That existing theories of management didn't present the mechanism by means of which the organizations, like live organisms, could adapt for environment. Why to the organizations, like live organisms to adapt for environment? Because of environment factors bear every year threat for a survival of the organizations more and more. The organizations had problems always, but about 30 or 50 years ago sources of problems were more in the company, and now and, probably, sources of problems of the organizations will be in the future outside the boundaries of the organizations. For example, requirements and values of consumers change quicker, than earlier, the competition amplifies not national level and at the global level, periodically arising crises in increasing frequency put pressure upon the organizations. The team of managers of the organizations doesn't manage to react in time to threats from environment. On the one hand, it is connected with insufficient competence of team of managers, with another - in insufficient interaction of the organizations with environment. How to estimate and increase competence of managers of different levels of the organization are outside this article, about it enough articles and monographs in management are written. And how to improve interaction of the organizations with environment we will consider in more detail.

2 Theoretical part

We will consider the mechanism of adaptive behavior of the organizations to environment. In recent years there are a lot of publications about the self-training (being trained) organizations. To become self-training, the organization must have an exit in environment and two chains (loops) of feedback from environment [9, 10]. In the cybernetics, the second feedback with environment is call "negative feedback". If to compare the modern organization to a live organism, it is possible to see that the organizations are still very far to live organisms in the field of adaptation to environment [11]. How to apply the mechanisms of adaptation peculiar to live organisms, to the modern organizations? Answer this question not easy, but already there are prerequisites which allow understand in what direction it is necessary to move. G. Morgan writes that the principles of modern cybernetics – a basis for creation of the being trained organizations [11].

Morgan so represents an image of the being trained organizations: "... ability of system to self-regulate depends on processes of the exchange of information including negative feedback ...". According to Morgan, the concept "negative feedback" is central in cybernetics: "... negative feedback eliminates an error: it creates a desirable condition of system by means of avoidance of undesirable states...". Live organisms are more adaptive as they use negative

feedback at interaction with environment. Morgan writes "... When body temperature increases, the brain and the central nervous system initiate the actions conducting to delay of movement, sweating and heavy breath to begin changes in an opposite direction. In the same way, when it is cold to us, we start shivering, knocking a foot about a foot and try to increase body temperature keeping its functioning within the critical borders necessary for a survival ...". That Morgan writes on the example of adaptation of the person to environment is a result of operation of the mechanism which is cornerstone of live organisms but this mechanism isn't present in the organizations constructed by people. We will consider the mechanism of adaptation of the live organisms, described by Morgan more detail to try to understand how this mechanism is possible to apply to the organizations. How to understand desirable and undesirable states in relation to the organizations? The term "state" means set of numerical values which variables of an organism have at present" [12]. In relation to the organizations "state" is a set of indicators, for example, the balance sheet at present which reflects a financial condition of the organization in numerical expression. On the expiration of some time, for example, month, the balance sheet will have other numerical indicators, it means that the organization passed into other state. The organization can have set of indicators not only in the financial sphere but also in others, for example, indicators on marketing, operations or on innovations and personnel training. We will consider phrase "When body temperature increases, the brain and the central nervous system initiate the actions conducting to delay of movement ..." in more detail. That the organism normally existed, a number of key indicators, for example temperature, must to be in a certain state wished for an organism though some deviations, but no more critical borders are possible. "Body temperature supports blood circulation. Warmth of vessels is a necessary condition that blood arrived to our heart. It is considered that the optimum environment for this purpose is created in limits 36,6°C, with possible deviations on some tenth degree from 36,2°C to 37°C. Such temperature well affects work of all internal – a liver, kidneys, and others. In the same borders glands of endocrine system and other systems of an organism normally work. Limits in which body temperature can change are in an interval 26-40zs. If temperature is less than lower bound, it is considered a life stop and if above – dangerous inflammatory process during which breakdowns organism cells, happen irreversible changes in protein structure cages etc." [13]. It turns out, the founder of the human revealed key indicators, such as temperature, pain, etc. established a desirable state and accurate limits for them for which it is impossible to deviate, and differently there will be a life stop. If the condition of the person under the influence of environment, for example, as a result of ambient temperature fall, deviated desirable temperature (36,6°C), the nervous system automatically reacts to it forcing the person to carry out various actions, to drink tea with a lemon, or to take medicine for cold, etc., the main thing, it is necessary to return a key indicator to a desirable state. In other words, body temperature must to be at level 36,6zs. Thus, the person can act somehow, for example, a trial and error method at first to self-medicate if doesn't help, to go to the doctor, etc. The person starts showing activity,

the main thing for him becomes to return temperature to a desirable state, and other purposes and tasks leave on the second plan. The nervous system of the person stirs up activity of the person, even before real temperature increase out of limits $36,6^{\circ}\text{C}$ as Morgan "noted... when to us it is cold, we start shivering, knocking a foot about a foot and to try to increase body temperature, keeping its functioning within the critical borders necessary for a survival ...". But if these actions of the person don't reach result, temperature of the person deviated norm $36,6^{\circ}\text{C}$, nervous system of the person initiate other actions. If people without having attached special significance to temperature deviation to 38°C , will go for work, after a while temperature can deviate to $39,9^{\circ}\text{C}$, then already to the person will precisely have no time works and his behavior will change, he leaves work and will start being engaged in the illness. This manifestation of negative feedback which allows change behavior of the person, irrespective of his age, education, a nationality or a place of work is the key for the person. Changing the behavior and acting with cut and try method the humas survives. For nervous system of the person is unimportant because of what there was a deviation of a key indicator, environment is a black box, it is more important to return temperature to a desirable state as soon as possible. It should be noted that the person has certain time that he could return temperature to a desirable state but all this time a key indicator will remind of itself, without allowing the person to be engaged in other tasks seriously. If to present such situation that the person's temperature raised to $39,9^{\circ}\text{C}$ and he (she) doesn't notice it and continues to go about the own business, without paying any attention to high temperature what will occur? It isn't necessary to be the doctor to predict an outcome of this behavior. It should be noted that in the above example, the behavior of the person changed twice and these two behavior differed from each other. When it is cold, but temperature of the person in a desirable state $36,6^{\circ}\text{C}$, the nervous system initiates activity of the person, for example, the person starts knocking a foot or to jump to be warmed. The person wants to protect with the actions himself from threat, the cold, these actions often acts as threat yield result, and temperature doesn't deviate a desirable state. But when actions of the person didn't help to avoid threat from environment, the cold achieved the objective and temperature deviated to a desirable state, the nervous system of the person initiates other type of behavior, differs the first. The person doesn't jump any more or stamps a foot, he (she) undertakes others actions, for example, takes medicine.

And now we will return to the organizations, is there a negative feedback with environment at the organization? As shows the literature analysis in the field of management, the theory of management didn't develop the mechanism of negative feedback but only designated that this mechanism is necessary to the modern organizations. About it as it is stated above, Morgan writes, about it other researchers also write. Ardzhiris and Sean have offered two basic models of the organizations [14]. The first is constructed on an assumption that we seek to manipulate the world and to change it according to our personal aspirations and desires. Heads acting on this model are occupied with achievement of the personal purposes. Protection is the main type of reaction in the organization constructed on the first model,

and, as we know, the best way of protection is an attack. The heads acting on such scheme are ready to change others, but resist to any attempt to change their own thinking and style of work. For organizations of this sort is characteristic that Ardzhiris and Sean called "single loop of learning" ("identification and correction of organizational mistakes allows organization to realize the current policy and to solve already set goals" [14]). The second model, unlike the first is based on "a double loop", according to Ardzhiris and Sean allowing "reveal and correct organizational errors modifying the situation which has generated them". In the organizations operating on the second model, heads pay special attention to information. They discuss problems, react to changes, study at other. There is an effective cycle of training and understanding. "The majority of the organizations quite successfully copes with a methodic of a single loop but undergo the greatest hardship in training by the methodic of a double loop", – Ardzhiris and Sean [14] draw a conclusion. Morgan, Ardzhiris and Sean speak about the same, but from different positions. Morgan considers negative feedback from a cybernetics position, comparing behavior of the organization as systems to live organisms. Ardzhiris and Sean relying on practice, analyze as heads of the companies conduct in reality. Difference in Morgan's approach, that relying on metaphoric thinking, it represents other view of management. By means of different metaphors it shows key aspects in activity of the organizations to which often don't pay due consideration. According to Ardzhiris and Sean [14], the organizations adapt for environment by a methodic of a single loop (the first feedback), but can't apply fully a methodic of a double loop (the second, negative feedback). What the methodic of a single loop means? [14]] It is a question of heads of the companies if to take more widely, about managers who make decisions and the behavior of the organizations in many respects depends on these decisions. Existing theories of management allow expand the range of application of a methodic of a single loop but don't allow to embroider a methodic of a double loop.

3 Investigation

We will further consider how to create negative feedback (a double loop) for the organizations. What is understood as organization interaction with environment? The team of managers can differently treats environment factors which can bear threat for an organization survival: from full ignoring before total scanning of changes in environment. The theory of management provides a number of tools by means of which the team of managers can systematically investigate external factors and react to them in time. The majority of the modern organizations studies external factors and try to adapt for them. The problem in that the influences of external factors often happen not in one stage and gradually. For example, because of action of competitors at the company production sales can gradually fall within several years, and the team of managers continues to work as before, anything significantly without changing in the actions, without increasing the activity, believing that it is temporary difficulties that everything will improve. It turns out that the team of managers has signals from environment, actions of competitors reduce company

sales, but the team of managers doesn't show activity to counteract threat from environment. Probably, sooner or later the team of managers will think again and will start showing activity somehow to answer actions of competitors, but time can be missed that can lead to company crash. The problem more not that the team of managers of the organization doesn't receive signals from environment which can bear organization threat turns out. And in why managers don't react in time to these threats by activity manifestation until liquidate consequences of influence of external factors on organization activity. Whether it is possible to make so, that team of managers without wasting time, as soon as possible started showing activity to stop falling of sales of the production at an early stage and, moreover, to try to increase sales? We will consider in more detail as the mechanism of negative feedback in live organisms works. As this mechanism in live organisms works, described in the monograph known English cybernetician R. Eshbi [15]. Eshbi has opened logical structure which is a basis for any difficult interactions both within an organism, and between an organism and environment. According to Eshbi's opinion, activity of nervous system of organisms can be divided into two types. The first type is reflex behavior. It is congenital in all details, defined by heredity, i.e. a genotype. This behavior is adaptive because the conditions demanding their emergence were constant throughout many generations. The second type is the behavior acquired by learning. It is not congenital and not represented in details a genotype. As a whole, adaptation can be reached as a result or direct (the first type), or indirect (the second type) genotype action. But when environment conditions for which the organism adapts are constant throughout too short time in order that there could be a genotype adaptation, learning represents the only method of achievement of adaptation. Besides, at direct and indirect action of a genotype the different volume of regulation can be reached. As the communication channel, a genotype has a certain final capacity, for example, equal Q . In relation to the organization the first type of behavior in details is defined by the founder of the organization (it founders or shareholders). In the course of the activity the first type of behavior can undergo changes and these changes make both founders and managers of the organization. Depending on that who is the founder of the organization, the first type of behavior at the different organizations can significantly differ. We will consider as an example, behavior of two business firms which are approximately identical by the size, have approximately identical resources and carry out the activity in one branch. The only difference is that the one company is created in the USA and another in Kazakhstan. It is interesting to us, what will the difference of the first type of behaviour in two companies.

The company created in the USA where more than 200 years there is a market economy. This economy is characterized by the high competitive environment from the very beginning of the existence managers of this company will seek to make and support qualitative production and continuously to improve its quality in comparison with competitors. Managers of the company will seek to reduce expenses, to carry out innovative activity and to let out new products. Besides, to get profit sufficient for development of

the company and payments of dividends, have competent team of managers and the qualified employees. Also, to provide continuous training for the employees, have clear vision, mission and development strategy. This list is possible to be continued but a question, that the majority of the companies, created in the USA, have approximately such type of behavior.

Now, we will consider the hypothetical company created in Kazakhstan where the market economy exists only 20 years. This economy is characterized by the low competitive environment, managers of the company from the moment of the existence will seek to make production of acceptable quality. Managers, most likely, won't be purposefully reduce costs of production and carry out innovative activity. Besides, managers will seek to get the maximum profit, engage the qualified employees. Employees will be incidentally trained. Clear vision, mission and development strategy in an explicit form won't be presented. This list is possible to be continued, but it is possible to note that the majority of the companies in Kazakhstan approximately so behave, show such type of behavior.

Apparently, the type of behavior of the company created in the USA differs from the Kazakhstan Company. It is possible to tell with confidence that as a communication channel the first type of behavior of the American company has the big capacity expressed in Q , than the Kazakhstan Company. Why founders of the companies in Kazakhstan can't create behavior type as in the American, German or Japanese companies? Because conditions for emergence of the behavior first type in the USA, Germany and Japan were longer, besides, the market environment in these countries significantly differs from the market environment in Kazakhstan. To catch up the companies from the USA, Germany and Japan, it is necessary to expand significantly the capacity of the first type of behavior as communication channel and more than ten years can be demanded. But if the Kazakhstan companies are able to introduce the second type of behavior acquired by learning, this gap can be overcome much quicker.

Management as the new area of science tries to arm the organizations with new instruments of management which increase the capacity of Q first type's behavior (Fig. 1). The organizations, both American, and Kazakhstan, have a choice: to be content only with that the modern science gives to practice management (capacity the Q , first type of behavior) which probably came nearer to the limit or to master the second type behavior based on learning.

The second type of behavior – learning, as conditions of the environment are constant throughout too short time is necessary to the organizations in order that there could be an adaptation due to administrative actions of managers. Learning represents the only method of achievement of adaptation which will allow prolong life cycle of the organization significantly. Besides, if to unite practice of modern management and the behavior based on learning, the regulation volume of much exceeding Q can be reached. Because the regulation volume within which managers of the organizations can make various actions, leaning on signals from environment to change behavior of the organization for the law of a necessary variety, it is insufficient for adaptation to environment. In other words, to resist to factors of environment, the organizations have to

show much more variety in behavior, than they do now that demanded by the law of a necessary variety. However these measures are found insufficiently as ahead of the organizations even more grandiose changes wait ", and these changes approach with even high speed, than ever before" [8]. According to Rubenstein's and Firstenberg's opinion, the organizations "have to find for themselves new

images and metaphors which will help the organization to be simply transformed to the intellectual organization [8]. Such intellectual organization behaves as a live organism, for which most important is the adaptation for the sake of a survival and full-fledged life".

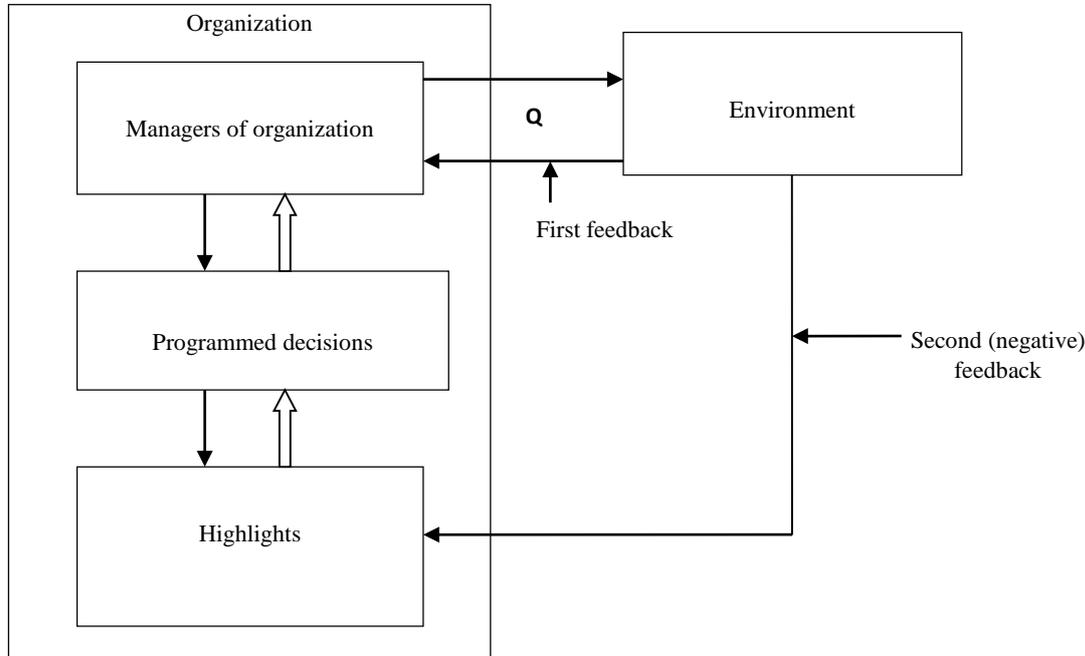


FIGURE 1 Scheme of the organization capable to adaptive behavior

We will consider behavior of the second type, i.e. that is not congenitally, and is acquired by learning, in more detail, as we interesting in learning process.

In Figure 1 organization and environment are presented as interacting systems. The organization is presented in the form of two interacting systems: "Managers of the organization" and "Key indicators", and between them "The programmed decisions". The shooters going to the organization and from the organization, correspond to the influences going from environment and the first feedback is a communication channel which defines the first type of behavior. Key indicators of the organization are indicators of the organization which lead to change of a condition of the organization. It is possible to carry a profit level, a stock price to key indicators of the organization in stock market, growth rates or falling of sales, etc. However, key indicators of the modern organizations, unlike live organisms aren't presented in the form of the dial with two limit marks, but only one mark in the form of target indicators. Thus, essential variables at organisms have physiological borders and at the organizations key indicators are defined at best in the form of digital indicators, i.e. in the form of one mark, but not in the form of two limit marks. It turns out that for development of the second type of behavior, the organizations need to present key indicators in the form of two limit marks. For example, profitability of the company in the next years should be ranging from 20% to 30%. In this case there is the bottom limit not less than 20% and top a limit – to 30%. But it isn't enough of it, it is necessary to connect deviations of key indicators from limit marks with

managers of the organization. For this purpose it is necessary to connect with key indicators in the form of the programmed decisions. The concept "the programmed decisions" is introduced in management by the Nobel winner Herbert Simon for the first time. G. Simon used the term programmed for the description of decisions in a high measure of the structured. The programmed decision is result of realization of a certain sequence of steps or the actions similar to that are undertaken at the solution of the mathematical equation [16]. As a rule, the programmed decisions are realized in an automatic mode.

In relation to our case, the Board of directors defined for the director of the company key indicators in the form of two limit marks. The director, relying on the competence and environment factors, so carries out process company management that on the one hand the company sought to achieve the company objectives, with another - key indicators didn't leave the limit marks. If though one key indicator went beyond marks, the decision is accepted automatically, the director passes, for example, into the status of the acting as (deputy) directors. The board of directors establishes a period during which the acting director has to return a key indicator to a desirable state. If in established periods, the acting director couldn't achieve a desirable state, he (she) leave a post of the director and if it was succeeded to return, in an automatic mode again passes into the status of the director, without prefix of the deputy. In turn, the director of the company defines key indicators in the form of two limit marks for the managers.

Work of managers in the organization can be divided

into two groups. The first group of tasks – on the channel of the first feedback managers have to react in due time to factors of environment and carry out changes in the organization, thereby to correct behavior of the organization. The modern organizations (as commercial so and not commercial) have only the one first feedback with environment. The first feedback helps the organizations to adapt for environment. The second feedback passes through key indicators of the organization. The second group of tasks – managers of the organization have to provide that key indicators of the organization were in limits set marks. And if they left these limits under the influence of environment, to return them to the set limits due to various administrative actions. Process of adaptation of the organizations to changes in environment happens as follows. Managers, relying on the competence and being guided by information from environment, on the one hand try to reach goals, with another – try to return key indicators of the organization to appropriate borders influencing environment by various administrative actions (cut and try method). Thus, if key indicators of the organization are removed for the established borders, managers by various administrative actions try to return key indicators of the organization to the established borders. Thereby, key indicators of the organization influence behavior of managers, i.e. what behavior will be developed at the organization. And, if test didn't achieve the objectives (key indicators are removed out of these limits), the behavior has to be changed when the objectives are achieved (key indicators of the organization are in the limits), the form of behavior has to be fixed. In other words, managers have to act with a cut and try method. Thus, the organizations capable to adaptation must have an exit in environment and two chains of feedback. The first feedback (Figure 1) is based on competence of managers, their strategic vision, ability to find new opportunities in environment for development etc., giving the organization information on changes in environment. The second feedback (Figure 2) passes through key indicators of the organization, for example, through such, as a profit level, degree of satisfaction of consumers, quantity of innovations, etc. It bears information only about, whether there are key indicators of the organization normal limits and in case of an exit influences behavior of managers.

We will present the definition of management concept - "management is team of managers and specially created governing body which helps managers with achievement of the objectives of the organizations in the current management and in interaction improvement with environment". This definition doesn't apply as the only or best option, but this definition shows importance of a role of managers and interaction process with environment and that without creation of special body for the aid to managers is difficult to operate the modern organizations.

4 Results

We will present, for an example, the company which is carrying out the activity in tourist branch presented on Figure 2 where is introduced the mechanism of second feedback. Shareholders are elect Board of directors, in their turn, Board of directors establishes key indicators and

approves their maximum deviations for the general director. As a key indicator, for example, we will take rate of return which should be ranging from 10 to 15 million dollars a year. Apparently from Figure 2, limit indicators have two scales, the first scale has narrower range, this desirable condition of a key indicator, for example, as temperatures for the person from 36,2°C to 37°C. The second scale has wider limits, these are admissible limits of a key indicator as temperature of the person can fluctuate from 26°C to 40°C, and this indicator can fluctuate, for example, ranging from 5 to 15 million dollars. Task of the Director general is to seek to achieve the objectives of the company and whenever possible not allow that the key indicator left a desirable state but if it after all, under the influence of external factors left out of these limits, (her) his task is to return this indicator to a desirable state. As soon as the key indicator left a desirable state, for example, the profit was got of 8 million dollars, this information in an automatic mode arrives in Board of directors which after discussions with the general director makes the decision on that, what time is need to provide to the general director that he (she) managed to return a key indicator to a desirable state. It is possible to accept such rule that during this period the general director passes into the status of the acting as (acting) general director in an automatic mode, without decision of Board of directors. This rule is important that information on fall of the status of the general director can affect behavior of all staff of the company, including managers of the company. This information depending on style and personal qualities of the general director will rally the staff of the company or will cause split in the company. In turn, status change the deputy will strongly affect and behavior of the general director. The general director can show leadership skills and rally the staff of the company or on the contrary, not the capable will be adequately react to the new status. If in time determined by Board of directors the general director isn't able to return a key indicator to the set limits, it (she) leaves from a post of the general director, but it doesn't mean that he has to leave the company. The general director can pass to other position or be a part of directors. Here, it is important to understand that nobody calls into question competence of the General director, it is a question that his administrative actions on return of a key indicator to a desirable state didn't lead to the necessary results. Probably, other style of leadership and other administrative decisions which the new general director will be able to show is for this purpose necessary. For the new general director the key indicators and their borders are established.

In turn, the general director establishes key indicators for the five subordinates: technical director, 1st deputy, marketing director, director of development of a network and chief accountant. And they for their direct subordinates are chiefs of departments. Apparently from Figure 2 key indicators are established only for managers (who has subordinates). Let's say at the director of development of a network of offices the key indicator left a desirable state, it (it) automatically passes into the status of the acting director. The general director defines the period of time during which the acting director of development of a network of offices will be able to return a key indicator to a desirable state. Here it is possible to observe such figure. To return key indicators to a desirable condition of the acting director of

development of a network of offices will seek to interact with other directors. Whether will be this interaction fruitful? Most likely, it is will, as activity of directors depends on activity of colleagues. If the acting director of development of a network of offices isn't able to return to established periods a key indicator in a desirable state, this result can be

reflected in key indicators of other directors.

Thus, at least, after several cases when key indicators leave a desirable state, managers realize importance of interaction and will seek to work as team.

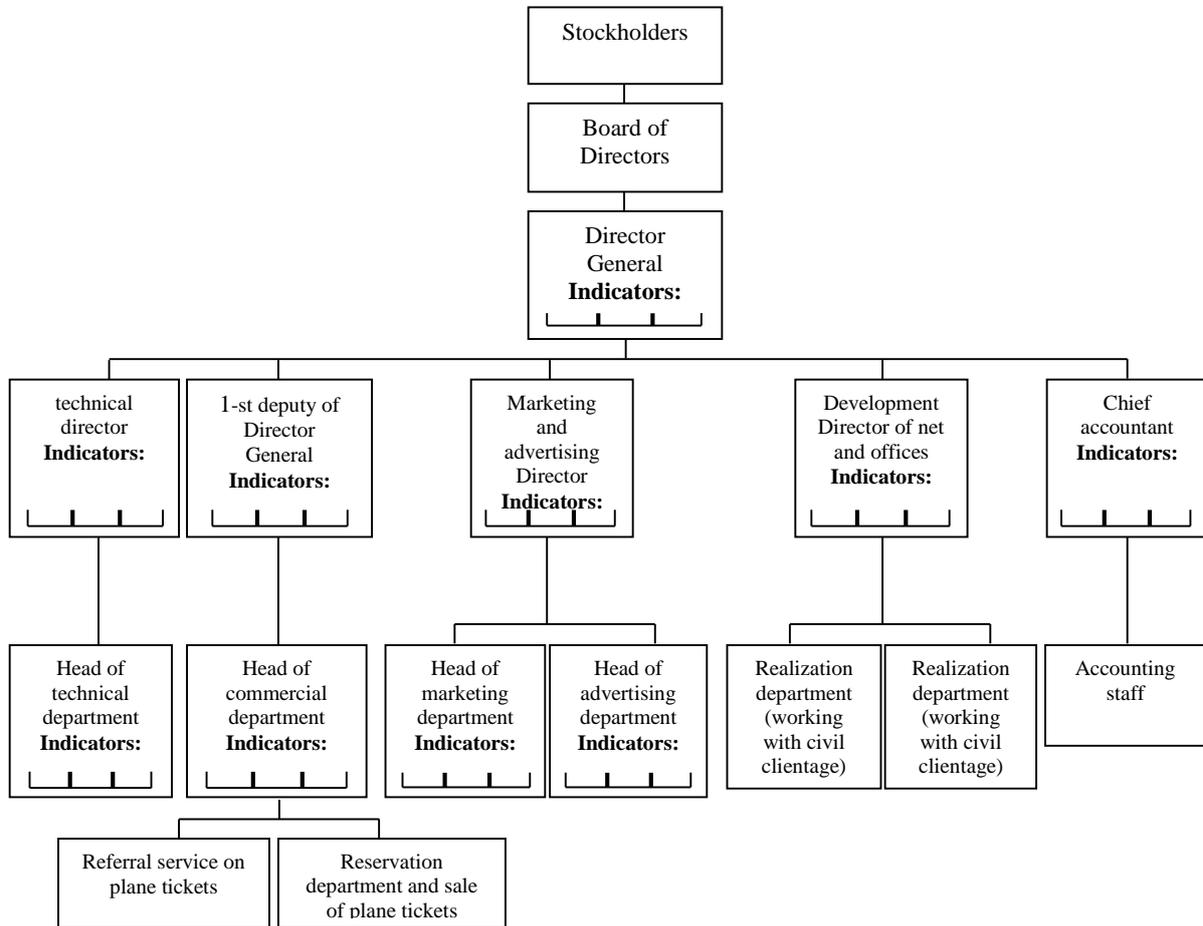


FIGURE 2 Structure tourist company

How many key indicators for each manager should be? It is difficult to give a definite answer on this question. But if to be guided by the concept of the balanced system of indicators (BSI) offered by R. S. Kaplan and D. P. Norton, it is possible to recommend no more than 5 key indicators for each position of the manager [17]. Fundamental difference of key indicators by an offered methodic from the methodic of the BSI offered by R. S. Kaplan and D. P. Norton is that in the BSI methodic indicators are defined proceeding from strategic objectives of the company, and key indicators are determined by this methodic from the real and last experience of the company. Let's say, all managers presented in Figure 2 have five key indicators then it will turn out that there are 50 key indicators in this company which have an exit in environment, and through them managers accept signals and react to these signals. The system of the programmed decisions allows pass to these signals across organization and to influence behavior of managers of different levels of the organization, stimulating them to active actions. Managers are compelled to react to these signals as on their actions depends whether they will

remain at the positions or not. As it was earlier specified, those managers who after unsuccessful attempt could not return key indicators to desirable states don't leave the organization, moreover, after a small break, for example from 6 months to one year, can return to the same position. According to a proverb "Experience is worth it", the manager who has come back to the position who was compelled to leave 6 months or a year ago will have higher motivation and competence than at the first occupation of this position. In fact, it will be natural rotation of managers both horizontal, and the vertical line.

The main result of introduction of this mechanism will be that after each deviation from desirable level and return to a desirable state, the organization becomes stronger. Managers pay attention of information more, to a thicket discuss among themselves and employees of a problem, react to changes better and the main thing, study at each other and on the experience. "There is an effective cycle of training and understanding" according to Ardzhiris and Sean [14].

The most difficult part of this mechanism consists in a

choice of key indicators and in establishment of limit marks. The choice of key indicators depends on a kind of activity and this mechanism is applicable as to business firms so and the noncommercial companies. For example, as key indicators for local municipality there can be an assessment of activity of the head of municipality inhabitants of this district. As a starting point, by the analysis and research, it is possible to establish limit marks following the results of estimates for last years and if they aren't present, to conduct selective survey and to establish limit marks, relying on results of poll. Also, as key indicators it is possible to use a rating of heads of municipalities among themselves one territorial district. That head who will receive the lowest rating among other five or six municipalities, that and will have to pass into the status of the acting head of municipality. After a year by results of the following rating, try to leave a zone with the lowest rating. For business firms it is easier to reveal such key indicators but for definition of their limit marks it will be necessary to conduct researches to be convinced of their objectivity and relevance. Here, it is required to apply instruments of scientific approach. In fact, to some extent, we come back to management sources, to the theory of scientific approach of F. Taylor, but not at the level of working professions, and at the level of managers. Difference in that F. Taylor determined performance standards by a scientific way for workers and in this case needs to be defined key indicators and their admissible limits for managers.

Now we will try to compare the offered model of the second feedback to examples from practice. Relating to director generals of large joint stock companies, problems arise when they employ for the solution of one task, but passes not enough time, for example, year, and they should solve other problems for which decision they can be not ready. According to the consultant David Nedler, for long-term success the director general needs to consider the work as representation in several actions. "In each action he has to direct, think and behave absolutely differently. Those who is capable to switch over [18] achieve success" By way of illustration Nedler gives Carly Fiorina's example, who worked five and half years as the director general of Hewlett-Packard. Fiorina's problems began when ended the first action and there was a new task – implementation of the program. Here was necessary the director general - "hard worker", instead of the person, liking to be in the high light. "Sadly, she continued keep this up and the leadership model which brought success in the first action killed her in the second". To find the general director – Jack of all trades it is unreal sometimes and in such cases Nedler recommends to think of the general director "for one action of the play", employed on the basis of the contract with possibility of extension. Apparently from a concrete example, it is difficult to find the top managers capable quickly to switch over for the solution of other task. By means of the adaptive behavior mechanism offered above, it is possible to avoid similar problems as change of top managers happens not only according to the decision of Board of directors, but also under the influence of external factors in an automatic mode. In these conditions the general director "for one action of the play" can be norm. At appointment of managers in the organization where the mechanism of the second feedback is introduced, the conditions connected with key indicators

and programmed decisions should be in advance contractual.

Conclusions

Scientific development from the theory of management allows expand regulation volume with environment which is carried out by managers through the first communication channel. But much as extends the first communication channel, in particular due to scientific development in the management theory, it eventually moves to the limit. The organizations having only one communication channel with environment realizing in practice the first type of behavior, can count only on this limit.

The second type of adaptive behavior is not congenital, but acquired by the organization, by a learning way, i.e. at the time of creation of the organization of this communication channel with environment doesn't exist. Adaptation of the organizations to environment can happen at the expense of the first and second type of behavior. Those organizations which will be able to adapt for environment at the expense of two types of behavior, will be able to have essential competitive advantage in comparison with those organizations which adapts only at the expense of the first type of behavior. This advantage will be expressed in speed and as adaptation to changes in environment. According to the author of article, all existing organizations adapt at the expense of the first type of behavior.

In large joint stock companies more often there are problems when the director general of the company elected by board of directors doesn't cope with new tasks and it needs to be replaced, and fast change of general directors isn't norm. The offered mechanism of rotation of top managers provides cases when the general director having carried out an objective leaves a post without serious consequences, and another comes to his place. Moreover, this mechanism allows the former general director to return on the post.

Afterword

The organizations capable to adaptation should have an exit in environment and two chains of feedback. The first feedback gives the ability to receive information on changes in environment amount of information which is received by the organizations from environment depends on competence of managers, their activity, strategic vision, ability to find new opportunities in environment for organization development. The first feedback as the communication channel with environment is extremely important for the organizations as via this channel of the organization receive all information from environment. Problem in that the regulation volume which managers of the company can carry out through the first feedback as the information channel has the limit more than this limit the volume of regulation is impossible. The organizations created in the developed countries, differ from the organizations created in the countries with undeveloped market economy, just different level of regulation which is carried out by managers of the organization. To reach level of the developed countries, managers of the organizations in the countries with undeveloped market economy may expend

from 30 to 50 years. The second feedback passes through key indicators of the organization, for example, through such, as degree of satisfaction of consumers, a profit level, a market share, quantity of innovative products, etc. It bears information only about, whether the key indicators outstep the normal limits of organization and in case of an exit influences behavior of managers.

The second feedback allows to increase regulation volume with environment through a new communication channel. To introduce the mechanism with the second feedback in the organization, it is necessary to connect deviations of key indicators from limit marks with managers of the organization through system of the programmed decisions. The new communication channel passes through key indicators of the organization. According to the mechanism with the second feedback, managers of the organization have to provide that key indicators of the organization were in limits of set marks and if they left these limits under the influence of environment, return them to the

set limits due to various administrative actions.

If to assume that all managers of company have on five key indicators, then it will turn out that in this company from 20 to 70 key indicators depending on the organization size. It means that these organizations have from 20 to 70 exits in environment through which managers accept signals and react to these signals. The system of the programmed decisions allows to pass to these signals through all organization and to influence managers stimulating them to active actions. Managers are compelled to act as on their activity depends, will they stay at the positions or not. Thus, the second communication channel supplements the first, thereby the total amount of regulation significantly increases.

If the organizations created in the countries with undeveloped market economy, manage to introduce the mechanism of the second feedback as additional system of management, then will be able quicker to reach level of the developed countries.

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