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Article



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WAYS TO EFFECTIVELY MANAGE THE APPLICATION AND IMPLEMENTATION OF INNOVATIONS IN REGIONAL MANUFACTURE

Abstract: This article explores ways to implement effective innovation management by applying innovation to activities to develop production in regions. The relevance of introducing innovations in the development of the region, the conditions of digital transformation of the economy and the importance of the management factor, management culture, and management philosophy in the modern industrial production of the regions are revealed. Also, scientific-practical proposals and recommendations for effective innovative management ways of applying and applying innovations to the production of regions have been developed.

Key words: region, innovation, digital transformation, efficiency, innovative management, technological development, quality of creation, quality of execution.

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Introduction

In today's competitive struggle, strengthening the positions of enterprises depends on the quality of management. One of the main factors of increasing the efficiency of innovative development should be seen in the improvement of management methods.

As the President of the Republic of Uzbekistan, Sh.M. Mirziyoyev, said, "Innovation means the future." If we start building our great future from today, we should start it on the basis of innovative ideas and innovative approach"[1]. The conditions of digital transformation of the economy and the importance of management culture and management philosophy have increased in the modern industrial manufacture of regions.

Creating a new product does not mean innovation. When the organization creates a new product, it should first pay attention to the change in the composition of manufacture costs. This content primarily includes labour costs (for example, the monthly salary of workers in the US industry is 2-10% of the cost of product). The main part of manufacture costs is material and energy, equipment operation and

additional costs (product transportation, storage, etc.). In increasing the efficiency of innovative manufacture, reducing the time of installation of equipment, introducing a new product or technology into manufacture, eliminating the costs of internal manufacture, reducing the costs of materials, raw materials, energy, including the costs in the form of scrap, are of great importance[2].

It's no secret that managers pay little attention to values such as manufacture culture, management methods, organizational philosophy, and the spirit of unity of the enterprise in their management activities. High-performing manufacturing companies are well aware that these seemingly insignificant, unmeasurable, invisible factors can ultimately become clear indicators of innovation performance[3], [4]. A common goal unites people, adds meaning and desire to their actions, and managers who are based on the above values and take them into account will have the opportunity to make excellent management decisions.

What are the characteristics of modern industrial manufacture in the regions, in which directions should the new thinking of managers be directed?

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This is a constant search for ways to fight against costs of all types of manufacture, to improve methods and forms of organization, to increase productivity, flexibility and speed of manufacture, product quality, and the level of service to consumers [5], [6].

This is based on regional development, not on investments in technological developments, large-scale renewal of manufacture administration [7], [8], [9], but on constant, small daily improvements that are not intended for sensational advertising, seem insignificant at first glance, but serve to increase the company's ability to innovate.

At the same time, indicators such as quality or cost reduction, customer service level or manufacture flexibility should not conflict with each other.

In our opinion, it is desirable that the indicators of manufacture and management efficiency in the regions improve at the same time.

For this, it is necessary to constantly search and find sources of cost reduction. Then it becomes clear that it is possible to reduce manufacture costs while improving product quality, for example, this can be achieved by saving materials and energy, spending on repairs, reducing work in progress, etc [10], [11], [12]. It should also be noted that the presence of a stock of products in an enterprise or a wholesale enterprise indicates poor management of manufacture, that is, either the quality of the product is low, or the provision and realization is poorly organized, the product may have flaws from the point of view of engineering.

Involvement of workers and employees of all levels in management activities, problem identification and decision-making process is important. This is related to continuous improvement of manufacture, search for ways to reduce costs, increase return on funds, which make up the majority of product value.

This is difficult to implement, it requires a certain amount of labour time and money. In many cases, workers engaged in direct manufacture are unable to participate in management decision-making and have no inclination to participate, that is, they do not want to take risks and responsibilities. Innovation processes, considered natural for a rationalizer striving for innovation, seem incomprehensible, unnecessary and uninteresting to other workers, especially to older people. This does not mean that such workers should not be involved in management. Of course, it is necessary to attract, only in this case managers need to understand the additional effort and cost.

In this case, it is necessary to invest mainly in human capital, in training and improving the skills of workers, in order to raise their level of thinking to the level of an expert, first of all, in the development of mental work.

Managers must share their rights and responsibilities with employees in the innovation

process, especially in terms of controlling manufacture. This increases the interest of workers in making decisions and solving manufacture problems. Involvement of workers in the manufacture and management process is a basic principle of mature Japanese industrial enterprises.

It's not a secret, thanks to Japanese enterprises, one of the important indicators of economic life today is the rationing activity of workers and employees.

In 1984, industrial enterprises in the United States had an average of one rationalization proposal per worker. At that time, 35 rationalization proposals were made for one worker at Toyota enterprises, and 95% of them were put into practice. It is for this reason that Toyota has become a fashion and standard-setter in its field today. The failures of other enterprises are mainly due to the lack of new thinking in management and organizational culture [13].

Another element of innovative thinking is that it follows the rules of development and implementation of innovation, that is, everything should be done exactly as it was planned from the beginning. When introducing a new product or technology into manufacture, it is necessary to be aware of failures. 20-40% of the cost of a new, but low-quality product is due to the fact that something was not organized correctly at the beginning of the work.

New thinking in management envisages the use of "total quality control" at all stages of the manufacture process. Quality is, first of all, the ability of the manufacturer to satisfy the consumer's demand for a specific product.

Adopted standards may or may not meet consumer needs. In addition, it will be difficult for the consumer to express his opinion with the language of instructions or normative documents.

Total quality controllers include not only the consumer who buys the final product, but also every participant of the technological cycle or manufacture process. It may be another workshop worker, but this is not important, what is important for the producer is the consumer - the biggest reputation, and his word - the law.

Employees of marketing, supply, sales, and engineering departments will have high quality if they imagine that they are serving consumers inside and outside the company.

In our opinion, there are two types of innovation activity quality:

- quality of creation;
- the quality of execution, that is, the quality of product preparation.

Within the framework of the traditional approach to the organization of manufacture, digital transformation provides these two types of quality by controlling each stage of the manufacture process, from the creation of the innovation. Such an approach may provide a quality product to the consumer, but it cannot improve product quality in line with market

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demands. In addition, there is no possibility that defective products will end up in the final products. In Japan, there is a statistical quality control method based on the theory of correct probability distribution. Its content is that if the final product's suitability index is 0.001, the entire batch is rejected. It is this number that indicates the level of unsuitability that should not be controlled.

While mature US plants have a large staff of unsuitability inspectors, spend large sums of money, and achieve an unsuitability rate of 1-2% after each technological operation, Japanese enterprises are statistically controlled to an unsuitability rate of 0.001% at the end of a technological cycle. they achieve.

Thus, in the conditions of economic liberalization, carrying out innovation activities in enterprises is comprehensive, and employees of the organization, without waiting for major technological changes, without thinking that someone from the outside will bring them, engage in rationalization and creativity in their daily activities and try to produce quality products. For this, the managers of the enterprise should create an environment of innovation in the organization and consider this environment as the only way to survive in the competitive era and get used to changes in the external environment.

Within the framework of new thinking in management, we will analyze problems such as manufacture planning, placement of industrial equipment, creation of new workplaces.

Managers traditionally pay little attention to questions such as reducing equipment installation time and maintenance. They seek to minimize the number of reconfigurations in manufacture sites in order to achieve an increase in labour productivity, manufacture standards, and technological capabilities of equipment, because reconfiguration of equipment for the manufacture of a new product will stop the operation of the enterprise or department for a certain period of time.

When organizing the involvement of workers in the management system, the cellular placement of equipment is an important condition. In this case, the forms of manufacture control will be reduced, and a real opportunity for solving problems will appear for an ordinary worker. If this condition is not taken into account, the involvement of workers in solving manufacture problems will be ineffective.

One of the problems that workers can solve is the organization of preventive maintenance of equipment. This is one of the main factors of increasing production efficiency and reducing costs. Conducting preventive maintenance on time will not only reduce material and energy costs, but also make workers more organized. In fact, preventive maintenance should be carried out every day and be a part of the operations performed by the worker, such an approach

to the work process will help the development of rationalization activities.

The new system of placing equipment will also require changes in other functions of the enterprise members. For example, it is necessary to take into account the activities of the staff of engineers creating a new product, the technological employees of industrial enterprises. In fact, the maximum flexibility of manufacture must be combined with the new method of placing the equipment, the unified departments used in production. Bosses who think these things are impossible and do not deal with them make a mistake.

Within the framework of new thinking in management, great importance is also attached to the selection of suppliers who organize the provision of raw materials, materials and equipment. In the traditional approach to the organization of production, managers direct their efforts to search for cheap sources of raw materials and materials or semi-finished products. They encourage subcontractors to compete with each other.

Enterprises with efficient industrial manufacture have a more subtle approach to this issue:

- they try to reduce costs without compromising the quality or delivery time of raw materials or materials;

- they establish long-term cooperation with several suppliers;

- create a guaranteed market for suppliers, a system similar to a long-term contracting system. In it, competition is one of the instruments of strategic planning (allocating a greater share of orders to the most efficient subcontractors in the allocation of resources simultaneously ensures high quality, regularity of deliveries, flexibility of production and low cost).

In fact, as part of the new thinking in management, large enterprises consider raw material suppliers and subcontractors as an extension of their manufacture departments.

Therefore, new thinking is required from suppliers. Industrial enterprises with a new approach to management require such product quality from their suppliers, so that the necessary complete parts can be delivered directly to manufacture sites, assembly sites or further technological processing sites without stopping in warehouses, technical control and similar departments. Naturally, it takes a lot of time to educate suppliers and subcontractors in this spirit.

Some industrial enterprises begin to require suppliers to deliver goods at the first request, saying that they have arranged delivery according to the "same time" principle. In fact, this approach has little in common with the supply system developed by Japanese companies. But this is a first step in the right direction, and the integration of supplier and subcontractor supply commercial and manufacturing operations with core manufacturing processes will

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result in significantly reduced inventories. "Same time" delivery of goods does not mean delivery based on the first request or schedule. Such an approach leads to the growth of stocks in subcontractor warehouses. Here, ready-to-go products begin to accumulate. In general, stocks do not decrease, but they are pushed from the ordering companies to the warehouses of the supplying companies. This does not contribute much to the growth of industrial manufacture efficiency.

At the same time, purchasing and sales agents, subcontractors in industrial enterprises believe that the delivery of goods on the first demand, that is, the "same time" system, has been put into practice. But the peculiarity of this system is that the amount of reserves decreases both at suppliers and at customer enterprises.

When the requests and requirements of the consumer are clear, instead of eliminating defects in the finished products, it is necessary to abandon permanent defects, to implement all technological and production operations at a high level of reliability, to carry out total quality control and inspection, and to determine the source of the problem. All processes are considered a continuous part of the "simultaneous" system.

A "just in time" system requires a different organizational culture when production has to be stopped to solve other quality problems.

The right to stop production is given to workers at the lowest level of management, such as assembly line assembly.

In manufacture, the "just in time" system is supplemented by a system for the delivery of raw materials and materials. With their help, the transition time from one technological or manufacture operation to another is reduced.

Companies with efficient production support their suppliers in improving technology or setting up production.

Another element of innovative thinking in management is strict adherence to the rule of introducing even a small amount of innovation and improvement into production every day.

This rule can be broadly applied to both product planning and innovation process tactics. Usually, bosses tend to produce most products based on 3-4 months of demand. After some parts are manufactured, they are stored in the company's warehouses, and from there they are sent for assembly and processing. Such organization of production requires a highly sophisticated automated system for supplying details to the warehouse and controlling the products in the warehouse.

In enterprises with a new way of thinking in the management, based on the deadlines set by the customer, only the things needed for the manufacture of the finished product are created every day. This can be done by quickly reconfiguring and organizing production. The direct results of the practical use of new methods of organizing industrial manufacture are very effective. Among them, the need to increase reserves and work in progress by 50-100%, the need for manufacturing areas by 40-70%, the need to increase production forces by 30-50%, the time of production preparation by 70 -90%, additional costs by 30-50%, total production costs by 30-50%, and scrap - by 2 to 0.001% can be shown.

Thus, reaching the state of production, such as creating the desired amount of reserves for the manufacture and preparation of the currently needed product, indicates that the work is poorly managed and organized. The availability of reserves only masks manufacture problems. Therefore, within the framework of new thinking in management, special attention is paid to the balancing of technological operations between various elements of manufacture programs, and to achieving proportionality in the preparation of certain details.

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