

**IMPLEMENTATION OF ORGANISATIONAL CHANGES AND INNOVATIVE PROJECTS
AS A CONDITION FOR ENSURING SUSTAINABLE DEVELOPMENT OF AGRICULTURAL
ENTERPRISES**

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In the current conditions of growing turbulence and dynamism of the external environment, agrarian enterprises are the most promising for the development of domestic business, and effective management of changes and innovative projects should become a tool capable of ensuring their sustainable development. Systematic implementation of changes in the development of an enterprise is reflected in various areas: production, financial, organisational culture, organisational support, business planning, etc. It is quite fair to say that change management in the context of achieving sustainable development of an enterprise necessitates modern and comprehensive changes in its activities, in particular, in the technologies used, in management methods, in the requirements for the competence of specialists and forms of interaction with the external environment [1]. The implementation of timely and active changes and innovations at the enterprise is caused by its reaction to the unprecedented variability of the external environment, the rapid development of modern technologies and the intensification of competition.

All of the above puts managers of enterprises before the need to implement the process of adaptation to changes and intensify work on innovative projects. Such tasks are especially important in the current environment of limited financial and human resources. Therefore, the more complex the challenges of the external environment, the more responsible the management's response to them should be. Thus, the relevance of implementing organisational changes by agricultural enterprises is undeniable.

In the author's understanding, organisational change is the process of mastering new ideas, forms of behaviour, implementation of effective management methods by an enterprise, i.e. transition of the economic system to a different, higher quality state. Organisational changes are based on the enterprise's reaction to the development of the environment, and therefore the main task for the enterprise is to respond to these changes in a timely and correct manner.

To clarify the methodology of organisational change and its management, let us consider a brief overview of general scientific approaches and models. It has been established that the study of organisational change as a separate area of management science began after the Second World War, when, as a result of changes in consumption characteristics, the emergence of new technologies and new markets, there was a need for companies to adapt to the new conditions of the socio-economic environment. One of the first models of change was the three-phase model proposed in the 1940 by Massachusetts Institute of Technology professor Kurt Lewin (fig. 1).

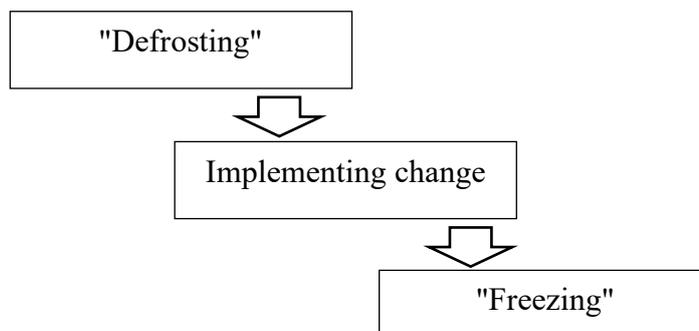


Figure 1. K. Lewin's three-stage change management model.

Source: built by the author based on [5].

According to this theory, organisational change should go through three stages. The first stage, "Defrosting", means that the organisational change managers should prove to the staff that the existing situation is inappropriate and convince them of the need for change. At this stage, general conversations and group discussions should be held, demonstrating the need for organisational innovation and the rejection of old stereotypes. The aim of this stage is to convince staff of the need for organisational change and to encourage them to take action.

The second stage, "Movement", is aimed at directing the subject to a new state. At this level, the organisational change measures developed by the management are implemented in the company's activities.

The third stage is "Freezing". Its goal is to consolidate the new organisational structure, behavioural norms, and business processes in the work of the staff. Here, it is necessary to demonstrate the effectiveness of the organisational changes, using a system of corporate events, to consolidate new stereotypes and organisational values in the minds of employees (or even better, in the subconscious).

All subsequent studies of organisational change are based on this model. For example, an American management specialist, Harvard professor Larry Greiner developed a classic model of change management that includes 6 stages (figure 2) [6].

L. Greiner attaches great importance to the participation of all employees in the organisation. When implementing these stages, it is necessary to use the experience of not only top management but also lower-level employees, as these changes subsequently affect the entire organisation and all its employees. Greiner's model explains the whole process of organisational change in a simple and accessible way, which is why it still makes sense today.

Today, there are many approaches to defining and understanding the change process [6]. Organisational changes are aimed at improving management efficiency and are usually associated with business transformation, such as entering new markets, mergers and acquisitions of other companies. A modern organisation operates in an uncertain environment, as unexpected phenomena appear quite quickly, and organisations must respond to them promptly and in a timely manner.

Thus, organisational change in a company is a complex, multifaceted transformation process. In order to implement them, it is necessary to study the organisation itself - its internal environment, or rather, the interests and expectations of employees. To implement the planned changes correctly, you should carefully analyse the current stage of development of the company and its historical origins. The project of organisational changes should reflect the following: obtaining the necessary information base, describing the areas of change, organisational, technical and social planning of changes.

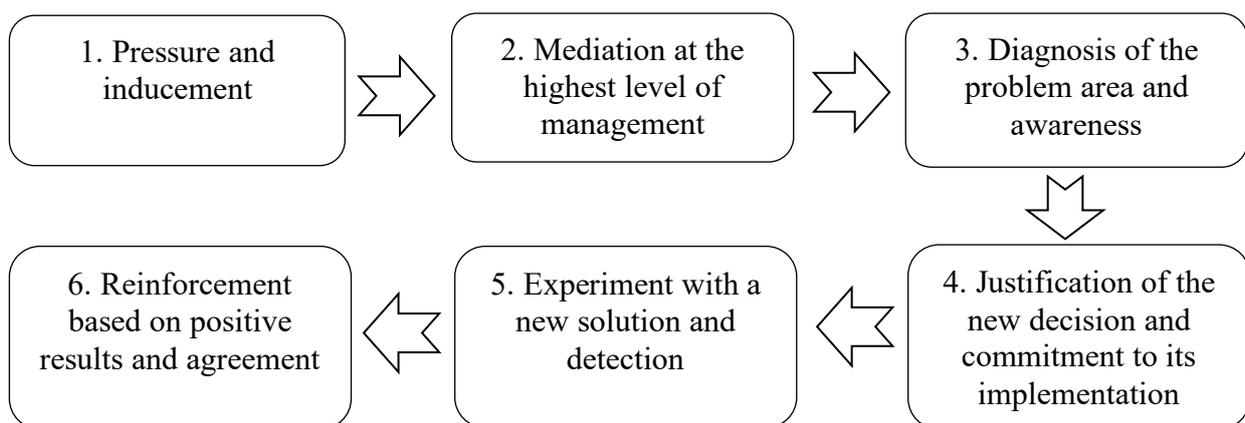


Figure 2. L. Greiner's model of successful organisational change.

Source: generalised by the author on the basis of [6].

For the implementation of organisational changes, it is important to have working groups that perform the main work during the design process. The group members must be able to solve problems that are crucial to the planned changes, and they must have the necessary useful skills and time

resources. The life cycle of such a group should also be specific. For this purpose, it is desirable to use modern technology and electronic resources that will help to properly design the work plan and the timeframe for its implementation.

An important step is to describe the desired result and identify the most likely risks. Therefore, it is advisable to develop measures to reduce and prevent them. Equally important is the modelling and experimentation stage, which identifies project bottlenecks. The implementation of the selected project will help to implement organisational changes that will help the company to remain competitive [2].

The change process can and should be managed. Before planning changes, company managers usually monitor the external environment, i.e. research and analyse market trends, identify customer needs, etc. This helps the organisation to adapt to a dynamic external environment. The model of planned changes is shown in figure 3.

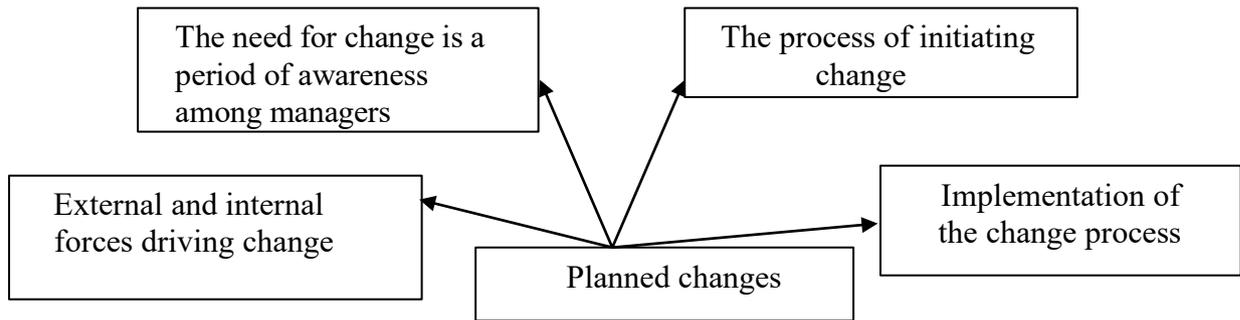


Figure 3. Model of planned changes.

Source: built by the author on the basis of [3, 8].

The specifics of each of these stages depend on the work style of the leader and managers. The reaction to change is different for all employees. Let's look at the factors that determine employees' attitudes to change (figure 4).

1. Parameters of organisational change	- focus, scale, degree of radicalism, provision of information to employees and their involvement in resolving issues related to the reorganisation, initial level of dissatisfaction
↓	
2. Characteristics of the organisation	- size of the organisation, stage of development, time of existence, climate in the team, attitude of reference groups to changes, type of organisational culture
↓	
3. Macroeconomic factors	- the impact of these factors on staff attitudes to innovation is difficult to identify
↓	
4. Characteristics of employees	- employee satisfaction with specific transformations will be determined by their socio-demographic and personal characteristics, motivation and the structure of the personality as a whole

Figure 4. Factors determining employees' attitude to change.

Source: built by the author on the basis of [10].

The organisational changes depend on the way the company's personnel change their behaviour. Therefore, a prerequisite for change in an organisation is to ensure that employees are ready for change.

Organisational change depends on the way in which employees change their behaviour. Therefore, a prerequisite for making changes in an organisation is to ensure that employees are ready for change.

The positive or negative attitude of people to change depends not only on its effectiveness, but also on whether the needs of the staff in the particular situation that led to the change were met. Also, the successful implementation of organisational changes depends on the perception of the results obtained by the company's personnel (comparing what they expected from the changes and what actually happened). In view of this, we share the scientific opinion that the issue of assessing staff readiness for change is becoming particularly relevant. For example, experts of the international consulting company McKinsey & Company argue that in order to prove to the company's staff (a particular employee) why changes are needed and "what will happen tomorrow and the day after tomorrow", communication in different ways about the same message should be repeated eight times [11].

Resistance to change can be an undesirable phenomenon that affects everyone affected by change. The organisation's management should be aware of the reasons for the reluctance to change among employees and develop measures to address resistance. The main reasons for resistance to change are uncertainty, a sense of loss and the belief that changes in the organisation will not bring improvements to employees, management becomes difficult; a sense that changes will lead to personal losses to the point of dismissal or reduction of authority. When developing a strategy to overcome resistance to organisational change, the reasons should be taken into account.

Thus, from the above, we can state that there is a relationship between organisational change and enterprise performance (fig. 5).

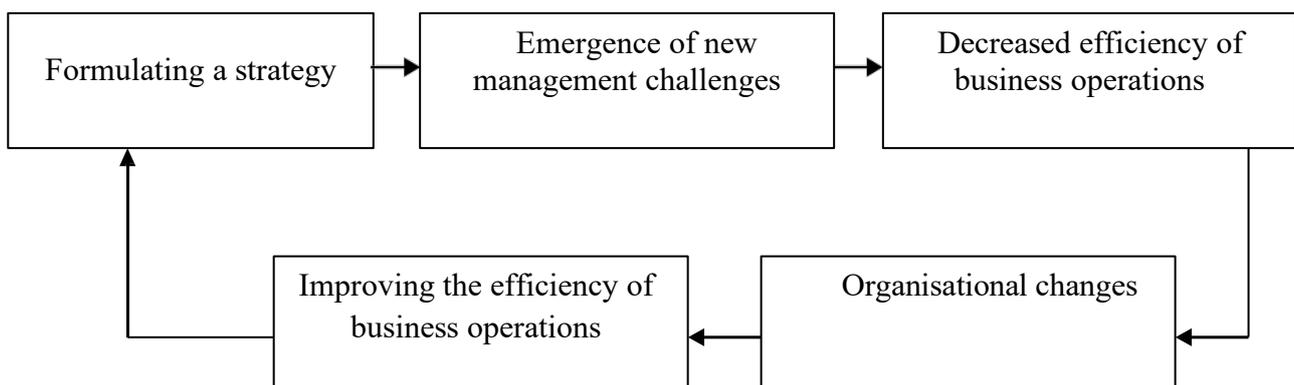


Figure 5. The relationship between organisational change and enterprise performance.

Source: built by the author on the basis of [11, 12].

In general, the study of the practical experience of Ukrainian enterprises allows us to draw a disappointing conclusion that change management in Ukraine is extremely poorly developed. Implementation of organisational changes at domestic enterprises faces a number of problems. The lack of experience and developed algorithms, models, mechanisms, methodology, taking into account the national peculiarities of doing business, also creates obstacles to the implementation of organisational changes [13].

Sharing the thoughts of scientist T. Grynko and T. Gviniashvili, we believe that change is a necessary tool for the development of business entities, and change management should ensure the competitiveness of enterprises on the basis of adaptation to the external environment [4]. When analysing the relationship between organisational change and enterprise performance, the manager must predict, as accurately as possible, the emergence of new problems, a decrease or increase in efficiency.

The author carried out an applied research of the identified issues at a modern private agricultural enterprise "Slobozhanshchyna Agro" located in Sumy region (hereinafter referred to as "Slobozhanshchyna Agro"). This business entity is an enterprise of an integrated agricultural company

(IAC), which is considered to be one of the 10 largest agricultural holding companies in Ukraine. As at the end of 2022, the area of agricultural land of the said company was 23279 hectares, with an average number of employees of 257 people. The company's business is the cultivation of the following crops: corn, sunflower and winter wheat. Slobozhanshchyna Agro is profitable and highly profitable (table 1).

The effectiveness and foresight of the organisational change management system of this enterprise is to implement innovative projects with minimal costs, constantly increasing the volume of production and, ultimately, significantly increasing profitability. Therefore, the results of the analysis confirm the fact that the management of Slobozhanshchyna Agro has full production and financial responsibility for the results of the enterprise's activities, and therefore, a significant capacity of the enterprise's management staff to be active in the implementation of organisational changes and effective innovation projects.

When discussing this topic, we focused on the fact that the management of the agricultural holding annually announces a competition among employees of all clusters, the slogan of which is "We are looking for innovators in IMC". The project was launched in spring 2021. Since then, at the end of this year, a commission set up by the company's top management, which included both representatives of the company itself and specialists from each cluster, received 18 proposals, of which five were approved and taken for implementation. These include: "Fuel flow control scheme", "Large volume boiler indirect heating system", "Solid fuel boiler modernisation", "Light trap for pests in corn crops", "Development of a cone for cutting mineral fertiliser bags" and others. All of these projects have been implemented, and their authors have received financial rewards. It is very pleasant and important to note that two of the five projects mentioned above were submitted by engineers of Slobozhanshchyna Agro. Therefore, we can confidently state that there is a significant innovative potential of the employees of the studied enterprise capable of implementing changes and active project activities.

Table 1. Key economic indicators of the development of Slobozhanshchyna Agro.

Показники	Years			Deviation of 2022 from 2020, ±.	
	2020	2021	2022	absolute, thousand UAH.	relative, %
Net revenue from sales of products, thousand UAH	868093	1037909	778090	-90003	89,6
per 100 hectares of agricultural land, UAH thousand	3737,3	4458,6	3369,1	-368,2	90,1
- per 1 average employee, thousand UAH	2662,86	3061,68	2408,95	-253,91	90,5
- per 1 UAH of fixed assets, UAH	1,05	0,95	0,58	-0,46	55,6
Cost of sales, thousand UAH	517753	491184	380940	-136813	73,6
Gross profit (+), loss (-), thousand UAH	350340	546725	397150	46810	113,4
Net profit (+), loss (-), thousand UAH	212763	405468	183993	-28770	86,5
per 100 hectares of agricultural land, thousand UAH	916,0	1741,8	796,7	-119	87,0
- per 1 average employee, thousand UAH	652,65	1196,07	569,64	-83,01	87,3
- per 1 UAH of fixed assets, UAH	0,26	0,37	0,14	-0,12	53,7
Profitability level, %.	41,09	82,55	48,30	7,21	117,5

Source: calculated by the author on the basis of the reports of Slobozhanshchyna Agro.

DEVELOPMENT OF MANAGEMENT IN THE CONDITIONS
OF INTERNATIONAL INTEGRATION PROCESSES

Innovations in an agricultural enterprise, such as Slobzhanshchyna Agro, are the implementation of research results, new plant varieties, fertilisers, plant protection products, technologies, forms of production management, etc. into production, i.e. everything that will help to increase the efficiency of production. Table 2 shows the results of the company's innovation activities.

Table 2. Innovation activities at Slobzhanshchyna Agro.

Innovative projects and types of innovations	Characteristics of innovations	Amount of innovations implemented, UAH thousand			Rate of change in %.	
		2021	2022	2023	2023/2021	2023/2022
Innovative projects for the introduction of new technologies	Use of new mineral fertilisers, new plant protection products	294	466	1619	550,7	347,4
Innovative projects for the introduction of technical innovations	Use of new machinery	25295	9805	4372	17,3	44,6
Rationalisation proposals	Use of PBN-20, PBN-30 for transporting corn and sunflower grain across the field from the combine to the truck in adverse weather conditions	37	129	254	686,5	196,9
Product innovations (new crop varieties)	Winter wheat: Akratos, Colonia, Kubus, Patras, Rumor, Bonanza. Sunflower: Kupava, Arizona, Condi, Esperto, Diamantis, Edison	217	809	1185	546,1	146,5
Innovative projects on new types of production organisation	Using a quadcopter for sunflower desiccation	-	-	92	-	-
Innovations in the field of management	Creation and transfer of electronic consignment notes using NFC; marketing innovations	181	309	654	361,3	211,7
Total		26024	11518	8176	31,4	71,0

Source: calculated by the author on the basis of the reports of Slobzhanshchyna Agro.

Table 2 shows data on the results of innovation activities, which indicate the active implementation of both individual agro-innovations and innovative projects at the level of the enterprise under study. However, the amount of implemented innovations in 2023 decreased significantly compared to 2021 - by UAH 17848 thousand (68.6%), and by UAH 3342 thousand (39%) compared to 2022. The main reason for this is the rather large amount of technical innovation projects implemented in 2021. To a greater extent, this concerned the acquisition of two new John Deere 8345R tractors worth UAH 10.8 million and vehicles (truck tractors): MAN TGA 18,440 for UAH 1.9 million and KAMAZ 45144 for UAH 1.8 million, and trailers for them for UAH 0.9 million.

When transporting corn and sunflower, the company uses rationalisation proposals to PBN-20 and PBN-30, which allows it to maximise the agronomic efficiency of the standard programme for the transportation and storage of harvested products even in the face of rapidly changing climatic conditions.

Given the importance of selecting high-quality fertilisers and other plant protection products (PPPs) in accordance with the tasks set by the company's employees, the use of new types of mineral fertilisers and new PPPs is recorded. It is known that poor-quality fertilisers cause farmers to fail to achieve the expected effect from their use. As for the quality of plant protection products, in addition to unjustified use, this can result in harm to both plants and the environment.

It is also worth noting the introduction of such important managerial innovations by enterprise managers as the introduction of the technology for creating and transmitting electronic consignment notes using the NFC (Near Field Communication) chip. NFC is a wireless communication technology that allows devices to communicate with each other at a short distance. This, on the one hand, has increased the level of safety of transportation from the field to the elevator, and on the other hand, it has greatly simplified and optimised the work and its accounting.

It has also been found that the SSE "Slobozhanshchyna Agro" actively uses marketing innovations, the incentive for the latter being the desire of the management to maintain and even increase the market share of its products, expand it to new geographical segments and expand cooperation with foreign counterparties.

The innovation process in agricultural enterprises is primarily concerned with the introduction of new varieties [14] (in our case, these are varieties of cereals, especially winter wheat) that are high-yielding and quickly adaptable to cultivation and resistant to pests and diseases. Domestic practices have shown that the use of high-quality seeds of a new high quality variety provides an additional increase in the yield of 8-10 centners of winter wheat per hectare at the same cost. The research results show that the grain quality of the newly developed varieties meets the requirements of strong and valuable wheat by some indicators. Let us consider the situation with the company's innovative development in this area (Table 3).

Table 3. Economic efficiency of introducing new varieties of winter wheat at Slobozhanshchyna Agro (2023).

Indicators	Wheat from own seeds	Kubus Kinto Duo	Frisky, 1 reproduction	Jersey, 1 reproduction	Emil, 1 reproduction
Area, ha	3661,61	22,5	60	55,4	25,9
Gross harvest, t	233691,7	1487,4	4013,7	3581,86	1722,9
Yield, c/ha	63,82	66,11	66,90	64,65	66,52
Production cost per 1 tonne, UAH.	349,18	389,78	356,30	373,17	366,71
Total cost of 1 tonne, UAH.	534,28	581,03	545,29	568,72	556,77
Expenses per 1 ha, UAH.	34098,88	38410,07	36477,27	36770,15	37036,93
Sales price per 1 tonne, UAH.	925,55	1034,89	1034,89	1034,89	1034,89
Sales revenue per 1 ha, UAH.	59070,56	68413,13	69228,97	66910,31	68842,16
Profit per 1 ha, UAH.	24971,68	30003,06	32751,70	30140,16	31805,23
Profitability level, %.	73,23	78,11	89,79	81,97	85,87

Source: author's own calculations.

Table 3 provides convincing evidence that the introduction of new varieties of winter wheat gives the company the opportunity to significantly increase the yield of this crop. Frisky was the most productive winter wheat variety, yielding 66.9 cwt/ha, followed by Emil at 66.52 cwt/ha, Kubus Kinto Duo at 66.11 cwt/ha and Jersey at 64.65 cwt/ha. As the table shows, the yield of wheat from own seeds was 63.82 centners per hectare. The additional costs of purchasing and transporting seeds were paid off by a higher selling price of UAH 109.34 per cent, higher grain grade and higher yields. The most profitable winter wheat variety was Frisky. Its profitability was 89.8%, the least profitable of the

innovative varieties was Kubus Kinto Duo with 78.11%, and the profitability of winter wheat production from own seeds was 73.23%.

In general, it can be stated that the introduction of new varieties is profitable and cost-effective, and the cost of purchasing seeds will be recouped if the sown area is expanded to accommodate new intensive varieties.

Therefore, we believe that in the current situation, there is no alternative to organisational changes and active implementation of innovative projects to ensure the sustainable development of agricultural enterprises. The current business environment is extremely challenging, but we believe that it should not in any way be a reason to abandon further development of the enterprise in terms of implementing innovative projects.

When analysing the capabilities of this enterprise, we should add the results of research by well-known scientists [7], which prove that innovations in the agricultural sector will be noticeable and effective only when companies spend on them the amount equivalent to \$50 per 1 ha. Therefore, it is advisable to attract investment in green energy. After all, due to the increased electricity tariff and the constant rise in oil and gas prices, and in the current situation, unstable electricity supply, green energy is a top innovation leader. Our research has shown that both large agricultural holdings and individual farms and even households are now actively investing their own and borrowed financial resources in the creation of solar power plants, biogas power plants and wind farms.

Management of innovation activity is aimed at creating a mechanism that allows to comprehensively influence the innovation activity of an enterprise, to rationally use the existing scientific and technical potential of the enterprise, budgetary and own funds, and to obtain a useful result in the shortest possible time. However, in the context of limited resources, it is necessary to focus on those innovations that provide the highest economic effect with the least resources, and it is advisable, in our opinion, to set priorities more carefully.

World and domestic economic science and business practice [7, 9] show that the universal quantitative indicator of the effectiveness of innovation is the profit of the enterprise. A private agricultural enterprise independently develops a strategy for its activities, coordinating it with shareholders, so both profitability in particular and the level of efficiency of its activities in general depend on the correctly chosen development vector.

For a complete picture and in order to develop proposals for improving the management of innovation activities, let us consider the level of the company's profit from innovation activities (table 4).

Table 4. Profit from innovation activities of the SSE "Slobozhanshchyna Agro".

Indicators	Years			Deviation, (+;-)	
	2021	2022	2023	absolute	relative, %
Revenue from sales of innovative products, UAH thousand	48648	20297	15603	-33045	32,1
Expenditures on innovation activities, UAH thousand	26024	11518	8176	-17848	31,4
Profit, thousand UAH	22624	8779	7427	-15197	32,8
Profit per 1 UAH of expenses, UAH	0,87	0,76	0,91	0,04	104,5

Source: Author's own calculations based on the company's reports.

In the researched enterprise in 2023, compared to 2019, as shown in Table 4, there is a decrease in the volume of production and sales of innovative products by UAH 33045 thousand, or 67.9%. At the same time, the amount of expenses for innovative activities decreased by UAH 17848 thousand, or 68.6%. As a result, the amount of profit from innovation decreased by UAH 15197 thousand, or 67.2%.

The profit per UAH 1 of innovation costs increased by only 4.5% and amounted to 91 kopecks per UAH 1 of costs in 2021, which confirms their high payback.

The detailed research at Slobozhanshchyna Agro on the identified issues gives grounds to assert that ensuring effective innovation is possible only through proper management. Therefore, a systematic approach to the management of organisational changes and innovation projects has a positive impact on the bottom line of the enterprise's economic activity.

The author's vision of the system for managing organisational changes and innovation activities in general at Slobozhanshchyna Agro is presented in figure 6.

The presented model of the system of management of innovation activity of this enterprise, in our opinion, should consist of the following main elements: object of management - types of organisational changes and innovation activity at the SSE "Slobozhanshchyna Agro", management mechanism (goals of innovation activity, management functions, management methods, management decisions and communication channels).

The subjects of the management apparatus influence the objects of management through management decisions on the choice of specific mechanisms and methods of management. The object of management in this mechanism is all the processes of innovation activity of the enterprise and the employees of the agrarian private enterprise who are directly involved in the introduction of organisational changes and in the development and implementation of innovative projects. The objects of management are also the necessary means for the implementation of innovative activities.

The subjects of the innovation management apparatus influence the object of management by formulating and communicating management decisions to the executors, which are aimed at implementing the functions of planning, organising, motivating, controlling and regulating the innovation component with the help of certain management methods.

Before we make specific proposals for improving the innovation activity in the researched enterprise, we note that the SSE "Slobozhanshchyna Agro" works with top hybrids, advanced seed material, original plant protection products and intensive nutrition system, i.e. the researched entity, working in the field of crop production, has high economic results due to proper innovation development and effective management.

It is also worth noting that the key role in updating the innovation culture, using it in the management process, and forming a unified team is assigned directly to the head of the enterprise. That is, we can state that the effectiveness of organisational changes and innovative projects is significantly influenced by the perception of their perception by the head of the enterprise.

We have already mentioned above the involvement of the company's staff in the implementation of innovative projects. Moreover, the management of the agricultural holding hopes that by the end of this year there will be much more proposals. After all, at the beginning of this initiative, information letters were sent to enterprises with an invitation to participate, and in June 2023, specialists made presentations at enterprises and explained in detail the purpose and familiarisation of innovators with the opportunity to receive pleasant bonuses.

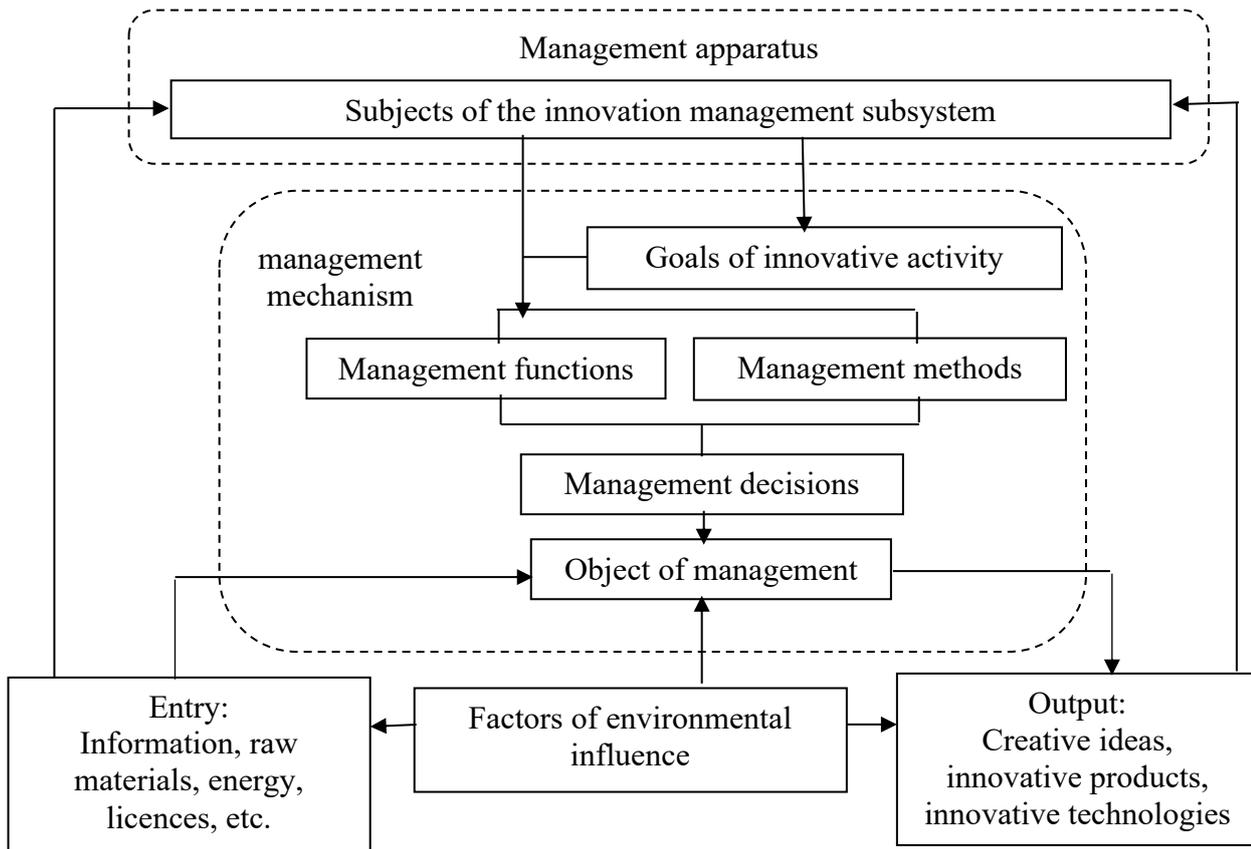


Figure 6. Management system of organisational changes and innovation activity of the enterprise

Source: built by the author on the basis of generalisations [4, 6, 10].

Talking to Bohdan Krivitskyi, Deputy CEO for Technical Affairs and Innovative Development IMC, we found out that both the agroholding as a whole and the company selected for the study are implementing several projects to develop an innovative culture in addition to production innovation projects. In fact, managers are doing serious work to inform the team about new developments and specific initiatives for their implementation.

In this regard, according to the above-mentioned representative of the company's top management, the research of the international consulting company Deloitte is very interesting, which proves that today we have to implement separate approaches to working with employees to involve them in the planned innovative changes. The company's researchers state that it is worth developing any innovations in different ways, whether unilaterally or multilaterally, and it is important to allow dialogue [10]. That is, it is important to perceive an employee as a professional, as a person who can also be involved in co-authorship, in the search for ideas, and not just perform a function. Therefore, when it comes to organisational changes and projects, we believe it is quite fair to say that people are the most important and difficult thing [9].

The psychology of perception of innovations is at least three different reactions of employees to their implementation. In our case, in the context of the economic activity of the Slobozhanshchyna Agro business enterprise in Sumy district, such a psychological problem was the attitude of the staff to the innovative ideas of the agroholding management regarding the introduction of precision farming in the enterprise. The first reaction is that some employees are interested in organisational changes and have a positive attitude to this innovative idea of using precision agriculture. Employees are fully aware of why this is necessary and are willing to participate in this process, both directly and indirectly, in order to be at the "peak of change" in the future.

The second group of employees are those who are categorically against innovation. We know from psychology that people tend to find their own integrity, coherence, balance, they have figured out what is good and what is bad for themselves, have made a balance of forces, priorities, emphasis, goals, so it is very difficult to rethink and change their moods. Some employees believe that they do not need to do this, because when implementing precision farming, for example, control can reveal irregularities in technological operations, application of agrochemicals, etc.

The third category of employees is conservatives. They are the most difficult to deal with, i.e. people who do not accept change and are ready to defend their habits quite convincingly for internal reasons that they cannot always even explain. Some machine operators, even agronomists, are used to following a well-trodden path and simply do not want to change anything in their lives.

Let's look at the perception of organisational changes on the issue of precision farming implementation by the employees of Slobozhanshchyna Agro, among whom an expert study was conducted. The results are shown in figure 7.

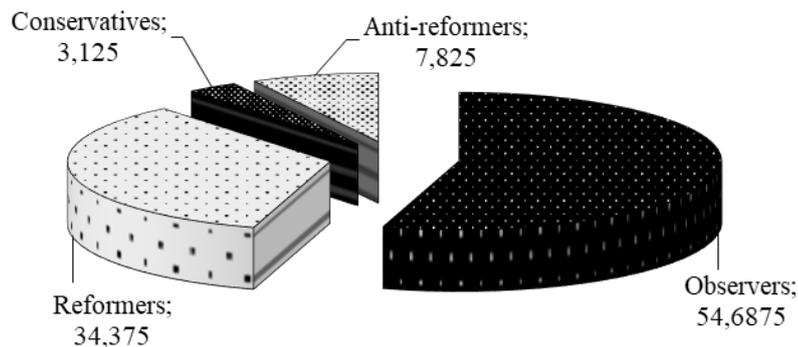


Figure 7. Composition of the labour collective of Slobozhanshchyna Agro by perception of innovations, %.

Source: Own research results.

The survey allows us to state that the majority of employees in the company have a neutral position, so we classified them as observers, however, 34.5% of employees take a management position and support organisational changes in general and in particular with regard to precision agriculture. This category of employees not only has an understanding of the innovation component, but also expresses a desire to be involved in change and innovation.

Improving organisational change and project management at the present stage has a comprehensive impact on production and is an important reserve for its intensification and efficiency. As already mentioned, Slobozhanshchyna Agro is part of the Sumy cluster of the IMC agricultural company, and most of the holding's enterprises are actively implementing, for example, the precision farming system, which is not the case with the farm we studied. Certain elements of this technology are, of course, used, but there is no balanced, permanent basis.

According to statistics, more than 80% of farmers in the US use precision farming, and 70% in Germany. European farmers use elements of precision agriculture even on 0.5 hectares, and almost 90% of farms that have tried precision agriculture technologies. Regarding the relevance and timeliness of implementing innovative projects in the precision farming system, insights can be gleaned from a publication by the director of the consulting firm AgriLab [9]. The director points out that precision farming is currently being fully implemented on 5% of all arable land. While certain elements of it enhance economic activity, they do so by no more than 20%.

The use of precision farming elements makes it possible to claim resource- and energy-saving production. Therefore, a significant number of farmers, including Slobozhanshchyna Agro, should focus on those projects that can save financial resources of the enterprise. And in our case, this should not be a reason for switching to lower quality and cheaper resources.

Thus, given the company's goal of maximising profits through the production of crops while preserving soil fertility and the environment, we believe it is advisable for the management to consider a proposal for innovative activities in the area of precision farming technology.

Let us briefly describe its main areas. The precision farming system includes the stages shown in figure 8.

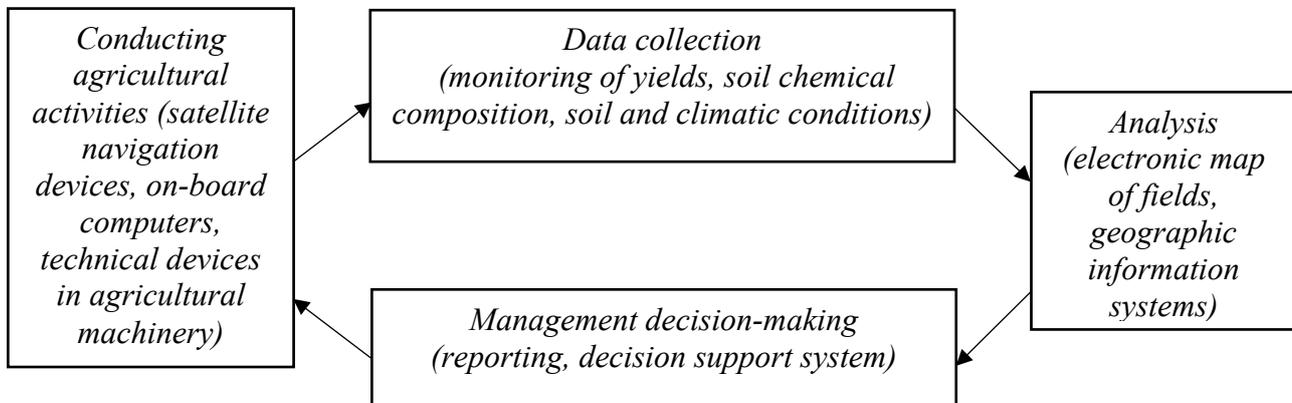


Figure 8. Main components of a precision farming system.

Source: own research.

The aim of such management is to maximise profits by optimising agricultural production and saving economic and natural resources, based on accurate data on land conditions. In addition, these precision farming systems provide for a more environmentally friendly approach to soil and the environment.

Precision farming is a promising approach to agricultural business.

The introduction of this technology:

- improves operational efficiency and labour productivity;
- increases the yield of grain and other crops;
- reduces the cost of growing them.

The first and most important thing that is required to master precision farming technology is the readiness of an agronomist. That is, his experience, understanding of the processes, understanding of the stages that will need to be worked out to move from traditional technologies to precision ones.

A precision agriculture specialist must be trusted by both the tractor driver and the agronomist. They have to work together. The agronomist should not be forced to learn the basics of precision farming. Similarly, a precision agriculture specialist does not need to know everything about agronomy. What is important is the symbiosis in the work of these people. An agronomist sets tasks with specific qualitative and quantitative parameters. And the precision agriculture worker ensures this. In fact, the precision farming unit is a service structure in the company.

In our opinion, the competence of an agronomist is a key factor in the successful implementation of precision farming on a farm. After all, you need to understand what equipment is available, its capabilities, what units are available, what can be converted to precision farming and what cannot be converted. You need to plan your crops, calculate how the technology will change. And, of course, you need to learn how to work with software tools that will become the agronomist's main assistant in his work.

One of the problems of implementing precision farming is precisely the human factor, i.e. agronomists' understanding of how to properly set up this process, how to work competently with modern IT systems. It would also be appropriate to further study the technology itself, the technical potential, i.e. the equipment for the technology, and the existing approaches to its launch.

In addition, for a complete understanding, it is necessary to establish the reasons why plants develop worse in one area of the field than in another. Even if an agronomist fully understands this, it is not enough; he or she must also be provided with the necessary tools, equipment and software. This requires money and human resources.

The innovative component and its development in agricultural enterprises involves the modernisation of fixed assets, so the search for options to solve this problem is constantly relevant. For example, today one of the most promising areas of innovation in the agricultural sector around the world is the use of unmanned aerial vehicles (drones) for agricultural production. Such technical innovations take aerial photographs, monitor fields, create 3D maps, plant seeds, apply fertilisers and plant protection products, control crops, and can also control animals in agriculture, etc [12].

Innovative activities in agricultural enterprises involve the modernisation of fixed assets, so the search for options to solve this problem is constantly relevant. As practice shows, for the further development of Slobozhanshchyna Agro, it is advisable to introduce innovative projects in the field of precision agriculture in combination with digital field monitoring using drones, which will greatly facilitate the work of agronomists and mechanical engineers.

Given that the company's land area is currently quite large, we propose to purchase two drones for Slobozhanshchyna Agro for mapping and monitoring of plant protection products (PPPs), which will be managed by a precision agriculture specialist. In order to determine the effectiveness of using drones in agriculture, the article presents a calculation of the increase in yields and the payback of the costs of their acquisition. For this purpose, a scenario is modelled in which Slobozhanshchyna Agro will be able to purchase two drones, one for mapping and monitoring, and the other for applying a complex of plant protection products with mineral fertilisers.

Consider the economic component of the proposal: the price of an AGRAS T30 drone (manufactured by DJI) for fertilisation is UAH 560 thousand, while another Mavic Pro 2 drone of the same brand will be used for monitoring, with a cost of UAH 42.5 thousand. Given that devices such as drones are classified as fixed assets of the machinery and equipment group, their depreciation period is at least 5 years. The calculated amount of annual depreciation is as follows:

$$A = (560 + 42.5) / 5 = \text{UAH } 120.5 \text{ thousand.}$$

It is projected that the area that can be monitored and fertilised with plant protection products on the fields of Slobozhanshchyna Agro can reach 500 ha.

We have chosen winter wheat as a crop to study this process, with an average yield of 6.4 t/ha and a selling price of 10035 UAH/t.

The calculations do not take into account the cost of fertilisers and plant protection products, but it is worth noting that selective application by drones can save up to 40% of mineral fertilisers. Also, the cost of seed (as this indicator does not affect the assessment of the efficiency of using drones), the cost of spare parts, repairs (both of the drone and agricultural machinery), etc.

At the initial stage, let's calculate the income of a private farm, assuming that it monitors crop growth using its own means, i.e. without the use of drones, and uses agricultural machinery to apply fertilisers and plant protection products:

$$D = 500 \times 6.4 \times 10.035 = 32112 \text{ thousand UAH.}$$

Let's calculate the income under the scenario of using drones, but without taking into account the coefficient n:

$$D2 = 500 \times 6.4 \times 10.035 - 120.5 = 31991.5 \text{ thousand UAH.}$$

If the use of drones for applying mineral fertilisers and plant protection products does not affect the yield, the agricultural company will receive less for the season by the amount of drone depreciation, i.e. by UAH 120.5. In order to determine at what value of n it will be possible to obtain an equivalent profit from the use of drones as with the use of alternatives, i.e. agricultural machinery for applying mineral fertilisers together with plant protection products, we have the following calculation.

$$D3 = 500 \times 6.4 \times n \times 10,035 - 120.5 = \text{UAH } 32112 \text{ thousand.}$$

Let's calculate the indicator n:

$$31991.5 \times n = 32112;$$

$$n = 32112 \div 31991,5;$$

$$n = 1.00376 \times 100 = 100.376\%$$

The calculations show that the use of drones will increase yields by 0.376% (or $6.4 \times 0.376 = 0.024$ t/ha, or 2.4 c/ha). If this indicator is higher than the indicator of using alternative methods of monitoring and applying fertilisers and plant protection products, then the use of drones is more economically viable than the alternative (when using agricultural machinery for the above purposes).

Let's determine the impact of the use of drones on profit as a result of a 1% increase in yield.

$$D4 = 500 \times 6.4 \times 1.01 \times 10.035 - 120.5 = \text{UAH } 32312.62 \text{ thousand.}$$

$$k = 32312,62 / 31991,5 = 1,01004$$

$$k = 1.01004 \times 100 = 101.004\%$$

Thus, we can conclude that the yield increases by 1% due to the use of the proposed technical innovation, which, in turn, will lead to an increase in the company's income (increases by 1.004%).

In an extremely difficult political situation related to military operations on the territory of Ukraine, against the background of intensive globalisation processes and rapid development of STP, a large share of economic entities, unable to withstand competition, found themselves in a crisis. Within the framework of the topic, the author shares the scientific opinion that "organisations will survive and thrive by using prompt, flexible and effective change management" [2, 4, 6].

The main organisational changes are the reaction of the enterprise to the development of the environment and their number is constantly increasing in modern conditions. Therefore, the main task for the enterprise is to respond to these changes in a timely and correct manner. Therefore, it is necessary to use all the resources of science and practice to ensure that the management and staff of the enterprise go through this process with minimal losses. At the same time, organisational changes depend on how employees, who are an important strategic resource of the enterprise, change their behaviour. This confirms the need for careful planning of organisational changes, and a prerequisite for their implementation is to determine the readiness of the enterprise for changes, which is a key indicator for management to implement them.

Before planning organisational changes in an agricultural enterprise, we suggest launching a so-called "Bank of Ideas" to generate creative ideas. Its main provisions are shown in table 5.

Employees can submit their ideas for organisational change via the Internet, e-mail, idea boxes and catalogues, and through their departmental managers. The ideas are proposed to be evaluated by a specially created expert council, which should include representatives from management and experienced specialists. If a particular idea is selected, its author should be included in the organisational change management team.

Table 5. Main provisions of the "Bank of Ideas".

Sources of ideas	Knowledge management tool
<ul style="list-style-type: none"> - employees (main source) - business partners - customers - consultants - competitors - exhibitions, conferences 	<p>A tool that allows employees to share new ideas based on their experience and observations</p> <p>A tool that allows you to engage customers, suppliers, partners to improve the company's operations, products and services</p>
The purpose of a knowledge management tool	Metrics of the knowledge management tool
<ul style="list-style-type: none"> - Search and implementation of promising ideas to optimise: products, services, technologies, business processes, structures - Development of innovation activity and innovation culture - Reducing costs by various items when implementing ideas 	<ul style="list-style-type: none"> Number of ideas submitted Number of ideas implemented as projects Economic effect of the implemented projects

Source: compiled by the author.

Judging by the studied practice of running a profitable business, we believe that in the current environment, managers of agricultural enterprises should focus on a phased change management plan. We propose that at the beginning of the work, they should assess the readiness of the enterprise for changes, carefully plan its activities, and prevent possible resistance of the staff to organisational changes and the implementation of new projects in advance. An important role should be given to the following stages: distribution of powers between the participants of the change management process and the stage of managing the transition process and supporting changes on an ongoing basis (through communication, consultation and representation of stakeholders; conducting outreach and measuring the realisation of benefits) (fig. 9).

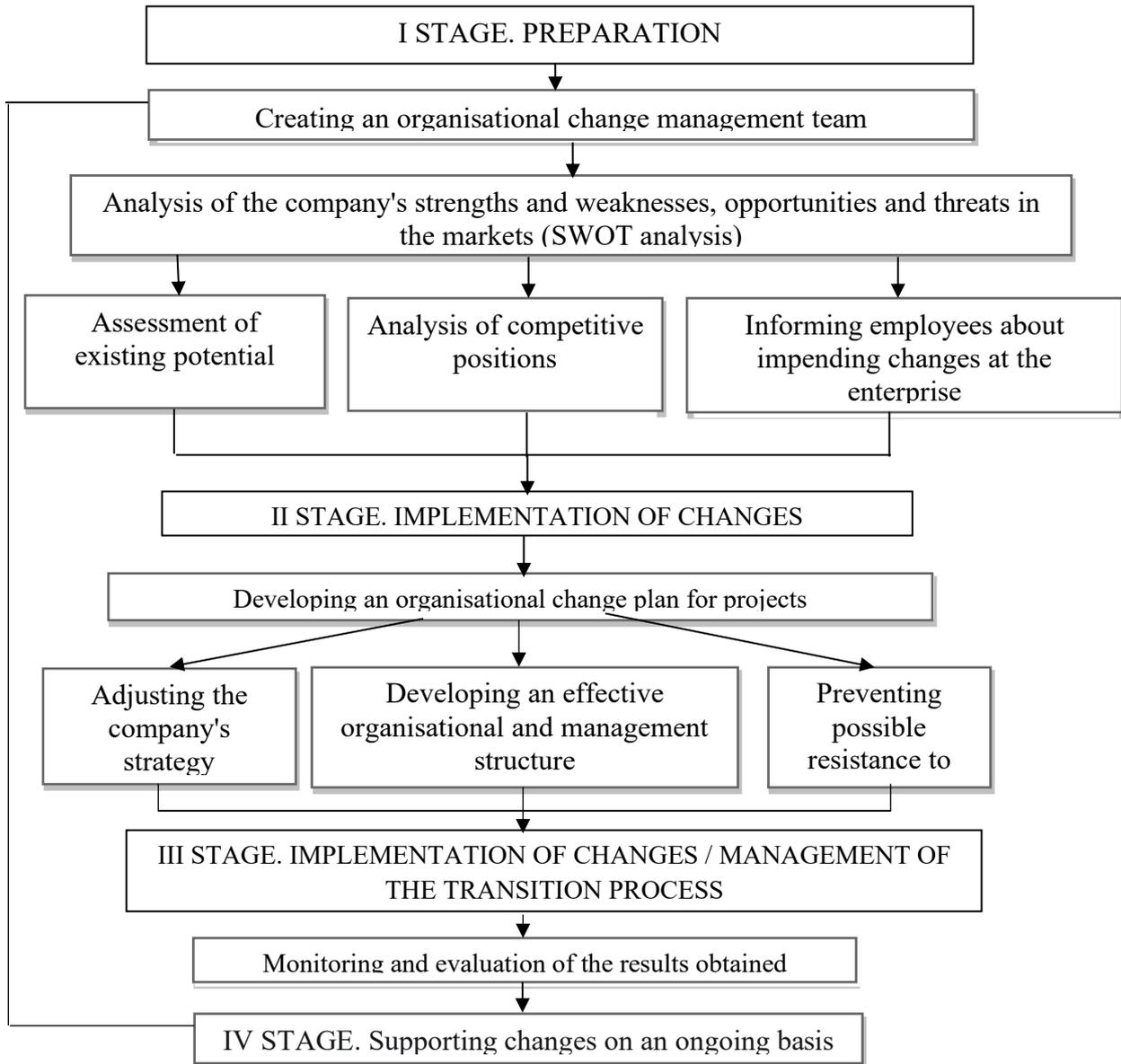


Figure 9. Stages of the process of managing organisational change and in the enterprise.

Source: compiled by the author on the basis of [13].

The positive or negative attitude of staff to change depends not so much on the results of the change as on whether people's needs have been met in the particular situation that led to the change. The perception of the success of changes is not so much related to the actual situation as to the gap (in the

perception of people or enterprises) between what they expected from the changes and what actually happened, and their ability to adapt to the changing situation. Therefore, we emphasise that in order to determine the readiness of an enterprise for organisational change, it is very important to assess the importance of the human factor as one of the crucial components in the implementation of organisational change. In doing so, the mechanisms of management culture, management style, staff motivation, and incentives for advanced training and professional growth should be reviewed. For the successful implementation of changes, the HR system of the enterprise should be considered as an organisational potential that will allow adequate and timely response to external influences.

The first preparatory stage involves the creation of an organisational change management team, whose task should be to plan the creation of a development vector. It should be noted that recently a significant number of researchers have expressed the opinion that in order to increase the readiness of the enterprise for changes and ensure their effective implementation, it is proposed to create a separate unit responsible for the implementation of organisational changes. This allows to effectively coordinate and manage the process of organisational change at the enterprise. Such a unit may include a team of specialists with experience in change management, strategic planning and internal consulting. Its task should be not only to develop a strategy for implementing changes, but also to ensure interaction with all departments and levels of the organisation to implement new ideas and processes. Such a department can be created on a permanent or temporary basis. As for change specialists, they can also be hired for a certain period of time from specialised companies. In addition, in the process of implementing changes, the department's competences should be expanded by the ability to coordinate the activities of other departments of the enterprise in order to increase the efficiency of change implementation. In the organisational structure, the change management department should be directly subordinated to the top management. At the same time, it should not duplicate the functions of other departments and divisions of the enterprise. Thus, the main functions of the change management unit are:

- diagnostics and forecasting of changes in the external and internal environment, identification of the most important changes for the enterprise;
- comprehensive analysis of the changes carried out at the enterprise and their results, identification of deviations from the set parameters;
- accumulation of information on the most effective methods of change management, creation of action algorithms and methodological tools;
- development of specific actions in the event of a situation requiring immediate changes, adjustment of measures in the absence of an effective response;
- creation of an internal environment of the enterprise capable of responding quickly to external changes and using them to the best advantage for its development;
- planning changes based on existing knowledge and experience;
- identifying sources and means of providing the necessary resources and support from the staff to implement the changes;
- identifying negative reactions and developing measures to eliminate them;
- coordination of activities of other departments of the enterprise during the implementation of changes;
- control over the achievement of the set goals.

It should be noted that the functioning of the change management department can be organised on a temporary basis or on the basis of engaging specialists in the field of change management from specialised companies (critical need for immediate changes, any form of enterprise).

We emphasise that if a temporary form of organisation is used, the work of the department is coordinated by the top management of the enterprise, and its functions are prescribed in the change programme. Such a form of organisation of the department does not have a clear regulation of activities, since in addition to the main functions of change management, employees perform additional functions at their place of permanent work. Duties and responsibilities in the department are distributed among employees depending on the degree of complexity of the tasks performed, and decisions on change management are advisory in nature.

If specialists are engaged, their powers are limited to the scope of the change programme and are specified in the contract. The level of regulation is set by the specialists themselves, and the decisions made by the body are binding after approval by the management. Thus, the choice of the form of organisation of the change management department depends on many factors. First of all, it is necessary to assess the degree of need for organisational change at the enterprise. Then, the type of the existing organisational structure is established, which allows to determine the existing intra-economic relations, hierarchical subordination, scope and distribution of responsibilities between the departments. After that, a detailed description of the existing structure is given, and a list of features and properties is formed. At the last stage, the form of organisation of the change management unit is determined, which meets the needs and capabilities of the enterprise.

Increasing the enterprise's readiness for change helps to overcome resistance to change on the part of the team. Resistance to change causes destabilisation of relations between staff. Since the vision of the new, the need for change is most often understood at the top levels of enterprise management, resistance can occur at almost all lower levels. The strength of resistance largely depends on the degree of awareness of the company's members about foreign policy, on their understanding of not only the importance of the changes for the entire organisation, but also their own role. At the same time, each member of the organisation must correlate innovations with their own goals and personal benefits.

The satisfaction of employees with specific transformations will be mediated in one way or another by their socio-demographic and personal characteristics, motivation and personality structure in general.

It is worth noting that the attitude of employees towards reorganisation is positively influenced by their educational level. Some studies show no influence, while others argue that men are more inclined to external comfort and women to internal comfort when accepting changes.

The active minority involved in the design and implementation of an innovation primarily assesses the favourable consequences of changes for themselves personally, and the unfavourable ones for the enterprise as a whole. The passive majority, on the contrary, considers mainly their own disadvantages and associates the benefits with the enterprise.

Creative people are more optimistic about changes and their expected success. However, due to the expectation of more radical changes, they usually have a lower assessment of the changes that have already been made. For the changes to be successful, staff must be focused on self-development. An entity's focus on professional growth, competition and diversity of activities increases their assessment.

Implementation of changes is often associated with an increase in costs aimed at increasing productivity, capitalisation and economic efficiency. This leads to increased staff resistance, caused by the fear of losing their jobs or not being able to use their skills in another part of the production chain. To overcome resistance at the initial stage, it is necessary to involve all employees in the decision-making process, which will reduce the degree of dissatisfaction and denial of the changes taking place. When implementing organisational changes, it is necessary to ensure the staff's employment security, regularly inform employees about the progress of changes and the results achieved, establish a comfortable psychological atmosphere, and motivate staff to actively participate in the changes. There are a large number of scientific papers and opinions on the motivation of the staff during organisational changes. For example, motivation implies a synchronous coincidence of motives and incentives in the minds and behaviour of employees, which ensures the intensification of labour activity. During the period of change, it is necessary to find special incentives for employees, as at this time the resistance of the staff, which hinders the effectiveness of the changes, increases.

The successful implementation of changes is also facilitated by an increase in the level of organisational culture of the team. Therefore, the staff motivation system during the period of change should meet the following requirements:

- compensate for the increased labour costs of employees;
- timeliness and certainty of incentives;
- awareness of the criteria for assessing labour performance;
- activation of personal interest in the effectiveness of changes through selective motivation;
- determining the relationship between personal rewards and joint team achievements;

- a combination of moral and material incentives:
- flexibility and transparency of employee motivation.

The motivation system during the period of organisational change should be built by encouraging individual employees to participate in the implementation of changes, involving the entire team in being active during this period, and increasing the interest of external stakeholders in the development of the enterprise.

Employee motivation should be based on the principles of expectancy theory and equity theory, which state that a person will work and achieve results more efficiently if he or she knows that he or she will be rewarded for the results obtained. According to the theory of equity, employees should be rewarded equally for equal effort, workload and results in accordance with the costs of labour. Motivation is necessary to ensure that the interests of employees and management, as well as all stakeholders (owners, shareholders, investors) aimed at the development of the enterprise, coincide. To do this, we analyse all participants in the process, determine their characteristics, capabilities in achieving goals, deadlines for completing tasks and performance results. Based on the data obtained, each group of participants is provided with its own motivational incentives that can activate their interest in achieving the goals of the implemented changes.

For the identified research problem, the best practices of foreign agricultural companies may be instructive, the observation of which allowed the author to develop proposals for improving the innovative culture of employees of agricultural enterprises.

Developing the idea of the importance of innovation culture in the context of organisational change, we believe that first of all, a dialogue should be established between the participants regarding everything that is happening in the company and what the changes will lead to. It is advisable to have an ongoing dialogue with employees so that they understand where the company is heading and what benefits will be available to each of them. The results of the study of foreign experience show a positive impact of innovation culture on business performance. Scientists have found that when the level of innovation culture changes, economic indicators of net income can increase by 3 times [14].

Thus, since the work on developing organisational changes and innovative projects is a creative process, its management within the enterprise should be based solely on creating favourable conditions for the innovative activity of employees, developing their creativity, ability to think outside the box and solve everyday tasks of the enterprise. Therefore, we believe that managers of agricultural enterprises need to be more active in promoting innovation culture among their employees. Ideally, it would be advisable to engage a creative manager who would professionally manage organisational changes, but given the financial problems associated with military operations on the territory of Ukraine, the top management of most enterprises usually does not accept such a proposal. Therefore, we propose to periodically organise intellectual gatherings of employees in agricultural enterprises of this type, following the example of the well-known "quality circles". Thus, based on a detailed review of the business conditions of Slobozhanshchyna Agro, we believe that the head of this enterprise should invite senior and middle managers to discuss the proposal and select an experienced representative from the management team to advise the staff on existing promising domestic and foreign innovation projects, to familiarise the employees with the dynamics of innovation in progressive agricultural enterprises and to explain the dynamics of innovation in the agricultural sector.

We would like to emphasise that agro-innovations, such as GPS in tractors or other digital technologies, require employees to have the appropriate knowledge and skills to use them [7]. Therefore, it is advisable for all personnel of the enterprise to actively improve their professional knowledge and innovation literacy by participating in seminars, trainings, etc.

Achieving sustainable development of an enterprise necessitates modern and comprehensive changes in its activities, in particular in the technologies used, management methods, requirements for the competence of specialists and forms of interaction with the external environment. Depending on the depth and goals of the changes, the current situation and specifics of the enterprise's activities, and an assessment of its capabilities, it is possible to determine the need to introduce certain changes in business practices.

To summarise, we can state that organisational change management should cover all aspects of the production and economic system. Its objects should be:

- assets, capital and liabilities of the production and economic system;
- areas of activity (supply, production, sales)
- internal policy of property protection and business security;
- human resources (including issues related to HR policy, social issues, etc);
- information support programmes (including bringing information about plans, methods and principles of management to the labour collective).

Keywords: organizational changes in agricultural enterprises, change management, project management, managers, efficiency, ensuring sustainable development.

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