

Introduction of Agile Approaches as a Tool for Effective Project Management in the Regions of Russia

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Abstract

This article identifies the distinctive features of implementing Agile in Russia in the project management system in the regions, considers the problems that hinder the implementation of the system, and offers methodological recommendations for the formation of an effective mechanism for implementing Agile based on a combination of project management and quality management. Usually, when developing an Agile implementation mechanism, the specifics of the project management system in the regions are not taken into account. It is necessary to identify the main problems that affect the formation of an effective mechanism for implementing Agile in the regions of Russia. As a result of the study of the features of the experience of implementing Agile in Russia in the regional project management system, practical recommendations are proposed for the formation of an effective mechanism for implementing Agile based on a combination of project management and quality management. The use of the developed recommendations for the formation of an effective Agile implementation mechanism based on a combination of project management and quality management will eliminate the imbalance in the process of managing regional projects and identify priority areas for their implementation. This will help to increase the production of products and services, create new jobs and reduce unemployment.

Keywords

Project management; regional projects; flexible approach Agile; economic development; mechanism.

Introduction

Ensuring the systemic stability of the Russian economy is largely determined by the effectiveness of the implementation of national projects, which directly affect the change in approaches to project management at the regional level. The implementation of large-scale regional projects in the modern digital economy is accompanied by a high degree of uncertainty. Given the growth of large amounts of data in project activities, it is important to choose and justify the appropriate mathematical tools for data processing that will allow managers to make more objective management decisions.

The main problem for regions is managing large amounts of data while simultaneously implementing several projects. Developing a mechanism for implementing an effective modern project management system tool for the region is a complex scientific and practical task that can be solved by joint efforts of top management at the regional and municipal levels, as well as leading scientists in the field of regional management.

The advantages of Agile approaches indicate that they are a significant tool for the development of the company in modern conditions. This tool is multi-faceted, adaptive, demonstrates flexibility concerning the problems of modern management and business concepts, and is operational in terms of the rapidly changing dynamic environment of the modern knowledge-based economy. In market conditions, when customer orientation and constantly changing preferences are one of the cornerstones of an enterprise's competitiveness, it is very important to study and analyze management methods from the point of view of their sustainable implementation in management, in the context of quality management and innovative renewal of the company's management.

Meanwhile, the relevance of the study is confirmed by the fact that the introduction of Agile methods is often accompanied by problems and negative consequences in the practice of project management in the regions. The presence of these shortcomings, along with the growing popularity of the methods themselves, motivates researchers to try to create such tools that would maximally prepare the Agile manager and participant for possible "pitfalls", formulate the main ways to circumvent the obstacles noted in practice, show the advantages of flexible approaches and their contribution to the development of the enterprise, region, market, industry, economy, and country based on the development of the Agile concept of flexible project management methods.

The degree of development of the scientific problem

The works of many domestic and foreign researchers are devoted to the concepts of flexible approaches to building a management system and their implementation in

modern realities. The basic principles of flexible project management are set out in the works of X. Takeuchi and I. Nonaka, J. Highsmith, G. Alleman, G. Chin, A. Cockburn, K. Schwaber, K. Ulrich, S. Eppinger, P. Fowler, K. Beck, J. Sutherland, etc. The situational approach to choosing the optimal method of flexible project management is described by A. S. Koch. In the works of R. Barrer, J. Shoal, F. Graves, A. P. Repyev, K. The importance of the client-oriented approach is emphasized and justified by Harsky.

The study of the practice of flexible management of innovative projects is presented by the works of M. Mach, E. K. Conforto, V. K. Amaral. In the Russian research and professional literature on control systems, one can distinguish the works of B. Wolfson, A. M. Kolesnikov, A. Krivitsky, L. A. Mierin, N. N. Pokrovskaya, V. I. Sigov, and E. A. Chernykh.

The methods of "lean" project management were developed in the works of A. I. Pinchuk, E. Goldratt, and J. R. R. Tolkien, Cox, and L. Leach, G. Kerzner, R. D. Archibald, D. Locke. In-depth research on management methods, flexible management approaches concerning regional and production systems is reflected in the works of S. A. Uvarov, A. N. Petrov.

In-depth research on the modern economy, innovative ecosystems, and technology transfer was reflected in the works of Buevich S. Yu., Gruzina Yu. M., Zarakhenko I. K., Zeynalov A. A., Kavitskaya I. L., Kossova E. V., Ksenofontov A. A., Polevoy S. A., Mukhin Yu. Yu., Pekarsky S. E., Petronevich A.V., Trachuk A.V., Trifonov P. V., Furta S. D.

In the works of A. G. Bezdudnaya, O. V. Burgonov, E. S. Ivleva, Yu. I. Rastova, it is possible to note the consideration of the main problems of project implementation and development in the concept of flexible management, technological development, innovative production, and management environment. However, these studies do not reflect the application of the Agile concept regarding the combination of project management and quality management in the modern knowledge-based innovation economy.

The combination of project management and quality management in the light of new research areas of flexible methodologies and beyond is increasingly being studied and analyzed. But at the moment, it can be noted that the problems related to the implementation of a family of flexible person-centered approaches, taking into account the specifics of the regions, the factors of successful implementation of flexible approaches in project management, and the errors and causes of problems during Agile transformation are not sufficiently studied. It can be noted that there is insufficient analysis of the practices of implementing flexible client-centered approaches in the enterprise management system; the lack of detailed methodological tools for assessing the Agile transformation of the enterprise and methodological recommendations for the development of the flexible management system of the enterprise from the point of view of regulating innovative development.

Experience in implementing Agile in Russia and abroad in the project management system in the regions

Modern project management is a constantly and dynamically developing professional discipline. This development is due to the need to ensure the success of projects, programs, and their portfolios in the conditions of constantly increasing turbulence and high speed of changes in the surrounding world, which cause uncertainty in the conditions for the implementation of projects and the requirements for the organization of project activities in general.

Professional project managers and the projects themselves exist in two parallel worlds—classical project management and Agile, and we observe different attitudes of these two worlds to each other. Many of the tools actively promoted in agile approaches (flexible planning, daily work meetings, product decomposition, and incremental delivery, etc.) have long been successfully used by professionals. Many concepts of the classical project, program, and portfolio management are harmoniously integrated into the methodology of flexible work management at the team or organization level in the primary or modified form: risk, epic, program, portfolio, budget, etc.

“The reasons for the collapse of projects began to be realized by managers over time, these reasons were: strict requirements, incorrect or erroneous planning, the inability of project teams to respond to changes.” (Koning, 2021, p. 224). The main problem here is that customers are unstable in their requirements, which often changed during the implementation of the project, and it turned out that the final product was very different from the planned one. The implementation of these changes in the project implementation process entailed a greater expenditure of resources than originally planned. All this was the reason for the transition to flexible project management methods.

In Russian practice, when implementing any new management methods for the organization, both "classic" and Agile, one of the key success factors is often overlooked — a sufficient level of competence of leaders and team members. In today's dynamic and changing world, process and procedural approaches are at the limit of their demand due to the great inertia, and the reserves of efficiency associated with the mentality and culture of teams and organizations come to the fore; management innovations achieve their goals only by being accepted by individuals and teams at the level of shared ideas. On the other hand, the IPMA ICB and similar sets of knowledge do not contain practical recommendations and descriptions of the actions of the project manager and recommendations for the use of standard project management tools (which is always required in practice), at least at the level of process groups and management processes, as is done in the ISO 21500 standard. The application of any standards in a particular context (country, organization, program, and project) always requires reasonable adaptation.

The main goal of Agile implementation—acceleration of product delivery and market entry - in advanced economies is achieved with a 47% probability even at the Agile piloting stage, whereas at the Agile implementation stage throughout the organization,

this probability is already 60% on average, and after implementation - 75%. In one year and faster, 41% of companies move from pilots to Agile scaling, and 42% successfully complete the transformation in 2-3 years. Another goal of using Agile in the project management system in the regions is to increase the effectiveness and efficiency of teamwork, including cross-functional and interdepartmental while ensuring a focus on value for the end-user (Figure 1).

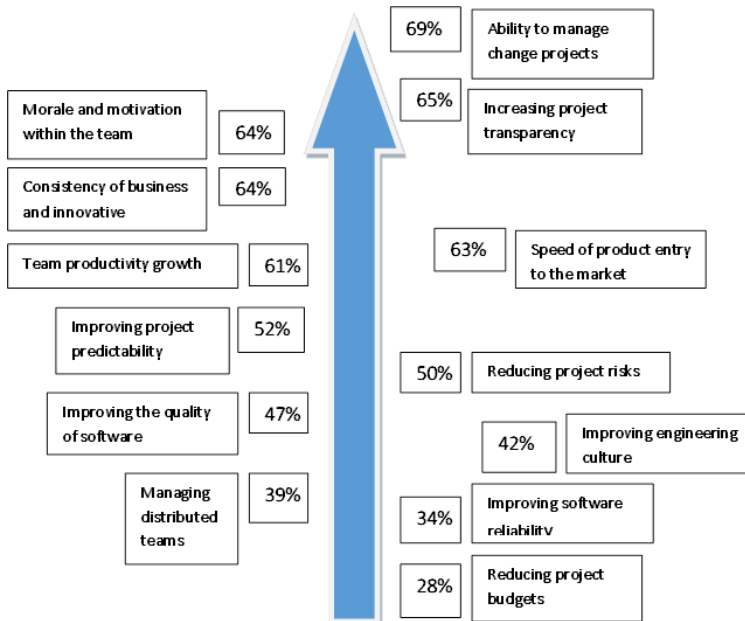


Figure 1. Improvements that Agile brings to companies that use it
(Agile Research in Russia 2019, scrumtrek.ru 1)

The two most noticeable improvements that people have noticed since the transition to Agile are the transparency of work and the management of frequently changing priorities. The reason for this lies in the process itself based on Scrum, Kanban, or another Agile approach: all these approaches involve both visualization of work and iterations (cadences), the results of which are easier to change priorities than in a non-flexible process

Agile abroad is an actively used development approach with a wide geography of use. Foreign companies understand that flexibility is a quality that must be inherent in the entire organization and permeate it completely, starting with the top management, to achieve the highest results (Figure 2).

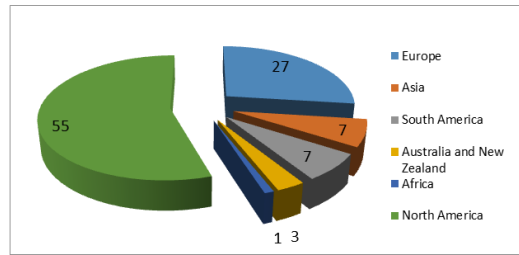


Figure 2. Practical implementation abroad
 (The 15th State of Agile Report is copyrighted by Digital.ai. 2021, p. 7)

Agile is not the most popular project management method in Russia. It is common in companies, especially when it comes to Scrum, but it is not as common as abroad, and many "giants" of the Russian market still remain true to the traditional approach. The first experience of applying this project management practice is in 2015-2016, and mainly in the IT, telecommunications, and financial sectors. According to ScrumTrek, in Russia for 2021, companies have no more than 4 years of experience in using Agile. However, there is also rapid growth in software development: there are now more than 40% of companies experienced in Agile (Figure 3).

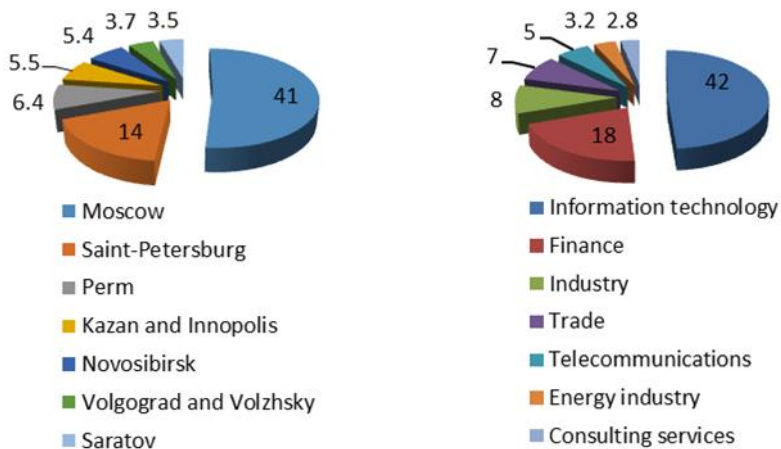


Figure 3. The geography of Agile implementation and the experience of organizations in Agile, depending on the industry
 (Agile in Russia, 2019. Annual usage report. 2022, p. 2)

According to new research, companies that use flexible working and implement a more flexible and operational work model gain an advantage over their competitors. Not only in terms of the flexibility of the organization, but also in terms of financial performance. According to the results of the PA Consulting Group survey among 500 managers of large organizations in Europe in various sectors, asking them how they see the work based on Agile and what they consider to be the key factors for successful implementation. According to Hans Burg, an expert at PA Consulting Group, the most effective organizations have a higher level of flexibility than their counterparts with traditional business models.

In particular, two-thirds of respondents said that their business model is at risk of fundamental obsolescence, with flexible technology considered a key method of moving to a future-oriented strategy. While Agile is generally seen by many as a method aimed at streamlining operations, research by PA Consulting shows that this approach is moving even further. In this case, investing in Agile can lead to an improvement in the company's financial condition. "The top 10% of businesses by financial performance are almost 30% more likely to exhibit flexible characteristics, suggesting that a commitment to organizational flexibility can be critical as a success factor," Burg said.

The researchers assessed how well and often these companies show flexible characteristics in their activities and found a positive correlation between these characteristics and the financial performance of the enterprise. What led them to conclude: applied in the work and simply inherent in the organization, these qualities allow leaders to respond faster to customer requests and their needs, reduce the time to market for new products and services, accelerate internal cooperation, and support more flexible processes and systems that allow them to continuously adapt to changing market conditions. Agile leaders overcome barriers and seize real opportunities for transformation and growth.

The use of flexible methods in higher-level planning has also increased, as more respondents practice product mapping (almost 50%). This means that the Agile methodology also affects top management.

The main reasons for implementing Agile in the organization's activities were identified by the respondents:

1. improving the speed of software releases;
2. increase the ability to manage changing priorities;
3. improving the efficiency of the company;
4. improving the consistency of enterprise business processes;
5. improving the quality of the software.

Thus, employees understand the importance of speed and flexibility in the current time, as well as setting the right priorities, and that from time to time they may change depending on circumstances, the environment, the capabilities of the organization itself, and/or the development team, and the wishes of the client. At the same time, efficiency itself falls to third place, although until recently it could have been in the first place because it was the focus on profitability and efficiency that was at the head of any business

External threats and internal factors affecting the implementation of Agile in the project management system in the regions

Although flexible methods are included in the activities of organizations in the region, it is still quite difficult for companies to switch to them. Russian companies, especially in times of crisis, almost always find themselves in the most unprofitable and distressing situation in small and medium-sized businesses: they have no savings since

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almost all of the profits are usually invested in overproduction. Only the big players survive, as well as those who have managed to adapt to the new conditions and change the tactics of combat operations.

Flexibility and adaptability are one of the most important components of a long-playing statistics business. Relevance throughout the organization's activities is very difficult to achieve, especially in conditions of constant change, but this quality will allow the business not only to survive but also to get out of the situation together with profit, new customers, and new opportunities. 2020 turned out to be a year of unexpected events, the pandemic knocked everyone out of the rut: some businesses were completely suspended, some were very limited in their actions, and working on Agile, companies, even if they were not ready for such a turn, would be able to quickly adapt to it.

The main obstacles to the adoption of flexible development methods are traditional methods of change management, organizational culture, lack of support from management, low training of staff, as well as external pressure (Figure 4)

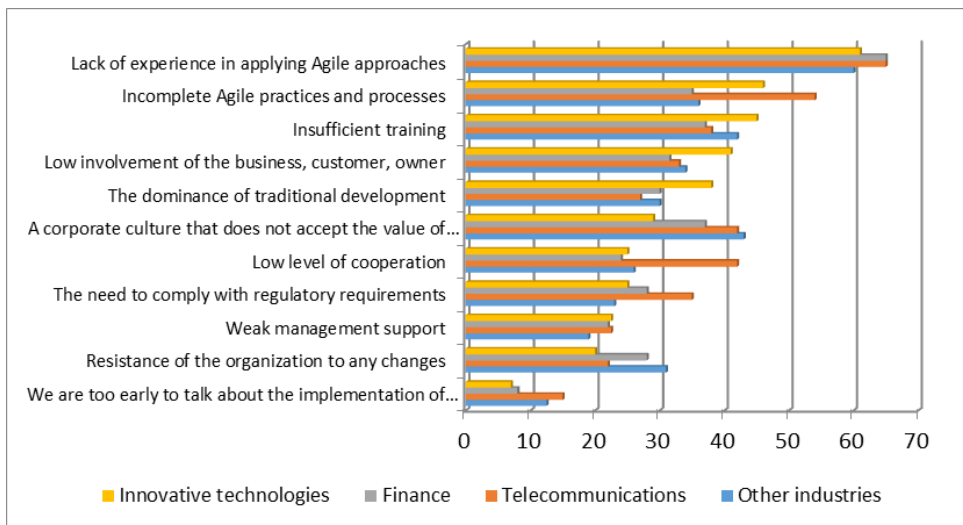


Figure 4. Difficulties of implementing Agile in various industries
(Agile in Russia, 2019. Annual usage report. 2022, p. 7)

Agile transformation requires rebuilding the entire organization—not only the organizational structure, but also the supporting business processes. All of the above can be reduced to a traditional and hierarchical management structure of the company. It is quite difficult for a business that has been on the market for several years, as well as one where shareholders and top management are people who are used to a certain way of life, to suddenly switch to flexibility and adaptability. Moreover, this in many ways seems to be just "fashion trends".

It is not enough just to introduce some tools for work or to break people into teams if the company plans to use agile, it means that it will have to change all the processes of the organization, and most importantly to change the organizational culture, which,

just the same, cannot be implemented. Culture must be nurtured, instilled, and founded. This is difficult for a business that is owned or managed by a group of people, in turn, nurtured by the Soviet culture, which was based on a clear hierarchy, requirements, and rigid attitudes.

This leads to the difficulty of giving subordinates more autonomy and independence, which requires flexible methods. If there is no trust in their employees, if there is doubt about their qualifications, then there can be no question of any transfer of the possibility of independent decision-making, but at the same time - without the ability to decide for them and not ask for permission, not coordinate each of their actions- there will be no Agile. It is based on teams and professionals capable of self-control and self-organization, without additional supervision from higher authorities.

The main difficulties-among others are the difficulties of delegating authority to both top management and middle management. As a rule, for Russian companies, collective responsibility and several iterations of approval of even intermediate solutions, up to the highest level, are typical. Agile involves delegating authority and responsibility to the team level. We are talking about responsibility for the revenue side of the project budget, as well as the authority, for example, to make decisions on spending CAPEX, hiring staff to the team within the HR budget. It is difficult to combine the unwillingness to deviate from the accepted order in supporting functions and the speed required by Agile teams.

The motivation system is transformed accordingly. so far, in a huge number of companies, primarily from traditional industries, the bonus is essentially guaranteed, like the 13th salary. If the employees of the Agile Team receive bonuses not depending on the results of their work, but on the annual results of the entire enterprise, this will demotivate them. The Agile logic implies that there is regular reporting on the achievement of KPIs approved at the beginning of the project, and the team's responsibility for the result.

Agile transformation is impossible without the active participation of the company's owners and top management: they should feel a real need for change, pay great attention to transformation, and delve into the details. Agile requires effort from both middle-level management and ordinary employees. But not everyone is ready to work in the new system, which involves great initiative and personal responsibility. As a result, organizations usually have two career paths: one in the transformational, the other in traditional business processes, built on a more familiar hierarchical principle.

When switching to Agile, most often, the company tries to launch a pilot project: a trial project that will allow them to understand, based on its results and the process itself, how the agile culture affects the organization (even in such a micro-size), what agile is in principle in this organization, and how to continue working with it, whether it is worth it. Whether the company will be able to conduct its activities in the agile mode at all. And then, having gained experience, you can scale this experience to the entire company or to the part of it that is required.

According to the results of the ScrumTrek study at the end of 2019, the top 5 achievements of companies that have already introduced Agile are as follows: change management; transparency; business and IT consistency; speed; predictability. The main goal of implementing Agile-to accelerate the delivery and release of products to the market is achieved with a probability of 47% even at the stage of piloting Agile, whereas at the stage of implementing Agile throughout the organization, this probability is already 60% on average, and after implementation - 75%.

The experience of using Agile organizations in Russia at the moment is 2.7 years, while in the world about 4 years. Compared to 2018, this indicator in Russia has not changed much, which indicates a constant influx of new organizations that are beginning to use Agile. In Russia, the dominant Agile approach is Scrum-the simplest approach to understand: a specific set of rules that a self-organizing team should live by. In the world, as of 2019, Scrum has a share of 54%. In Russia, the share of Scrum is on average 43%, and with increasing maturity in Agile, the percentage of companies using Scrum becomes slightly higher. Compared to 2018, there is a noticeable influx of a large number of beginners using Kanban - now there are 2 times more of them than practitioners of this method.

In Russia, the share of using their Agile approaches (their combination of existing approaches) is 30%, which is almost 2 times higher than the global average. This means that domestic companies prefer not to use ready-made algorithms, but to look at what will be more comfortable and convenient for use in the existing organization, and create their combination of tools and methods that will be suitable in a particular case with a particular enterprise. The popularity of Scrum is based on the fact that it is the easiest approach to understand: a specific set of rules by which a self-organizing team should live.

All the above data confirms the fact that when implementing Agile in the organization's activities, most of the goals set are achieved, as well as the culture in the company, improves. And the transformation is not as painful as it seems at first glance. Any changes, especially if they are large and affect the entire organization as a whole, are scary and look quite difficult, but in the case of flexible project management methods, they are worth it.

Agile is a new way of project management that will evolve and eventually become the norm, at least for project activities and the implementation of the transformational part of the business. It's just that in some industries this process is already going faster, and in others, it will take more time. And here it is not just a matter of high competition. Young people of the new generation, at least the most enterprising and talented of them, no longer want to sit in the office from 10 to 19 for a guaranteed salary. New generations of employees will expect less control from the employer, more flexibility, more interaction situations, and responsibility for the result, and employers will be forced to change to attract the best staff. And Russia will not be an exception.

The criteria for the success of Agile in organizations can be divided into cultural, organizational, and process because it is these three aspects of the activity of

companies that Agile primarily affects. Without changes in the cultural environment of the enterprise and also in the organizational environment, there will be no changes in the processes, which are primarily sought by every company that wants to improve the efficiency of its work with the help of Agile tools.

Once again, it should be emphasized that the implementation of Agile is a time-consuming process that affects the entire organization as a whole and affects it as a whole. The criteria for the success of Agile in organizations can be divided into cultural, organizational, and process because it is these three aspects of the activity of companies that Agile primarily affects. Without changes in the cultural environment of the enterprise and also in the organizational environment, there will be no changes in the processes, which are primarily sought by every company that wants to improve the efficiency of its work with the help of Agile tools.

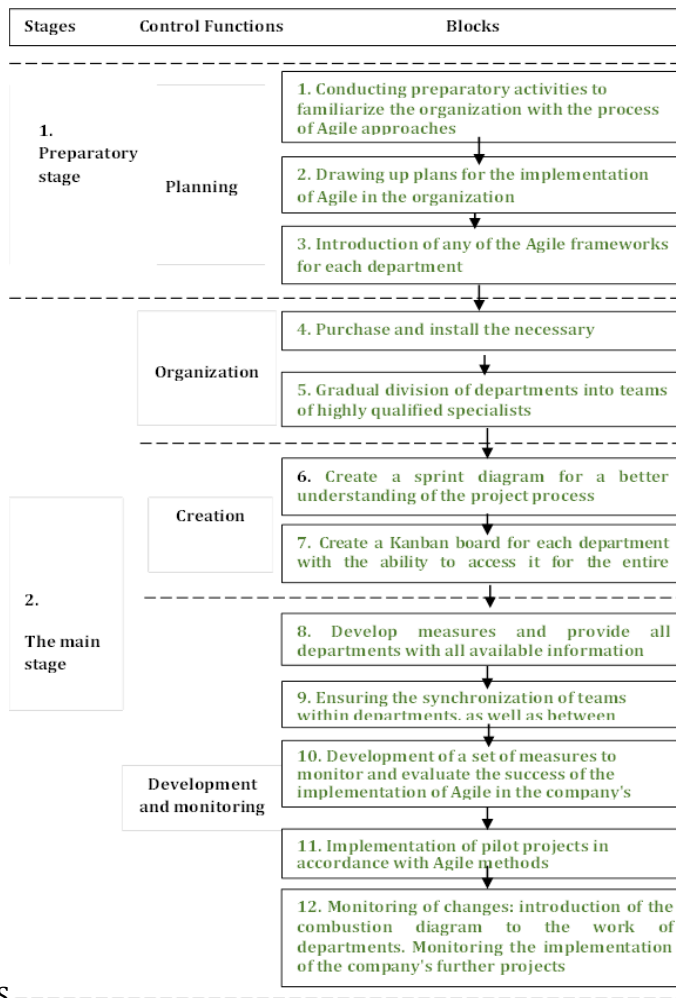


Figure 5. The mechanism for implementing Agile in the organization
(compiled by authors)

Conclusions

Thus, as a result of the conducted research, it was revealed that the experience of implementing Agile in project management in the regional economy is still quite small and not developed. The study of the Russian experience allowed us to identify the problems that exist in the organizations of the regions, and to find ways to solve them. The success criteria for implementing Agile are indicators that confirm the need for organizations to switch to flexible project management approaches, and the developed universal methodological set of measures will allow organizations to do this. The developed Agile implementation mechanism based on a combination of project management and quality management will eliminate the imbalance in the process of managing regional projects and identify priority areas for their implementation.

Since the global pandemic emerged at the beginning of 2020, organizations are even more aware of the upcoming opportunities and challenges and understand that to succeed in the digital age requires flexibility in software development and delivery, as well as business strategy and operational execution. Enterprises are under increased pressure, it is necessary to respond quickly by responding to the needs of their customers and stakeholders; they must quickly bring new products to the market and accelerate the improvement of existing solutions and services. The developed mechanism will help organizations to adapt to changes faster and introduce new technologies.

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