



Introduction of Lean Production at Russian Enterprises: Perspectives and Problems

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ABSTRACT

In the article the problems of introduction of the lean at Russian enterprises are studied and the main reasons for these problems are defined. At the same time an attempt of the analysis of the concept of lean production from the point of view of management is made. A number of distinctive features of the lean as a concept of management is considered. The authors consider that in the Russian management the applied principles and approaches are poorly compatible to the lean philosophy which is the main obstacle for introduction of this concept. Various points of view on the reasons of problem of the lean technology introduction, the influence of the culture of management at the enterprise upon the efficiency of lean introduction are studied. The lean introduction methodology considering the features of the Russian management and the business environment is offered. It is defined that the concept of lean has to become an organic part of the general system of management of enterprises; at the same time the principles, tools and methods of the lean differently show up at each level of management. The audit necessity and sequence of all the elements of production and management system of the enterprise regarding their compliance to the lean philosophy is proved.

Keywords: Economical Production, Lean Production, Management, Problems, Principles, Tools and Methods, Corporate Culture

JEL Classifications: D29, M11, M14

1. INTRODUCTION

The concept of "lean production" (hereinafter referred to as the lean) called "economical production" represents the western interpretation of special system of the organization of production developed by the Japanese automobile firm Toyota and known as the Toyota production system (TPS). The scale of introduction of economical production in the practice of foreign and Russian enterprises proves the value of this concept recognized all over the world. For example, about 90% of the companies in Japan use the elements of TPS, the elements of the lean are used by 50-60% of the companies in the USA and the EU (Feygenson et al., 2012). Russia lags behind the leading countries of the world in the sphere of introduction of economical production so far. The research of 2012 conducted by CSD fund "North-West" within the project of "Development of Complex Forecast of

Technological Development of Industry and Allied Industries for a Long-term Outlook and Recommendations about Development and Application of Perspective Technologies in Industries" showed that 36% of the Russian companies have already introduced the concept of economical production, 39% haven't introduced yet but plan to do it in the near future. It should be noted that the similar research of development of the concept of "economical production" was conducted in 2012 by the English magazine The Manufacturer which interviewed 212 companies from 18 branches. It was established that 70% of the enterprises have the program of economical production, 11% do not have. The rest 19% of the companies plan to start this program within the following 12 months (Feygenson et al., 2012).

The most known companies in Russia which use the production system on the basis of the lean concept are GAZ Group, Sberbank,

Irkut, Rosatom, KAMAZ, RUSAL, EvrazHolding, EuroChem, VSMPO-AVISMA, KUMZ, Sollers. At present in a number of regions of Russia the introduction of economical production is considered to be one of the main directions increasing the enterprise competitiveness. Thus, in 2012, in Tatarstan the Russia's first long-term target program for economical production was adopted. The program is called "Implementation of 'Economical Production' Technique in the Republic of Tatarstan for 2012-2013." The program is aimed at the labor productivity growth, increase in level of profitability of the enterprises, vocational training of staff in economical production for various branches of economy of the republic (The resolution of the Cabinet of Ministers of the RT No. 85 of 06.02.2012). And earlier, in 2010, the concept of the target program "Implementation of the Economical Production Project in the Republic of Tatarstan for 2011-2013" was accepted (The resolution of the Cabinet of Ministers of the RT No. 898 of 12.11.2010). The State program of RT "Economic Development and Innovative Economy of the Republic of Tatarstan for 2014-2020" notes that for ensuring sustainable progressive development of the industry of the Republic of Tatarstan the actions dealing with introduction of the principles of "economical production" are very relevant (The State Program of the Republic of Tatarstan "Economic Development and Innovative Economy of the Republic of Tatarstan for 2014-2020," 2016). According to the results of the monitoring, it is established that for the moment of 30.12.2013 the introduction of "economical production" technologies in the RT is carried out at 162 enterprises and organizations of mechanical engineering, chemistry, petrochemistry, energy, light industry, agriculture, transport and health care. The economic effect gained by these enterprises from the implementation of the economical production project is more than 6 500 billion rubles (The Introduction of Economical Production in the RT in 2013, 2013). Thus, it is possible to summarize that the development of the lean concept is gaining popularity in Russia, and some regions consider the introduction of the principles of economical production as one of the most important directions of ensuring competitiveness of an enterprise.

The term "lean production" was offered by Krafcik. At first it appeared in the interim report of the global research of the world automobile market (Krafcik, 1988), and then and in the press (Krafcik, 1988). In 1985 the leading automobile companies of America created a fund and organized a research project within International Motor Vehicle Program (IMVP) of the Massachusetts Institute of Technology. The project was headed by Womack, Jones and Roos. The research lasted for five years and consumed several million dollars. The purpose of the project was to analyze the best international experience in the field of automotive industry. The results of the project were published in the book (Womack et al., 1990), and became a real bestseller. The researchers paid the keen attention to the experience of the Japanese company Toyota, which at that time pressed the producers of cars of the so-called "Big Three." The authors of the report found out that in case of TPS it is not simply a change of the dominating style of production organization, it is an absolutely different culture of organization, style of management and thinking of both top managers and low rank managers. It is not by chance that Jones and Womack who were the leaders of the research project IMVP

used the term "lean thinking," i.e., "economic thinking" for the name of their book. According to the analysis provided in the book (Womack and Jones, 2003) the transition to the new type of production requires changing at least two things which are actually very difficult to be changed: Management and mentality. According to Adler and Shper, the authors of the preface to the Russian edition of the book "Economical Production: How to Escape Losses and Achieve Prosperity of Your Company," the ideas and methods of economical production could play a crucial role in transformation of the Russian industry and achieving the level of the modern developed countries. To carry out the transition from mass production to economical one it is necessary to change the culture of business management, the system of relationship between various levels and divisions of the enterprise, the system of values of employees and their relationship. Unfortunately, sometimes it is more difficult to do this than to find money for purchasing a "piece of iron" (Adler and Shper, 2014). Therefore the Russian companies, despite the high interest in this concept, still have serious problems with the development of lean philosophy and methods. And, therefore, studying of problems of introduction of economical production technology at Russian enterprises and the developments of lean technique introduction considering the features of the Russian management and business environment is sharply urgent.

2. MATERIALS AND METHODS

It is known that there are three levels of management - strategic, functional and operational, each having a set of management. The authors offer the scheme presenting the distribution of various tools and principles of the lean taking into account the level of management. The scheme shows that the largest amount of tools and principles belong to the operational level of management.

It should be noted that from the position of management the lean tends to the maximum formalization of administrative decisions adoption. As a rule, on local, operational level of management the adoption of administrative decisions often means a choice of one out of several options. In this case formalization will certainly give a positive effect. One more advantage of rigid formalization is decrease of a subjective factor influence. It is significant when it is necessary to provide the exact performance of the task.

Taking the uncertainty level as a classification sign, the decisions made at the local level of management are called "execution decisions" which are regulated by internal normative documents (executive standards) (Hahn, 1997), "routine" or "selective" decisions when the task of the manager comes down either to identification of a situation and initiation of actions, or to assessment of possible solutions and the choice of an optimal variant from the available alternatives (Woodcock and Francis, 1991). Having the developed and successfully working lean system, the main objective of the manager of the local level comes down, as a rule, to realization of the elementary model (the main procedure) of control - the comparison of the obtained results with the desirable (planned) ones (Mullakhmetov, 2015). "Execution" or "routine" and "selective" decisions are implemented on the earlier developed and tested algorithm. If the algorithm (executive

standard) is implemented properly and the environment of functioning and development didn't undergo essential changes on the key factors influencing the organization, the management can expect the obtaining of the planned result. At essential deviations managers have to initiate adaptation of standards to new conditions that, in its turn, demands the control of standards implementation and system monitoring of external and internal environment of the organization (Mullakhmetov, 2016).

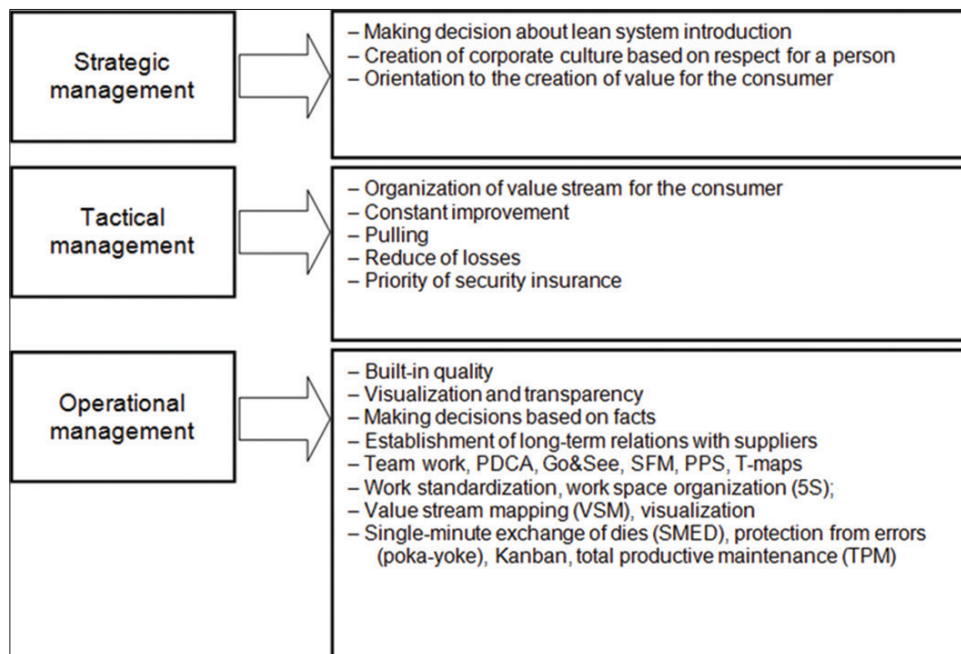
Directly at the stage of goal-setting the rigid formalization is not so important. The higher is the level of management, the higher is the uncertainty level at adoption of administrative decisions. Company management on higher level, in particular on the highest corporate level, requires considering a large number of the variables concerning both to internal and external environment of the company. In this case the intuition and experience of the manager are more valuable than any formal tool. It means that at the top level of management, in particular in conditions of quickly changing environment, the lean has to be applied not in the form of some tools and methods, but in the form of the principles and concepts based on the lean philosophy. Therefore the authors assume that there is a various priority of the main functions of management depending on penetration of the lean on each level of management. For example, when the lean is introduced into the operational level of management the organization and control are of great significance, the introduction of the lean into the tactical level makes planning come to the forefront, on the strategic level - motivation and coordination are of prime importance. It doesn't mean that at various levels of management when the concept of lean is applied the other basic functions of management won't be implemented. For example, control has to be carried out at all levels of management and at each level objects and content of function of control will be different. The authors determined those functions of management which are of particular importance when the concept, principles, tools and methods of the lean are introduced on appropriate level of management.

The offered scheme (Figure 1) allows to draw one more conclusion concerning the roles of levels of management. The highest level initiates and determines success of introduction of the lean system, the average and highest levels play a major role in the development of system, and the local level, in its turn, provides its effective functioning, i.e. supports the system. The leading roles of management levels in the lean system look as follows: The highest level of management - introduction, the average - development, and the local - providing functioning of the system.

The introduction of the lean assumes a support upon a certain corporate culture. The authors consider that characteristic features of the corporate culture of companies are determined mostly by the external environment of the organization. The Japanese as well as western management were formed in the environment that differs a lot from the environment of the Russian business functioning. It is necessary to consider that the Russian enterprises are forced to develop in conditions of kleptocracy and distortion of competition. The latter has the following signs: Distortion of competitive fight, distortion of

structure and conditions of the market, competition distortion as a driving force of economic development (Sadriev and Gali, 2014). In the work (Sadriev and Mullakhmetov, 2015) the following characteristic features of the business environment of the domestic companies rendering considerable influence on their activity marked out. These are transformation of structure of the economy, low level of competition, specific nature of competitive fight, influence of administrative resource. The specificity of the Russian business environment in many respects also determines the culture of management created at the domestic enterprises. The authors consider that introduction of the lean at the Russian enterprises requires considering the following order: The external environment → the corporate culture of the company → the concept of lean. Also we should take into consideration that various tools and principles of the lean are parted on three levels of management, with each level having a set of management tasks and various priority of the main functions of management depending on penetration of the lean on each of levels of management (Figure 1). Thus, when introducing economical production at the enterprise it is necessary to determine how much the corporate culture of the company is correlated with the basic lean principles. It is necessary to analyze such elements of corporate culture as the style of management prevailing at the organization - the ways of decision-making and motivation; the values and norms accepted and shared by all workers; the principles and ways of power division; the unity and coherence of the employees of the company; the labor atmosphere. Then it is necessary to define the extent of penetration of the concept and the principles of lean in the system of management of the company; what problems will be solved at the same time at each level of management. Here it should be noted that the following national standards are developed and accepted in this field: GOST P 56404-2015 economical production. Requirements to systems of management - GOST P 56405-2015 economical production. The process of certification of systems of management of economical production. Assessment procedure - GOST P 56406-2015 economical production. Audit - Questions for assessment of system of management. The authors consider that if the management of the company professes the administrative methods of management which are based on the power, strict submission to the higher official and sanctions/punishments, then the lean project will be limited to the introduction of separate tools and methods mainly at the operational level of management. If the company doesn't provide the democratization of management and orientation to the human capital, refusal of violence, reduction of the distance of power, transition to leadership, then the introduction of the lean will be more like a formal project with formal purposes and formal results, focused, first of all, on external manifestations and creation of visibility of work.

Besides the style of management, another limiting factor at the Russian enterprises is the organizations of production and fixed assets inadequate to modern requirements. They are incapable to provide a continuous stream in one product, the balanced production according to the precisely in time principle, flexibility, uniform distribution of loading in all processes, the required level of quality and competitiveness of production. Therefore before introduction of the project on economical production it is also

Figure 1: Principals, tools, methods of lean at different levels of management

necessary to make sure that the technical and production base, the quality system of the enterprise are capable to provide realization of the lean principles and approaches.

Marketing and logistics of the enterprise have to become the following subjects of the analysis - in what measure they can promote achievement of such principles and methods of the lean as orientation to buyers, precisely in time and pulling. Therefore, at introduction of economical production it is necessary to consistently analyze the order: Strategic marketing (planning, collection of information about the market and the analysis of “the consumer’s voice”) → design and technological design → purchasing logistics → quality system → production → marketing logistics → marketing (promotion and sales, service, CRM, feedback with the consumer).

The authors consider that from the point of view of management, at the local, operational level the lean first of all means the establishment of the order, of accurate rules and norms, and also the control over their execution. At average, tactical level - it is first of all the organization of a stream of creation of value for the consumer, pulling, reduction of losses, continuous improvement. At the level of the highest management of the company the lean first of all means the humanistic principles, refusal of violence and transition to leadership. At the same time the construction of human relations in the company on the basis of trust and humanistic principles is primary. At the initial stage of introduction of the lean at the Russian enterprises when the development of basic tools and some principles of the lean production is taking place, the main emphasis must be done on a rigid control and external motivation, and after that, in the process of penetration of the lean principles and philosophy on the highest levels of management, rigid forms of control should be replaced by some soft forms based on corporate culture and internal motivation of employees.

3. RESULTS

The authors analyzed the problems connected with the introduction of economical production at the Russian enterprises, described in the works (Kondratyev and Milovanov, 2014; Kononova and Boltrukevich, 2008; Krasnova, 2015; Practice of Economical Production, Features of Lean Projects in Russia, 2009; Feygenon et al., 2012), and also the main reasons for inefficiency of the Russian enterprises relating to the management of quality of production and services and low productivity as a result. The analyzed problems were grouped according to the source of their emergence. Two main groups have been determined: The problems connected with management at the enterprise and the problems connected with understanding of technologies of economical production. The results of the analysis are presented in Table 1.

As for the problems connected with understanding of technologies of economical production, many of them are being successfully solved now. It is facilitated by the development and approval of national standards relating to economical production, the target programs for economical production being implemented in some regions of Russia. But, as it was mentioned above, for the transition to a new type of production at the enterprises the change of two things - management and mentality - are of great priority. The analysis showed that the most vital issues of introduction of economical production at the Russian enterprises are connected with this priority. The low level of management of the Russian companies is proved by the fact that according to IMD World Competitiveness Yearbook and Institute of Management Development (Lausanne, Switzerland), in 2016 Russia took the 52nd place out of 61 countries by efficiency of its business (IMD World Competitiveness Yearbook, 2016).

Thus, it is possible to draw a conclusion that actually the main problems of introduction of economical production and other

Table 1: Problems of lean introduction at Russian enterprises

Problem		Problem display in practice
Problem elements	Problem source	
1	2	3
Social element of the lean system	Staff	
	Engineers and workers	Unwillingness of the staff to study and apply the lean elements; Low level of executive discipline; Low level of morals of the majority of workers and cynicism; Resistance to changes; Misunderstanding by workers of the process of production; Lack of interest in improvements among workers and engineers of the middle level; Creation by employees of visibility of work without achievement and tracking of the actual lean results;
	Managers	Loss of sense of justice and belief. A gap in mutual understanding between administration, employees and workers; Lack of knowledge and experience in management in market conditions; Misunderstanding of an essence of competition and a role of quality in competitive fight; Misunderstanding of a role of information and information technologies; Misunderstanding of a role of education and quality of staff training.
	Characteristics of management system	
	Fulfillment of basic management functions and tasks	Lack of effective mechanisms of promotion and selection of top managers; Structure of the industrial enterprises inadequate to market mechanisms; Lack of control from the side of owners; Undeveloped marketing, weak communication with the external environment; Long terms of development of new production;
	Management style	Domination of external motivation of the staff; Lack of due consideration to a human factor; Authoritative style of management (compulsion, suppression); Pagan mentality (idols, enemies, isolation and closeness, hostility to dissent, inconsistency and unsystematic character); Hyper hierarchy, concentration of powers on the top floors of management.
Technological element of the lean system	Knowledge about economical production technology	Wrong understanding of the whole concept of lean which is not just a set of tools on reduction of expenses of production, but is a global approach on business management; Lack of deep understanding of methodology by the experts carrying out lean-transformations, their orientation, first of all, to external manifestations; Lack of adaptation of methodology in compliance with the features of the organization, the use of the most well-known techniques for all cases of life; Misunderstanding of the concept of lean by ordinary staff and linear managers; Lack of necessary knowledge and skills at heads and staff, interrelations of lean with other techniques; Lack of understanding of passing the obligatory stages of introduction, Lack of systematization of the lean tools.
	Mistakes at the lean introduction at enterprises	Lack of 100% involvement of the company management in studying and introduction of the lean; Misunderstanding of importance of a role of the company management in introduction of the lean system at all stages; The introduction starts not from the basics, i.e., orientation not to the solution of the prime causes of losses, but to introduction of a separate tool of the lean; The necessity to change corporate culture isn't considered; Implementation of changes without adaptive control and actions based on feedback; Introduction of changes without the organization of broad support from the side of concerned persons; Lack of system approach in transformations of the organization, use of the lean as a set of tools for the operational level; Introduction of the formal project with the formal purposes and formal results.

modern principles of management are connected with weakness of the Russian management and its discrepancy to the modern principles of management. For example, there are two ways to make the staff perform the required tasks: To convince (to activate internal motivation) and to force (to activate external motivation). The requirement of the present moment is the humanistic type of management relying on the internal motivation directed to the synergy of employees' abilities. In Russia the vertically integrated command control system defines mainly autocratic style of management within which only the external motivation is possible. The first approach is more labor-consuming and demands a certain skill level from the manager. But at the same time the exclusive support of management on external motivation leads to significant growth in transaction expenses. In particular, such approach results in the post-contract opportunistic behavior known as subjective risk. In its turn, it means that the economic agent maximizes its own usefulness to the detriment of interests of others, without feeling in full the adverse effects of its actions. Within labor contracts the subjective risk means shirking, i.e. work with less return than it is established under the contract. The most obvious way of solution of the subjective risk problem is strengthening of control of the worker's activity and adequate administrative influences at deviations. However it is connected with expenses which can exceed benefits from suppression of shirking. Besides, there is a problem of "control of controllers" (Auzan, 2011), the economic principle of the organization of control activity is broken (Mullakhmetov, 2011).

Thus, it is possible to summarize that the majority of problems connected with introduction of the concept of economical production at the Russian enterprises are defined by practice of domestic management, its discrepancy to modern requirements of management, lack of integrity of management system at the Russian enterprises, inability of management to adequately apprehend and introduce the basic principles of the lean in the control system. Speaking about the principle, methods and instruments of economical production, we proceed first of all from epy state standards (GOST P 56020-2014 Economical Production. Basic Provisions and Dictionary [Intr. 2015-03-01], 2015; GOST P 56407-2015 Economical Production. Main Methods and Tools [Intr. 2015-06-02, 2015]). Also it should be noted that the founder of TPS Ono marks out three main principles on the basis of which TPS is constructed: To make only what is necessary and when it is necessary; in case of any mistake it is necessary at once to find and eliminate the reason of it and not to allow its emergence in future; all employees have to improve constantly the quality of production and processes (Ono, 2005). Jones and Womack note that the essence of economical production can be stated in the form of five principles: To determine the value of a product, to define a stream of creation of value for this product, to provide a continuous current of a stream of the product value creation, to allow the consumer to pull the product, to strive for perfection (Womack and Jones, 2014).

As Gafarov, Balova and Zimina note, the Russian enterprises pay more attention to creation of instruments of economical production, whereas foreign organizations - to formation of the lean ideology, corporate culture of management (Gafarov et al.,

2015). Thus, it is possible to draw a conclusion that at the Russian enterprises the most difficult thing is the introduction of the lean principles corresponding to the highest level of management and defining the lean philosophy - orientation to the human capital, refusal of violence, leadership. This, in its turn, leads to the fact that in practice many organizations, introducing economical production, don't use all the opportunities, and therefore, according to some estimates, they gain only 20-30% from the possible potential (economical production, approaches to introduction). In many respects it is connected with the fact that in the Russian management the principles and approaches poorly compatible to the lean philosophy prevail.

4. DISCUSSION

In many the internet sources there are mentions of seven classical reasons which prevent from achieving a steady result at introduction of lean projects (practice of economical production, peculiarities of lean projects in Russia). In practice the Russian lean projects often face the "national" specifics little known outside Russia. Four main reasons for serious difficulties in realization of lean projects at the earliest stage in the Russian practice have been determined (practice of economical production, peculiarities of lean projects in Russia).

As most of the heads of enterprises note, the main barrier to introduction of the lean is the unwillingness of the staff, first of all workers involved in production, to study and apply the lean elements. The problem of the staff motivation is solved, as a rule, by the methods which remained since the USSR. However, it is much worse when the management of the company isn't involved for 100% and is ready to study and introduce the lean only by words. This problem can be noticed in weak organizational and financial support of initiatives aimed at production improvement, in long and inefficient decision-making process, in expecting fast results without serious efforts which suppose just ostentatious external order like repainting the equipment. Another problem is wrong understanding of the concept of lean which doesn't mean just a set of tools to reduce expenses of production, but is a global approach to the business management aimed at decreasing unnecessary losses and improving quality. The reason of it can be an insufficient information base with wrong interpretation, the original of which can be available only from the foreign authors describing the experience in economy of their own country. So very often, especially in big industrial complexes the management doesn't take risk to initiate global changes and prefer to implement just a few solutions of the lean (Feygenson et al., 2012).

In the spring of 2012 the fund of CSD "North-West" carried out the poll of 129 production and technological companies within the project of "Development of Complex Forecast of Technological Development of Industry and Allied Industries for a Long-term Outlook and Recommendations about Development and Application of Perspective Technologies in Industries." The results of the research showed that at the Russian enterprises the main problem at introduction of the concept of economical production is weak motivation of the staff (46% of respondents). In particular, the respondents underlined: "Low level of executive discipline,"

“insufficient means for motivation,” “misunderstanding by workers of production process,” “low rates of training and involvement of workers, unwillingness to change,” “weakness of motivational system,” “lack of the system of motivation,” “resistance to changes,” “lack of interest in improvements among workers and the average level engineers,” etc. (Feygenson et al., 2012).

In the lean summit that took place in Gelendzhik in April, 2015, Nobuyuki Tamaru, the Senior Consultant of Japan Association Consultants and a member of the Japanese Association of consultants for management, noted that the central substantial problem is that in Russia “economical” production is used mostly as a tool for increasing efficiency of business. From two equal parts of the lean system - social (people) and technological (processes) - the latter is used. It limits the development of “thrill” as the motivation of people to changes is quickly exhausted, and, having skimmed off the efficiency cream during the first lean projects, the following question arises: What is the next point to grow to? In the lean-summit Oleg Vikhansky, the Dean of the Higher School of Business of MSU, noticed that the purpose of “economical” production is the development of people and their attitude to quality of production and work, and the inevitable result of it is economic efficiency. He was supported by Tosio Horikiri, the president of Toyota Engineering Corporation, who talked about eight steps of staff’s understanding of lean approaches. They are motivation steps where the highest motives are caused by an opportunity to improve work and to train others in doing it. The British Expert Dave Snowden also adheres to the point of view that original efficiency is connected with humanitarian, or irrational in production, and it shouldn’t be confused with effectiveness, the result of rationalism (Krasnova, 2015).

Speaking about the introduction of “economical thinking” it is necessary to emphasize that Layker, the head and one of the creators of the Japan Technology Management Program and Lean Manufacturing and Product Development Programs, noted that once Toyota had difficulties to transfer the production culture possessing many typically Japanese elements, to other countries with absolutely different national culture. The western culture with its strong individualism, lack of prospective thinking and another approach to the cause and effect interrelations was of special difficulty for the TPS (Layker and Hoseus, 2016). Also Adler, professor of MISIS, the leading Russian expert in the field of quality management and methods of economical production, speaks about it. In the report “Transition to Economical Production” in the IX Russian Lean Forum “Time for Breakthrough Development of Economy” that took place in November, 2014, in Moscow, he noted that the ideology of economical production is connected with phenomenal achievements of management of the company Toyota. Copying of this approach by both western and Russian companies wasn’t fully productive. It is connected first of all with the fact that the environment in which the maximum effect was reached had not been reproduced. According to Adler, the basis of any successful business is made by correctly established human relationship. These relationships were thoroughly studied and described in details by Deming. The main feature of the Deming’s doctrine about management is humanistic principles, refusal of violence

and transition to leadership. Leadership is a fundamental condition of success. At first it is necessary to establish human relations in the company on the basis of trust and humanistic principles; then it is necessary to teach people how to use numbers correctly, and only after that to pass to economical production (Adler, 2016).

Particularly it is necessary to mention, that according to Kondratyev and Milovanov, the motivation is an integral part of control system of the company. The control system and the management style dominating in the company specify a possible type of motivation. The vertically integrated command system of management suppose the dominating style of management to be repressive, forcing, suppressing within which only the external motivation is possible. The effective production system requires the internal motivation directed to the synergy of employees’ abilities. The present time requires the humanistic type of management based on respect and trust resulting in joint activity of big groups of people and teams creating value in a production stream. And it is necessary to begin with the removing of demotivators out of the control system: These are disrespect and compulsion, stimulation indicators, unobvious for improvement of quality of production and processes (Kondratyev and Milovanov, 2014). According to L. Miller, the transition or reorientation of a production system towards the lean is connected with the change of people’s behavior and introduction of new tools of production system. Large and medium-sized companies, paying huge attention to tools, often don’t fully involve people in this transformation. People as if undergo “training” in such context, but subsequently don’t use the given tools as “their own” (Miller, 2011).

According to opinion of a number of authors, the lean is a type of thinking. And the tools of economical production don’t work without ideology. The matters of thinking and introduction of rationalization proposals are primary. It is necessary to create a corporate culture which would promote introduction of this system. The corporate culture, in its turn, is always based on behavior of the leader and his team. All actions follow from thoughts about which it is important to know. Therefore, the engine is the correct thinking, and then go cars - certain tools of the lean (Gafarova et al., 2015). Thus, introduction of the lean assumes a support upon a certain corporate culture of the company, so the culture of management corresponding to the lean principles is of paramount value.

In modern management the culture as an instrument of management significantly affects control system in general, and its main subsystems and elements. Here it should be noted that the concept of culture always preserves its standard sense. The culture is a set of guidelines, norms, rules of conduct and habits accepted in a society or organization. Starting to work in the organization, the person indirectly accepts both its culture in general and culture of management in particular. At the same time his behavior is regulated not only by the laws and internal normative documents of the organization obligatory for execution (“rigid regulation”) but also by the culture adopted in the organization which is perceived by the person either in essence or in a form (“soft regulation”). Thus, the state (behavior) desirable in the society (organization) is specified by moral ethical standards and public control and/or self-control (Mullakhmetov, 2012).

The culture initially acted as an integrating mechanism in the system of management. Being a subtle instrument of management, the culture of the organization either facilitates or interferes with effective achievement of the organization objectives. Applying a culture phenomenon to the organization, researchers often detect the following spheres of manifestation, forms of functioning, problems to be solved and purposes of the culture of the organization (Sheyn, 2002):

- Management of the internal integration that significantly influences the internal capacity of the organization;
- Reaction to factors of the external environment of the organization that in many respects defines its efficiency and competitiveness;
- Development, acceptance and implementation of administrative decisions;
- Distribution of the power (rights, authority) and responsibility;
- Ideas about general philosophical categories (time, space, the truth, the truth and a lie, the good and evil, etc.);
- Ideas about human nature, activity and communication.

There are different views on correlation of the categories “organizational culture” and “corporate culture.” For example, the authors of the book “Organizational Behavior” Shermerorn, Hunt

and Osborn don’t distinguish the terms “organizational culture” and “corporate culture.” “Organizational or corporate culture is a system of the general actions, values and beliefs which develop in the organization and by which members of the organization are guided in their behavior” (Shermerorn et al., 2004). At the same time they emphasize that in business such a system more often is called a corporate culture. The corporate culture allows people to effectively resolve two problems: External adaptation (what to do and how to do) and internal integration (in what way the members of the organization solve their daily problems connected with general work and coexistence). External adaptation includes achievement of the objectives and doing business with third-party persons. At the same time the following problems are solved: The methods of achievement of the objectives and methods helping to cope with both progress and failures. Internal integration defines the creation of a collective community, developing the ways of how to unite life and work.

Thus, considering a culture phenomenon in relation to the organization, researchers use several close concepts. Along with the term “organizational culture,” the term “corporate culture” is often used. The most known definitions of various authors are presented in Table 2.

Table 2: Differentiation of use of the concept of “culture” in management

Concept	Content	Author
Culture of management	It is the experience of management of various spheres of human activity, social relationship concentrated and accumulated during the historical development. The level of culture of management is defined by the ability of the subject of management to consider the real complexity of the process when making decisions, to find a balance between the tasks of management and the objective conditions of the organization functioning, to expand and deepen the sphere of crucial decisions, to increase their efficiency. The culture of management is a part of the general culture of a society, and in many respects it is defined by the level of development of social and economic relationship	Sarkisov, 2005. P. 345
Culture of organization	The system of formal and informal rules and norms of activity, customs and traditions, individual and group interests and values, features of behavior of the person in the organization, the level of cooperation and satisfaction with work, understanding of purposes of the organization development and readiness for realization of these purposes The cognitive structure consisting of attitudes, values, behavioral norms and expectations shared by all the members of the organization. Key characteristics which have value for the members of the organization and are the cornerstone of any culture of organization	Korotkov, 2004. P. 632 Greenberg and Beyron, 2004. P. 692
Corporate culture	The product of internal social forces as result of a combination and the nature of interaction of numerous social factors of the internal environment, interdependent system of values and standards of behavior prevailing in this company. Each company has the culture, philosophy and principles of business, the ways of problems solution and decision-making, the labor atmosphere, “folklore” (the stories illustrating the values of the company), a system of taboo and unacceptable decisions - in other words, the system of values, behavior and standards, “its own face.” All these elements define its corporate culture. The basis of corporate culture is formed by the beliefs and philosophy of the organization explaining the reasons of its actions and decision	Thompson and Strickland, 2013. P. 404-431

Masur et al. give the definition: "... corporate (organizational) culture is an integral characteristic of the company, rather regulated and given in language of a certain typology, which includes such aspects as:

- The norms accepted and shared by all the workers;
- The principles, ways of division of the power;
- The style of management accepted in the organization, the unity and coherence of the company's employees;
- The typical ways of interaction organization ...;
- The organization of role distribution;
- System of values, examples of behavior, ways of assessment of results, types of management."

These authors consider that in fact the corporate (organizational) culture is a subculture of national culture and mentality, prevailing in the state and embodies the universal and professional values professed in the organization (Masur et al., 2003).

5. CONCLUSION

Summing up the results, we can detect the following basic provisions of this work:

1. The style of management practiced in Russia, is the main obstacle for the successful achievements of the economical production projects. It is necessary to consider the fact that introduction of lean projects at the initial stage most likely will take place in conditions of weak management of the company.
2. The corporate culture is a part of national culture and mentality therefore it is defined mostly by the economic and political environment in the country, i.e. the style of governing the state typical for the society and the government, degree of humanity and tolerance, legal system and supremacy of law, competition and democracy, level of corruption and lobbyism, universal and professional values prevailing in the society.
3. Introduction of humanistic principles, orientation to human capital, refusal of violence, authoritarianism in management, centralization of the power, command and administrative methods of management, reduction of the distance of power, transition to leadership are the main conditions for successful lean projects at the Russian enterprises.
4. The concept of lean has to become an organic part of the general system of management of the enterprises, in practice of management it is necessary to consider that the lean principles, tools and methods are differently shown up at the different levels of management.
5. Prior to the introduction of the lean it is necessary to analyze the corporate culture, all elements of the production system and system of management of the enterprise for their compliance with the lean philosophy.
6. Depending on the tasks facing the companies, the degree of compliance of corporate culture, the elements of the production system and system of management of the enterprises with the lean philosophy it is required to plan the level of the lean penetration at the enterprises at the initial stage of introduction and gradual expansion of the lean principles in management in the process of achievement of compliance of corporate culture, elements of production system and system of management of the enterprise with requirements of the lean.

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