



**The Concept of Japanese Culture  
in Lean Production of the Toyota Automobile Company  
*Its Scientific Development and Application in Higher Education and Agriculture***

Valery Vladimirovich Glushchenko

*Department of SAMRT Technologies, Moscow Polytechnic University, Moscow, Russia Federation*

[valery.v.glushchenko@gmail.com](mailto:valery.v.glushchenko@gmail.com)

**ABSTRACT**

The purpose of the article is to create a scientific theory of lean production of goods and services (the theory of thrift), from the perspective of Japanese culture which is applicable in higher education and agriculture. Currently, a new technological way is being formed. One of the key concepts of this technological way will be the scientific theory of lean manufacturing, which can be created based on the analysis of the practice of lean manufacturing of the Toyota automobile company. The analysis of the directions of crisis management indicates the growing relevance of the introduction of lean manufacturing of goods and services in all new areas of activity, in particular in higher education and agriculture as a part of Japanese culture. However, fragmentary implementation of lean manufacturing ideas can be inefficient. This necessitates the development of the concept and content of the general theory of lean production of goods and services in higher education and agriculture. The article describes the functions, roles, and structural elements of the general theory of lean production of goods and services, a conceptual approach to the introduction of lean production of goods and services in higher education and agriculture as a part of Japanese culture is being formed.

**KEYWORDS**

Agriculture; Higher Education; Japanese Culture; Lean Production; Philosophy.

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**INTRODUCTION**

The relevance of this article is determined by the fact that in the conditions of the ongoing global crisis, interest in various fields of activity in the practice of lean manufacturing of the Toyota automobile company is increasing.

In 2023, a new 10th technological order is being formed. In the field of enterprise management, one of the key concepts of this technological order will be the scientific theory of lean manufacturing. This is due to the increasing complexity of the

companies' activities and the need to take special measures to reduce losses in their activities. At the same time, the concept of lean production exists in the form of a set of practical recommendations from the management of the Toyota automobile company. So far, this practical concept of Toyota has not yet taken the form of a scientific theory.

This may complicate the process of spreading lean production methods in other areas of the economy. In addition, the absence of a general theory of lean production of goods and services increases the risks of implementing this concept at

specific enterprises. Therefore, a general scientific theory of lean manufacturing (the theory of thrift) is needed, which can be created based on the analysis of the practice of lean manufacturing of the Toyota automobile company.

At the same time, there are known attempts to use lean production in agriculture as a part of Japanese culture. However, not all such attempts are successful.

The hypothesis of this article is the assumption that the formation of a general theory (scientific concept) of lean production can become an important tool for increasing the anti-crisis significance of this type of production and reducing risks with the practical implementation of the methodology of thrift in the activities of organizations in Japan's agriculture. The purpose of the article is to form a general theory of lean production of goods and services (the theory of thrift) in agriculture as a part of their culture.

To achieve this goal, this article solves the following tasks: (i) conducting a search and analysis of publications on the theory and anti-crisis application of lean production of goods and services to confirm the relevance of the research presented in this article; (ii) formation and description of the object, method, functions, roles, and laws of the scientific theory of lean production of goods and services; (iii) anti-crisis opportunities and directions of development of a conceptual approach to lean production of goods and services culture in Japan are investigated.

The object of the article is the lean production of goods and services. The subject of the article is a conceptual approach to the lean production of goods and services in the field of agriculture which represents one of Japan's cultures.

The focal point of the article is the lean production of goods and services, with a specific focus on its conceptual application in the field of agriculture, representing a vital component of Japan's cultural heritage. By incorporating insights from Japanese culture, this article aims to provide a more holistic understanding of lean production and its potential implications within the unique cultural context of Japan.

## METHOD

The new technological order will be characterized by the fact that, for the first time in history, the service sector will develop faster than industrial production and agriculture. Therefore, it is

important to adapt the methodology of lean manufacturing to the specifics of the post-industrial service sector. At the same time, it should be borne in mind that in the conditions of a consumer society, education is considered a structural element of the service sector, and also a part of cultural representation.

The development of the lean production methodology is associated with the creation of the production system of the Toyota automobile company. At the beginning of the 21st century in Russia, many enterprises have already implemented the principles of lean manufacturing. However, the results of lean manufacturing implementation in organizations are not always satisfactory.

The search and analysis of literature sources on the topic of lean production of goods and services in general and in the field of agriculture in this work gives reason to note that a) the topic of lean production of goods and services in the commercial and non-commercial sectors attracts the attention of foreign and domestic researchers, who mainly consider topical issues of the specifics of introducing lean manufacturing ideas into practice; b) when researching the topic of lean manufacturing in works (Minina & Bugaeva, 2016, p. 148-152; Ikonnikova, 2012, p. 62-66), mainly practical and private issues of copying the experience of Toyota and the introduction of lean manufacturing were considered in the functioning of various organizations; and c) research aimed at the development of a general scientific theory (concept), philosophy, and methodology of lean production has not been identified (not known) in the process of searching and analyzing literary sources.

At the same time, within the framework of the hypothesis of this article, it can be concluded that the lack of a developed scientific theory (concept) and methodology of lean production of goods and services as part of Japanese culture may have such consequences such as a) the introduction of methods of lean production of goods and services in practice is hindered due to the theoretical uncertainty of the methodology of lean production, as a result of which not all subjects of this process understand the specific advantages and features of the introduction of the method of thrift in a crisis; b) in the absence of a developed scientific theory of lean production (the theory of thrift), financial losses of organizations are possible due to the risk of errors in determining the essence, and organization of the application of this approach in

the activities of other types of organizations; b) in the absence of a scientific theory (general theory), methodology of lean production of goods and services, it is possible to misunderstand (falsify) the content of the lean approach, in particular, it seems erroneous to understand the lean approach solely as a way to minimize resource costs when working within this direction and forming programs for the transition to lean production.

In light of these considerations, the primary focus of this article can be interpreted as a justification for the imperative and direct formation of a general scientific theory of lean production of goods and services within Japan's culture, specifically in the realms of agriculture and higher education. This cultural integration is essential for a more nuanced understanding and effective implementation of lean production methodologies in the unique socio-cultural landscape of Japan.

## RESULTS AND DISCUSSION

### Findings

This study started with the analysis of publications in the field of lean manufacturing. At the beginning of the 21st century, the world is attracted by the experience of lean manufacturing of the Japanese automobile company Toyota (Minina & Bugaeva, 2016, pp. 148-152). In the conditions of the formation of a new 10th technological way, this experience of lean production of the Toyota company will be used as one of the key management concepts in the new technological way (Glushchenko, 2022, pp. 245-264). In addition, individual elements of lean production (continuous flow, pulling system, etc.) are thoroughly investigated (Sibanov & Brezhnev, 2019, pp. 41-42). Of great interest is the possibility of using the method of "lean production" in Japan's agriculture (Ikonnikova, 2012, pp. 62-66). At the same time, experts believe that the introduction of new management methods is especially slow in agriculture. At the same time, experts note that it is agriculture as a branch of the economy that is most characterized by extremely low production efficiency (Ikonnikova, 2012, pp. 62-66). This makes the introduction of the lean production method especially relevant in agriculture.

It is noted that the introduction of lean production is necessary for the innovative

development of organizations of the agro-industrial complex of Russia (AIC). The article analyzes the concepts and methods of lean production and their impact on the development of agriculture. Lean manufacturing is considered a method of increasing productivity and improving the quality of products and services. It is believed that the so-called lean production will help the enterprise to reduce costs and reduce the production cycle time (Zhilyakova, 2015, p. 22). However, as it is known from the works of foreign authors (James & Daniel, 2013; Geri, 2005; Vader, 2012), minimization of the production cycle is not part of the tasks of the lean production methodology. The method of lean production is considered an element of innovative development of organizations in the field of agriculture (Zhilyakova, 2015, p. 22).

At the same time, an important motive for the anti-crisis use of the theory and practice of thrift can be considered the fact that foreign experts believe that lean production is a breakthrough approach to management and quality management, ensuring the long-term competitiveness of the organization without significant investment. Lean manufacturing as a representation of Japanese culture according to the authors of this book includes value; value creation flow; organization of flow movement; pulling; and perfection. A foreign author claims that lean manufacturing is a survival tool for companies (James & Daniel, 2013, p.7). This can be interpreted as confirmation by researchers of the anti-crisis orientation of thrift in agriculture as a methodology of production activity in Japanese culture.

Foreign experts analyze and develop the principles of lean production management based on the experience of Toyota, the world's leading automotive company (Geri, 2005). In addition, other foreign researchers are studying and discussing tools for introducing lean technologies into the practice of organizations (Vader, 2012).

The main directions of lean production include efforts to eliminate such types of losses: losses due to overproduction; time losses due to waiting; losses due to unnecessary transportation; losses due to unnecessary processing stages; losses due to excess inventory; losses due to unnecessary movements; losses due to the release of defective products; unrealized creative potential of employees; overload of workers, employees or capacities when working with increased intensity; unevenness of the operation, for example, an

intermittent work schedule due to fluctuations in demand (Erokhin, 2008).

The problems and prospects for the development of lean technologies in the field of agro-industrial complex are investigated in work (Pitel, 2016, pp. 23-29). The author of this article also studies the problems and features of the lean manufacturing concept. This author believes that the technology of thrift will reveal what problems and losses are characteristic of agricultural enterprises. It is noted that currently in Russia there is a great interest in modern production management systems: reengineering of business processes, general quality management, balanced scorecard, etc. It is further confirmed that, unfortunately, the process of introducing new management methods is particularly slow in agriculture. It is believed that, meanwhile, this industry is characterized by extremely low production efficiency. This article suggests optimizing the work of agricultural enterprises using this concept. The author of the article in question suggests that the philosophy and tools of lean technologies (lean manufacturing) should become an important component of the socioeconomic development strategy for the coming years (Pitel, 2016, pp. 23-29). At the same time, the very philosophy and concept (as a view of the system) of lean production are not disclosed in the analyzed article. It should also be noted that the proximity of the positions of the authors of the work (Ikonnikova, 2012, p.62-66) and work (Pitel, 2016, pp. 23-29) can be interpreted as an additional expert confirmation of the truth (expert verification) of the relevance of the introduction of lean production methodology in the field of agriculture in the production of goods and services.

Russian researchers are also studying the industry-specific features of the implementation of the thrift system (Volkova, 2016, pp. 21-25). At the same time, it is noted that the concepts of lean production and lean management can become directions for increasing the competitiveness of agricultural organizations. In this work, it is proved that the principles of lean production can be implemented in agriculture. Depending on the reasons causing the greatest losses, Lean technology tools are presented, with which losses can be eliminated. The degree of dependence between the applied technologies, the state of resource potential, and the existing level of quality are determined. The importance and possibility of using the system of thrift in agriculture, taking into account the efforts of management personnel, the

transition to progressive energy- and resource-saving technologies, and the use of lean thinking are substantiated (Volkova, 2016, pp. 21-25). At the same time, the general theory of lean is not formulated in this work either.

The relevance of the formation of the concept and content of lean production of goods and services is also confirmed by the fact that the ideas of thrift in a crisis are spreading to the humanitarian sphere, including the sphere of thinking of subjects (actors) of agriculture. Researchers also note that lean thinking refers to the constant involvement and interest of staff, both in personal development and in improving production. The ideas of lean thinking were called "kaizen", which in Russian means "changes for the better" (Kuznetsov, 2019).

It is important to implement a systematic unification of the methodology of lean production with such scientific directions: organization management (Glushchenko, 1998, p. 2); philosophy and methodology of science (Kohanovsky, 1999, p. 2; Glushchenko & Glushchenko, 2009, p. 2; Alekseeva, 2012, p. 3-10); culture of entrepreneurial activity (Glushchenko, 2016, p. 137-147); strategic aspects of innovative development (Glushchenko & Glushchenko, 2016, p. 61-76); methods of marketing management of organizations (Knyshova, 2009, p. 2).

To increase the practical effectiveness of lean production methods, it is important to develop the conceptual component of this methodology (Glushchenko, 2017b, pp. 43-49). The work developing the mechanism of strategic management of lean agricultural education is known (Glushchenko, 2017a). At the same time, it is important to develop the philosophical and methodological components of the processes of lean production of goods and services (Glushchenko, 2017c, pp. 43-49). It is recommended to take into account that the lean production methodology is considered a way to increase production efficiency (Kramer, 2020, pp. 186-188). They study lean production tools at enterprises (Kirpichkina, 2022, pp. 578-580). Scientists are developing a scientific theory of lean production in the field of agriculture (Glushchenko, 2017d).

The analysis of literary sources has shown that, firstly, the development of lean production methodology is required to increase the effectiveness of the application of this methodology in various fields of activity; secondly,

the dissemination of knowledge about lean production (socialization of knowledge about lean production) is required.

Additional complexity is attached to the achievement of the goal set in this article: the scientific concept of lean production at the beginning of the 21st century has not yet been fully formed; the general theory and philosophy of rendering (production) services have not been formed.

Lean production of goods and services in agriculture, we agree to call such production, which is aimed at constantly improving harmony in relations with consumers based on improving the quality of goods and services, the working life of personnel by reducing and/or eliminating losses when using all types of resources, minimizing the possibility of damage to all participants in the process of production and consumption of goods and services.

With this approach to lean production of goods and services in agriculture, (lean production) can be harmoniously combined with the concept of socio-ethical management of organizations (Glushchenko, 1998, pp.208-210), as well as socio-ethical marketing.

The concept of lean production of goods and services in agriculture (or in higher education), we agree to call a general view of lean production, an understanding of the system of lean production of goods and services. At the same time, under the philosophy of lean production of goods and services in agriculture, we agree to understand the wisdom in the process of understanding and practical implementation of the concept of the development of lean production of goods and services.

During the synthesis of the conceptual approach in the lean production of goods and services, it should be taken into account that two approaches take place and are known in the philosophy and methodology of science:

- a) philosophy, as the basis of the methodology of science, can act as a science of sciences, a general methodological science that contributes to the development of any and each of the sciences and fields of activity (Georg Hegel) in this case, a scientific conceptual approach in the lean production of goods and services in the field of agriculture;
- b) all and each of the branches and methodologies of activity in the course of its development synthesizes an original philosophy inherent only in this field of activity (Auguste Comte)

(Kohanovsky, 1999; Glushchenko, 2009, p. 4), which confirms the necessity and regularity of the formation of a scientific conceptual approach in the lean production of goods and services in agriculture.

The general theory and methodology of lean production of goods and services in agriculture (higher education) formed in this article should be scientific. This implies that the general theory of lean production of goods and services in agriculture as a scientific philosophy should have the following properties: it should have the same attributes of a theoretical discipline as other individual private sciences; the philosophical concept of lean production of goods and services should be formed by scientific methods; at the same time, such a philosophical concept is focused on taking into account the provisions and conclusions of private sciences; at the same time, the philosophical concept of lean production of goods and services makes these provisions of private sciences the starting point and object of its analysis; such a philosophical concept of lean production of goods and services uses the history of science and philosophy as material for a general theory of scientific and philosophical thinking. Attention is drawn to the fact that the subject of research of a scientifically understood theory, the philosophical concept is not only science but also the whole culture. On this basis, the philosophical concept as a whole is considered a kind of awareness by a person of the foundations of the culture by which he lives, as self-awareness by a person of culture in a person (Alekseeva, 2012, p. 7), including the culture of lean production of goods and services in agricultural organizations.

Within the framework and based on the formation of the philosophical concept of lean production of goods and services in the field of agriculture, the provisions of the scientific theory of this type of production can be presented.

The scientific theory of lean production of goods and/or services (the general theory of thrift) is a scientific discipline devoted to the creation of scientific, methodological knowledge about the lean production of goods and services in the field of agriculture.

The scientific method in the general theory of lean production of goods and services in agriculture will be called a system of principles and techniques that provide objective knowledge of scientific processes and socio-economic reality, the results of lean production in agriculture.

The methodological function of the general theory of thrift - the science of lean production of goods and services in agriculture includes the definition of the conceptual apparatus, methodological foundations of production creation management, and scientific research in this area.

The cognitive function of the general theory of lean production of goods and services in agriculture integrates the processes of accumulation, description, and study of the facts of reality in the field of the science of lean production of goods and services.

The regulatory (instrumental) function of the science of lean production of goods and services in agriculture has a practical orientation and consists of the creation and selection of methods and tools for managing lean production and its research.

The legislative function of the general theory of lean production of goods and services in agriculture is focused on the process of substantiating the need and developing legal norms that support and create conditions for the development of such lean production.

The optimization function of the general theory of thrift – the science of lean production of goods and services in agriculture includes the creation or selection of the best forms, methods, techniques, and tools for the implementation of both individual stages and the process of lean production of goods and services in agriculture as a whole.

The prognostic function of the general theory of lean production of goods and services in agriculture covers the analysis and assessment of the future state of lean production of goods and services, and the assessment of the prospects for the development of certain areas of lean production of goods and services in agriculture.

The preventive function of the general theory of lean production includes the synthesis and practical application of preventive proactive measures aimed at reducing the risks of the development and introduction of lean production of goods and/or services based on and based on the results of the forecast of the development of this type of production in agriculture.

The psychological function of the general theory (science) of lean production is to explain to the participants of the lean production process the validity of the measures being changed, and the financial and other costs for the continuous development of lean production of goods and services.

The function of socialization of the science of lean production (the theory of thrift) in agriculture is to spread knowledge in society about the role and importance of modern lean production for agriculture, the state and society, the need for effective measures for its development in the context of the global financial crisis.

The system-forming function of the general theory of thrift - the science of lean production of goods and services in agriculture consists in the registration and accumulation of knowledge aimed at ensuring the creation of adequate management systems for the sphere of lean production in agriculture at the levels of an individual enterprise, region, agricultural sector of the national economy.

Let's define the roles of the general theory of lean production of goods and services in agriculture:

- a) first, the growth of harmony in the development of lean production of goods and services in agriculture;
- b) secondly, risk reduction in the creation of the concept and implementation of the concept of lean production of goods and services;
- c) thirdly, in reducing the level of losses in the production process in agriculture;
- d) fourth, continuous improvement of product quality and/or financial results of lean manufacturing.

It is proposed to recognize as true such laws of the general scientific theory of lean production of goods and services (general theory of thrift):

- (i) lean production of goods and services is not aimed at minimizing the costs necessary for the production of high-quality goods and services;
- (ii) the development of lean production of goods and services should not be focused on a radical change without taking into account the history of development (reengineering) of production processes in the organization;
- (iii) lean production of goods and services should not generate an increase in operating costs, risks, or deterioration of operating conditions for customers - consumers of goods and services of the organization;
- (iv) lean production should be focused on reducing unnecessary losses, unreasonable costs, and losses at all stages of the production of goods and/or services;
- (v) the process of developing lean production of goods and services in the organization should be supported by constant efforts;

- (vi) the process of lean manufacturing development should be carried out continuously;
- (vii) the concept of lean production of goods and services in a particular organization is created and implemented in the organization with the active and direct participation of the organization's personnel;
- (viii) lean production is aimed at a more complete realization of the human capital of the organization's employees, etc.

The concept of development of lean production of goods and services involves constant and gradual improvement of all aspects and aspects of such production, the development of new goods and services and the development of new markets, the development of organizational structure, pulling (gradual increase in sales volumes) concerning markets. The development of lean production of goods and services affects the interests of the people included in it.

In the philosophical concept of managing the development of lean production of goods and services, it is recommended to identify philosophical categories and factors influencing the development of lean production (mission; vision, structural changes; development programs, etc.).

The mission of lean production of goods and services, we agree to call the economic and social importance of constantly improving the quality of goods and services, increasing the degree of customer satisfaction, and the quality of working life of personnel through the most sparing and lossless use of all types of resources, including the personnel of the organization.

The mission of lean production of goods and services can be recognized as ensuring preventive anti-crisis development, sustainable growth of the economy and society, and improving the safety and quality of life of the population as a public good based on rational and sparing use of all types of resources, including job security (lifetime hiring), sparing use and social development of human capital of organizations in the economy and society.

The vision of lean production of goods and services should be considered an inspiring scenario for the development of lean production within the framework of the concept of economic and social progress by minimizing losses in the organization's production system and using all types of resources, including personnel of organizations.

Structural changes in the organization during the transition to the concept of lean production of goods and services should be aimed at reducing real and potential losses, the ratios of various structural elements of such products, in the process of constantly improving the quality of goods and services through the most optimal and sparing use of all types of resources, including the human capital of organizations.

Development programs for the transition to the concept of lean production of goods and services should include certain corrective and control measures that can be aimed at reducing all types of losses, optimizing the ratios of various structural elements of such products, in the process of constantly improving the quality of goods and services through the optimal and sparing use of all types of resources, including the human capital of organizations.

The strategy for the development of lean production of goods and services will be called a long-term plan for the development of the concept of lean production, focused on the adaptation and consistent implementation of the ideas and methods of lean production following changes in the external environment of the organization through internal coordination of the elements of the organization to reduce losses. A practical tool for harmonizing the problems of the development of lean production of goods and services can be the concept of this development.

Under the philosophical concept of the strategy for the development of lean production of goods and services, we agree to understand the most general view of the long-term perspective on the mission, vision, goals, tools, and the social cost of the development of this concept in modern production and society.

The object of the philosophy of the strategy for the development of lean production of goods and services can be called the most general systematic view of the mission, vision, goals, tools, and economic and social cost of the development of lean production of goods and services.

The subject of the philosophy of the strategy for the development of lean production of goods and services can be called the most general view of the methods, methods, tools for the implementation of the mission, vision, goals, and sources of resources that form the social price of the development of lean higher education.

Consensual (based on consent in society) and confrontational (based on the results of the struggle) concepts of philosophy, methodology,

and strategy for the development of lean production of goods and services are possible.

The goal of developing the concept of lean production of goods and services should be considered the ideal result of the implementation of such a production concept in the organization in the future. The goal of the development of lean production of goods and services can be called a constant improvement in the quality of goods and services, provided that the sustainability of such production and socio-industrial relations is preserved, rational and prudent use of all types of resources based on minimizing losses, including losses due to inefficient use of human capital of organizations, consumer attitudes, etc.

The development of the concept of lean production of goods and services creates an opportunity to develop a consistent, holistic paradigm (Glushchenko, 2009, p.26) of a strategy for the development of lean production of goods and services, to reduce the risks of sustainable development in lean production.

The philosophy of lean production of goods and services should become an innovative structural element of the culture of the innovation system in the national economy (Glushchenko & Glushchenko, 2016, pp. 137-147). At the same time, the concept of lean production can be considered as part of the system of innovative development of the economy and society (Glushchenko & Glushchenko, 2015, pp. 61-76).

At the same time, it should be borne in mind that within the framework of a market economy, all benefits appear in a specific form of tangible goods and intangible services.

It is customary to call a service any event, activity, or benefit that one of the parties can offer to the other party and which is mostly intangible and does not lead to the mastery of anything (Knyshova, 2009, p.13).

It should be noted that the service sector and the service as a rather complex social and economic phenomenon are the object of study of various sciences: economics, marketing, management, sociology, law, computer science, psychology, and other sciences. At the same time, the general theory of the service sector is at the stage of its development (Glushchenko, 2021, p.2). Consequently, the lean production of services should receive its philosophical conceptual understanding in general and within the framework of the philosophical concept of lean provision of services in particular in the field of higher education.

In conclusion, the article proposes a comprehensive conceptualization of lean production of goods and services within Japanese culture, particularly in agriculture and higher education. The development of a general theory of thrift is seen as essential for understanding and implementing lean production methodologies, contributing to the overall socio-economic progress of organizations and society at large.

## Discussion

When forming the concept of lean manufacturing in the service sector, it should be borne in mind that the characteristics of the service or the process of its provision may have a qualitative (consisting in comparison in quality) and quantitative measurement following the goals for which, how and by whom the evaluation of what was done by the employees of the organization is carried out.

A linguistic analysis of the terms “thrifty” and “losses” sheds light on the essence of lean production. “Thrifty” implies carefulness and prudence, emphasizing the need for cautious innovation and the preservation of organizational assets. “Losses” denote purposeless spending, damage, and loss, emphasizing the importance of minimizing losses and damages in lean production. Explanatory dictionaries give such definitions to these concepts:

- (i) the concept of “thrifty” according to the dictionary of S.I. Ozhegov means: “CAREFUL is someone who cares, is prudent.” There is a saying: “God protects the safe.” Therefore, the use of the term “cautious” focuses the attention of staff on caution in innovation, the need to preserve the assets of the organization, its customer base, and other aspects of prudent and thrifty behavior of employees;
- (ii) the concept of “loss” is defined as “a decrease, weakening of the quantity, degree of something or a decrease of something.” Losses mean: “Purposeless spending of something, damage, loss.” Therefore, the use of the term “losses” by the authors of the lean production methodology draws the attention of personnel to the need to minimize the categories of “losses” and “damage”, which are close in content to the concept of “losses”.

A linguistic approach provides insights into lean manufacturing, highlighting its connection to risk management in production. Lean manufacturing, within the context of goods and services, becomes intertwined with the

identification and limitation of risks related to quality reduction and increased costs. The study proposes a linguistic interpretation of key concepts and principles established by the founders of the lean approach to shape the structure and content of lean production.

To determine the structure and content of the concept of lean production of goods and services, a linguistic approach can be proposed in the interpretation of key concepts and provisions that were previously developed in practice by the founders of the lean approach.

When further forming a conceptual approach to the development of lean manufacturing, it should be noted that large-scale studies of Toyota management methods by foreign authors (for example, in works (James & Daniel, 2013; Geri, 2005; Vader, 2012) were limited mainly to practical and methodological issues of implementing a lean approach, but have not yet led to the formation of a detailed concept of thrift.

In particular, when forming a conceptual approach in lean manufacturing, it can be recommended to take into account the process of developing the methodology of lean production of goods and services. For example, a foreign researcher of Toyota lean manufacturing in work [(Geri, 2005, p.2) described such principles of lean manufacturing as a) it is necessary to make management decisions taking into account the long-term perspective, even if it damages short-term financial goals; b) the production (or business) process in the form of a continuous flow contributes to the manifestation of production problems; c) rationally apply the system of pulling, consisting of a gradual increase in demand for products to avoid overproduction of goods and services; d) for different categories and representatives of the organization's staff, it is necessary to equalize the amount of work (*heijunka*); e) it should be recommended to stop production in the organization in the interest of solving problems as part of the production culture if the quality of goods and services requires it; f) setting and solving standard tasks acts as a basis for continuous improvement and delegation of authority to employees; g) it is recommended to use visual control. Thus, no problem in the organization's activities goes unnoticed; h) in lean manufacturing, only reliable, proven technology for the production of goods and/or services should be used; i) the organization should identify and educate leaders who thoroughly know their business, profess the philosophy of lean manufacturing in the company, and can teach this to others; j) it is recommended to educate outstanding people and form teams based on the

concept and philosophy of thrift in the company; k) it is recommended to respect your partners and suppliers, set difficult tasks for them, and help them improve and develop; l) to diagnose the situation, it is recommended to see everything with your own eyes (*genchi genbutsu*); m) it is recommended to make management decisions based on consensus, weighing all possible options, and taking your time, however, when implementing a solution, you should not delay (*namavasi*); and n) the company needs to become a learning organization through relentless introspection (*hansei*) and continuous improvement (*kaizen*) (Geri, 2005, p.2).

These principles can be proposed to be supplemented with the following principles:

- a) the organization is recommended to maintain harmonious relations with consumers based on reliable and effective direct feedback with consumers of its goods and services;
- b) the maintenance of harmonious socio-economic and industrial relations in the company's team should be recognized as a necessary condition for the introduction of the lean production concept.

The conceptual approach developed in this article to the introduction of lean production of goods and services more fully reveals the essence of this direction of improving the organization's activities based on the theoretical foundations of lean production of goods and services.

This article develops the methodological provisions of the work devoted to the methodology of lean production in higher education (Glushchenko, 2021).

The organizational culture of lean production can be called a systematic combination of such elements, including behavioral stereotypes, values of production activity, and ways of personnel responding to emerging opportunities and dangers in the process of production activity. The organizational culture of lean production performs the following functions: the function of external adaptation of lean production to the economic and social environment; and the function of internal integration of all elements of organizational culture into a single whole. In its function of external adaptation, the organizational culture of lean production should be harmoniously combined with the national culture. National culture is understood as the systematic unification into a single whole of such elements of it: artifacts; symbols; beliefs; beliefs and values; norms and patterns of behavior that characterize the spiritual life of the human community in a particular country (state). Since the methodology of lean manufacturing originated in and developed in a family automobile company,

such an organizational culture should reflect simultaneously: production values; family values; and values of the national culture of the country-Japan.

At the same time, the organizational culture determines the socio-professional institutions of those organizations that implement the lean production methodology in their work.

Despite extensive studies on Toyota's management methods by foreign authors, a detailed conceptualization of thrift is yet to be fully formed. While practical and methodological aspects have been explored, a comprehensive concept of thrift remains a work in progress. Foreign researchers, describing principles of lean manufacturing, emphasize the importance of long-term decision-making, continuous flow in production processes, and the rational application of pulling systems to avoid overproduction.

Supplementing these principles, it is recommended to focus on maintaining harmonious relations with consumers through reliable feedback and recognizing the importance of harmonious socio-economic and industrial relations within the organizational team. This addition enriches the conceptual approach to lean production, emphasizing the holistic nature of improving organizational activities based on the theoretical foundations of lean production of goods and services.

Building on the principles of lean manufacturing, the article proposes additional considerations for organizational culture. The organizational culture of lean production is described as a systematic combination of behavioral stereotypes, production values, and ways personnel respond to opportunities and challenges. This culture serves the functions of external adaptation to the economic and social environment and internal integration of all cultural elements. Importantly, the organizational culture of lean production should harmoniously align with national culture.

National culture, defined by artifacts, symbols, beliefs, and values, plays a crucial role in shaping the organizational culture of lean production. Given that lean manufacturing originated in Japan, the organizational culture should reflect not only production values but also family and national values. This perspective underscores the interconnectedness of lean production methodology with the broader cultural context, emphasizing its roots in a family-oriented Japanese automobile company. The organizational culture, in turn, influences the socio-professional institutions of organizations implementing lean

production methodologies, shaping their unique identity within the broader cultural landscape.

The analysis of research and publications on lean production of goods and services highlights the significance of incorporating a Japanese cultural perspective into the conceptual approach. In the context of lean manufacturing, where the roots trace back to the Japanese automobile company Toyota, understanding and integrating elements of Japanese culture can provide valuable insights.

The Japanese cultural ethos places a strong emphasis on harmony, precision, and continuous improvement, which aligns with the core principles of lean production. The concept of "*kaizen*", meaning 'continuous improvement', is deeply ingrained in Japanese culture and is reflected in the principles of lean manufacturing. This cultural perspective encourages a gradual and continuous refinement of processes, consistent with the lean approach's emphasis on constant improvement and optimization.

The term "harmony" in the Japanese context extends beyond the individual and emphasizes the importance of maintaining harmonious relations with others and the environment. Integrating this cultural value into the lean production concept suggests a focus on establishing harmonious relationships with consumers, promoting reliable feedback, and recognizing the significance of socio-economic and industrial harmony within organizational teams.

Furthermore, the Japanese cultural value of "*wa*" or 'group harmony' emphasizes teamwork, collaboration, and consensus decision-making. Incorporating this cultural element into lean production could underscore the importance of equalizing workloads among different categories of staff (*heijunka*) and promoting a collaborative culture within the organization.

The proposed additional principles for lean production can be enriched by considering the Japanese cultural perspective. For instance, the principle of stopping production to address quality issues aligns with the Japanese philosophy of "*genchi genbutsu*" meaning 'go and see for yourself'. This cultural perspective encourages direct observation and involvement in problem-solving, resonating with the lean manufacturing principle of visual control.

The organizational culture of lean production, when viewed through a Japanese cultural lens, becomes a fusion of behavioural stereotypes, production values, and responses that reflect the principles of harmony, precision, and continuous improvement. This cultural alignment can contribute to the external adaptation of lean

production to economic and social environments, fostering an organizational culture that resonates with both lean manufacturing principles and Japanese cultural values.

## CONCLUSIONS

The article analyzes research and publications on the topic of lean production of goods and services, which showed the relevance of the development of a conceptual approach in the development of lean production of goods and services, defines the concept, functions, roles, structure, and content of the scientific concept (theory) of lean production of goods and services, as well as the concept of lean production of goods and services, this allowed us to confirm the most promising areas of reducing losses in the process of developing lean production of goods and services, additional principles of lean production are proposed, the results of the article show that the further development and dissemination of the conceptual approach in the lean production of goods and services can positively affect the effectiveness of anti-crisis management, the state of the entire national economy and society as a whole. Furthermore, incorporating a Japanese cultural perspective enriches the conceptual approach to lean production of goods and services. By aligning with cultural values such as continuous improvement, harmony, and group collaboration, the lean production concept becomes not only a management methodology but also a reflection of the cultural ethos that shaped its origin. This integration can positively impact the effectiveness of anti-crisis management, contributing to the resilience of the national economy and society as a whole.

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