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THE IMPORTANCE OF AN INTEGRATED APPROACH TO QUALITY MANAGEMENT OF MATERIALS AND PRODUCTS

Abstract: In the article, the authors reasonably argue about the advisability of an integrated approach in managing the quality of the technological process of producing demanded and competitive products, which will allow manufacturers to guarantee themselves a stable financial condition, and consumers to ensure preferences for purchasing domestic products.

Key words: Preference, demand, quality control, quality assessment, set of properties, products, goods, object, satisfaction of requirements, market, competitiveness, import substitution, defects, their classification.

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Introduction

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It is surprising, but nevertheless, the fact that the study has to begin classically with the formulation and general that, despite the numerous literature on the proposed topic, and no less clear applications for its comprehensive analysis, the problem of comprehensive research of quality management remains a "hedgehog" in a thick fog.

The reason is simple, except for the work of B.S. Aleshina with coauthors, the promise of a comprehensive study of the problem remains a wish.

The content of research usually does not go beyond one or two aspects of considering quality and the possibility of quality management. The rest of the angles are either declared or applied in such a sequestered state that their presence is perceived as a kind of burden for the pleasure of joining the author's reasoning on a topic that is undoubtedly relevant at all times and for any activity.

The noted drawback is inherent in our works devoted to the problem of quality. Our only excuse is that so far we have avoided making an application for a comprehensive study of quality in the context of management. A tough reaction from our critics is

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quite possible and even predictable. They, apparently, will overturn our conclusions on us, finding a weak link in our opus. And they will do the right thing. Others - and we with them, taking into account the criticism, will step further, forward, collectively solving what is beyond the power of individual researchers, even in the case when they combine their various cognitive resources and when, for example, in our case, sectoral specialist, systems economist and philosopher.

The theory of quality management is based on the philosophical development of this concept. "Quality" is a philosophical category and the solution of the put forward problem depends on how the philosophical component is presented in the theory of quality management. In philosophy, however, there has never been a single interpretation of quality, there is no mutual understanding in our time. An important conclusion follows from this: it is necessary, before building a quality management strategy, to decide on which philosophical "shore" you are going to land.

Quality is a general and fairly stable definiteness of the subject set. Only the forms of being and its substance are more stable than qualities - the only thing that is invariable by definition. Quality, however, also flows along the river of time and changes. The quality within itself changes, changing its states, and radically, losing its certainty, turning into another quality.

Differences in the philosophical understanding of quality are due to the complexity of quality as a subject of research, but to an even greater extent they are a consequence of the philosophical understanding of the world and the methodology on which it is formed.

"Materialism", "idealism", "metaphysics", "dialectics" are philosophical concepts that are pretty shabby by class ideology. Philosophers - conservatives in Soviet times settled well, erecting barricades, because of which they shot arrows of anger at their enemies, absolutizing the political background of philosophical trends. The critics triumphant in the arms of liberal democracy do not look in the best light, cracking down on the restless legacy. Inspired by "noble anger", they essentially turned into the past and not so much "trample" on this hated past, but rather treading water, slowing down the movement of the cognitive process.

"Materialism", "idealism", "metaphysics", "dialectics" must not be abandoned, but they must be cleansed of pseudo ideological "husks", thereby revealing the inherent rational meaning in these phenomena. These concepts are a kind of "border pillars" of philosophical and scientific knowledge, warning, on the one hand, of the need to adhere to certain guidelines in cognition, on the other, requiring the development of conditions for border interaction.

The boundaries in cognition are intended not to limit, but to isolate one from the other. Their rationality lies in the fact that they regulate the cognitive process. K. Marx, who wrote that Hegel's idealism is "materialism put on its head," is not responsible for his followers, who simplified Marxism and, in particular, the philosophy of Marxism - dialectical materialism.

The idealist G. Hegel is equally not to blame for the fact that E. Mach brought the idealist idea to solipsism, and with his philosophical exercises damaged the rationality inherent in the highest achievements of idealist philosophy.

The history of philosophy warns anyone who has embarked on the path of knowledge: above all, be afraid of one-sidedness. It inevitably leads to absolutization, a state of knowledge in which the natural connection between the ideal and the material is broken, and the movement towards truth is closed.

Quality management begins with a philosophical, that is, ideological and methodological orientation of the theory. There are no alternative options. In developing control theory, it makes no sense to deviate from the philosophical foundations. It is necessary to actively seek cooperation with a philosophy that is rationally interpreted.

The question: where is this rational philosophy - has long been rhetorical, since the time of the first philosophers. It was not in finished form, no, and will not be like a "magic wand", "self-assembled tablecloth", "philosopher's stone".

Rationally interpreted philosophy is an exclusive product of the interaction of professional thinking with the philosophical heritage. Objections like "not everyone can do this" is quite appropriate for the situation. True, this is given to everyone, but not everyone takes on the responsibility of building a quality management system. Most are awaiting full instructions and guidelines. In the current fashion: a briefcase with documents.

Our Russian market not only tore apart the national economy in an ugly manner, giving some fat pieces, to others, left the illusory hope that someday their lean life would change and a holiday would come to their streets. The Russian market has deprived us of our national unity, devaluing what is widely known as the "mysterious Russian soul", or, simply put, our inherent craving for thinking "for life in general," including personal and national problems. The German is distinguished by law-abiding, the American from the USA - adventurism, the Italian - spontaneity. Our ancestors were distinguished by a responsibility that was fading away before our eyes.

The philosophy of quality is a collective concept, synthetically built. The understanding of quality in various philosophical theories differs significantly, because it is "adjusted" to the system and the method used in its development.

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In such an ambiguous situation, one must start with the conclusion: everyone is right and no one is wrong. What kind of gibberish, - a person accustomed to thinking according to the formula "either - or", will say, "We do not need riddles, we want everything to be according to the principle:" To each his own. " The task is precisely to sort everything out "on the shelves." It's easier, clearer, you can't go wrong.

Main part

The formal logic of thinking develops spontaneously, reflects the world of things in the first approximation, roughly. F. Engels rightly compared it with elementary mathematics, which is not capable of describing the process, therefore, it is limited to actions with finite quantities. "What is good and what is bad" is the lot of formally logical reasoning, for which "there is a silver lining," or "two different sides of the same coin" - judgments not according to the rules, forbidden.

Prohibitions on thinking are also introduced by political ideology, dividing thoughts into their own and hostile, right and wrong, forcing the public consciousness to work according to the simplified rules of the formal logic of individual thinking. Logical blinders are justified, pseudo ideological justifications have no, as well as the actions of those who stun views different from their ideology, unwilling or unable to critically comprehend them.

The Marxist and Hegelian concepts of quality have more in common than differences.

The main thing is that the most essential thing in understanding quality is the same. K. Marx and F. Engels, distancing themselves from Hegel's idealism, in every possible way protected his dialectical understanding of thinking, developed the propositions put forward by him, and defended them from criticism. They understood better than anyone the reserve inherent in the Hegelian dialectic of knowledge.

The quality for both Hegel and the founders of dialectical materialism, who worked after Hegel, was:

- firstly, by a set of in a certain way related essential properties of phenomena;
- secondly, they understood quality as an objective state, even in the case when it is created by human consciousness, since consciousness creates quality in accordance with the objective order of the world. Quality is invariant and objective;
- thirdly, in their understanding, quality changes in accordance with the dialectics of the development of the world. It has a concrete historical way of expression.

All three of the above quality characteristics form a methodological framework: quality theory and quality management strategies.

The famous predecessor of G. Hegel, the English philosopher J. Locke, also contributed to the philosophy of quality. J. Locke divided the quality into two groups: the objective qualities of things, inherent in them significantly, and the qualities that arise in the process of cognition. The latter are absent in things, but are formed by the interaction of things and human feelings. Things arouse certain feelings and they react with the formation of qualities corresponding to the received signal - sensations. J. Locke's theory of duality of quality was not criticized only by the laziest. He got it from the materialists for concessions to idealism: the idealists did not spare him for a group of objective qualities.

Does such an active criticism of the beliefs of the English thinker mean that he was wrong in everything, getting lost in the jungle of the philosophy of quality? Not at all. The ideas of an intelligent person cannot be stupid if they are not a joke, and J. Locke was not joking.

The philosopher tried to find a solution to the contradictions in the development of the doctrine of quality. He was not satisfied with the view of the quality of either simplified materialism or subjective idealists, whose judgments led to a dead end.

J. Locke was far from combining the ideas of opponents, and such a primitive technique to overcome the existing conflict. He wanted to emphasize the role of consciousness in the history of the formation of quality, the activity of the subject, but he could not consistently implement his plan. The essence of his initiative deserves special attention - the desire to include the activity of the subject in the theory of quality.

As time passed, the idea matured under the influence of practical factors. Philosophers returned, not to J. Locke's philosophy, to his idea of the activity of the subject and the role of his activity in the formation of the quality of things. Not to mention that the problem of the originality of the quality of the activity itself, which creates the quality of things, has also become relevant.

Suffice it to recall the modern, international quality control system ISO-9001. It is precisely the idea of the quality of activity that is fundamental in it. It would be a mistake to equate quality and thing. As a special combination of properties, quality is, by definition, not the same as a thing. G. Hegel defined the quality of the phenomenon simply and, within the limits of a philosophical understanding, which in the conditions of market relations is combined with consumer assessment, the concept: "quality is that, depriving of which, the object ceases to be itself." "It ceases to be itself," but it does not cease to exist at all.

Not meeting the quality requirements, the phenomenon turns from one state to another, or into another phenomenon. The expert examination gave a conclusion about the discrepancy between the goods

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and the technical (and consumer) parameters. The product was transferred to the category of non-standard, defective product, but the thing remained and with it some kind of prospect of its disposal was preserved: elimination of non-compliance with the standard, processing. You cannot wear shoes, you can try to scoop up water from a leaking boat with it, ram the tow, chat, but you never know what a failed boot can do in a large household - you can even put on a samovar.

It is a mistake to separate the quality from the subject not only from a philosophical position, but also from the point of view of non-philosophical comprehension, otherwise the quality will turn into something independent, like "The Nose" from the novel by N.V. Gogol, and quality management will lose substantive certainty. F. Engels emphasized: "There are not qualities, but only things that have quality, and, moreover, infinitely many qualities."

Specialists distinguish a shift in market needs towards high-quality products. The market is maturing. This is confirmed by the monitoring of demand. In this long-awaited situation, it is important not to lose philosophical ground when developing a business plan in accordance with new circumstances.

Quality is the highest and permanent goal at the same time, so you need to have one for the future, and give the other today's image. Only the correct orientation in a specific time as a life interval, when it is relevant, guarantees the success of the sale of the product.

The manufacturer and seller must be up-to-date. Their modernity is due to the ability to find the optimal product range and match a specific product with the expected level of quality in order to get into the optimal price range dictated by the consumer's

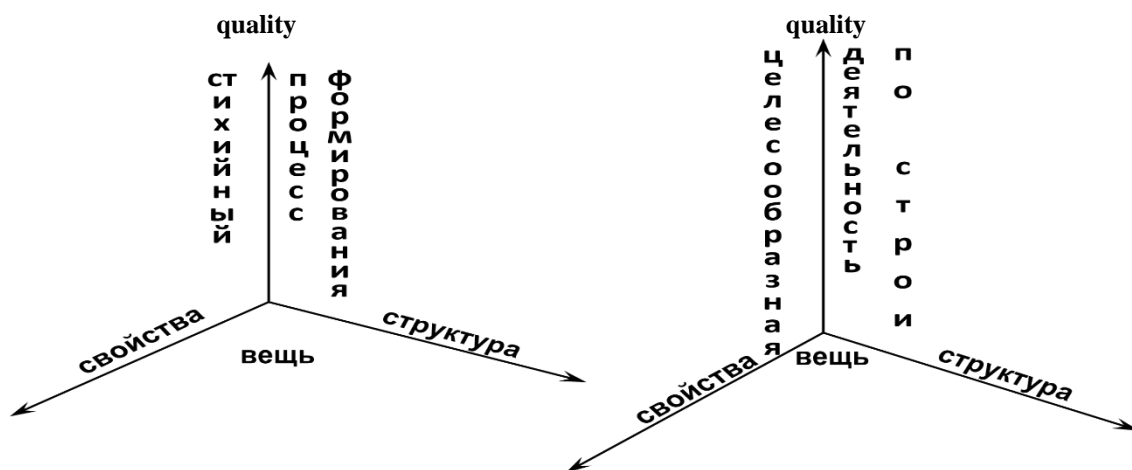
effective demand for the product, which expresses his need for the product.

Quality for the consumer is not an abstraction created by the professional mindset of the manufacturer. The consumer looks at quality through the sight of the wallet. As long as the market exists, the price remains its hallmark. If the buyer first asks to show the product and only then asks how much it costs, then the result does not change from the rearrangement of the behavioral elements. The client will ask his sacramental question, the answer to which will depend on how the act of purchase and sale is resolved.

Quality is not adapted to independent existence. A thing is presented in quality when it appears on the market - a commodity. And this is where the main thing in the theory of quality begins, so let's stop and analyze the problem in more detail.

The quality of things that form nature arose naturally, spontaneously, according to a complex combination of natural laws. It follows that the quality of such naturally created phenomena is unambiguously objective in all respects.

The history of the quality of phenomena created by human activity turns out to be different. In social practice, the spiritual component of a person is realized. A person builds a house, sews shoes, clothes, coordinating his actions with the mechanical, physical, chemical, biological properties of natural things, but we do not make the final product for nature - we will omit special cases. In the created thing, in its properties, in its quality, we realize our goals, needs, interests: we either materialize or objectify. The differences in the objectivity of the quality of a natural phenomenon and a created person are shown in (Fig. 1).



Formation of quality Formation of the quality of a thing in the nature of social practice
 Quality is built Quality is built deliberately, aimlessly and unconsciously in order to "humanize" a thing, to impart Objectivity to quality she needs the senses develops exclusively according to the objectivity of quality, natural laws is formed on the basis of natural laws, but has an introduced configuration in the interests of man

Fig. 1. Differences in the objectivity of the quality of a natural phenomenon and a created person

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As things produced by the practical activity of a person, as this activity itself, the objective properties of things and the subjective forms of human existence are intertwined, fused. The quality of things made by a person is objective, but their objectivity expresses the rationality (or unreasonableness) of a person. And this is where the knot of contradictions between the producer and the consumer lies.

It can only be unleashed by reconciling the views on the consumer properties of the manufacturer's product with a real assessment of consumer needs and opportunities. The quality of goods should be developed solely taking into account careful marketing monitoring, accordingly tightening production reserves. We continue to observe a split market mechanism. Hence the problems with the sale of domestic products.

Professional activity, like a sculptor, sculpts the quality of a thing, relying on the natural properties of the material, raising them through talent and labor to a state that awakens the specific interest of consciousness. Things of natural origin also attract human interest by their ability to evoke aesthetic feelings, provide a healing effect, be a material or a condition for the production of everyday life, which is understandable - a person "left" nature, remaining its special part. However, at the same time, their quality retains its "natural purity". Professional activity is a systemic factor in ensuring the quality of goods with added value. It, according to the position, should also be the initial link in the development of the ideology of quality management.

Only high-quality professional activity can produce a quality thing - this is the first and basic law of production quality. Natural disasters can do a lot. Immigrate people by purchasing precious stones, methods, building materials. Diamond is the brainchild of natural elements. The mineral has an original unique natural quality, however, diamond products build on so many new qualities over natural quality that a person is interested in, that natural quality remains, in fact, important only for natural stone processors.

The final diamond product, be it a piece of jewelry or a technical element, is the result of professional activity. In the gemstone market, there is a difference in interest in the source material - from what deposits it is, but the main thing is different: who will turn diamonds into polished diamonds. The quality of a diamond is due to the combination of raw materials and craftsmanship in the product. And since the master chooses the raw materials, the contribution of his professionalism to the quality of the product is of decisive importance.

Hence the second law of production quality: to ensure the quality of a product, high-quality training of specialists is necessary, capable of maintaining and increasing professional skills.

The third law of production quality requires the focus of professional activity on improving the technological process through integration with science and technical progress.

The concept of "quality", reflecting the objective diversity of the world, is thereby obliged to reproduce in itself an objective difference. This is feasible through the structuring of quality. The structured quality of quality is a particularly significant factor in the theory of quality management. It is advisable to divide the quality into the following seven structural levels according to the level of significance from the contribution of the "human factor":

- the quality of natural objects;
- quality of natural material;
- the quality of the recycled natural material;
- quality of technical equipment;
- the quality of the software product;
- quality of production activities;
- quality of organization and production management.

Organizational and managerial activities aimed at the production of a quality marketed product itself requires quality control. An audit of the organization's quality and production quality management involves the structuring of the relevant activities. Our research experience of the problem suggests that the process of organization and management should be decomposed into four components.

The logic of creating the quality of things created by man pushes the quality of activity into the foreground, close-up, focuses research attention on the signs of quality activity, the need to build their systemic relationships. Philosophical literature on the selected problems is more "silent". Philosophers are still at war. Supporters of the objectivity of quality prove the inconsistency of the views of their opponents, instead of looking at quality not only in the context of the objective reality of the world, but also human, professional activity transforming the material world. In the spirit of pre-Marxist materialism, it is impossible to develop a scientific and philosophical doctrine of quality, for the old materialism was, in essence, a philosophy of contemplation, and not the transformation of the world. It was not in vain that K. Marx taught: it is necessary not only to reflect the world, but also to change it. Dialectics - a materialistic worldview is based on the practical interaction of man and nature. Activity, primarily creative, is the credo of dialectical philosophy and science.

The universal model of relations between the systemic properties of professional activity is explained by the scheme already cited and proposed by us:

The signs of professional activity included in the scheme are well known. Professionalism is

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usually associated with them both in scientific and practical consciousness. The novelty lies not in the features themselves, but in their representation by systemic education, which gives them a new level of meaning. When presenting a system, researchers usually refer to the effect of the systemic connection of properties discovered by Bertollanffy: the discrepancy between the sum of the features of a system and the sum of features that form the system of elements. The effect described by Bertollanffy makes it possible to judge the systemic organization of properties, actions, phenomena as the most effective form of relations, which is important for the effectiveness of management, on the one hand, and the perfection of the organization, on the other (Fig. 2).

Quality management, building on its philosophical interpretation, makes the next step along the path of the systemic organization of the activity program, dealing with the location of systemic signs of activity so that the built system would be vitally stable, relevant and moderately safe.

A systematic approach at this time is the highest quality way of knowing and organizing the management of any complex activity. Those who doubt the greatest efficiency of the systematic approach, probably, no longer exist. There are those who inadequately perceive and evaluate the indisputable advantages of the systems approach, absolutizing its value at the expense of other methods, in particular, an integrated approach. An integrated approach in theory and in practice has not squandered its value in competition with the systemic one. They are not very badly combined, complementing each other, and increasing the efficiency of both organizational and managerial and cognitive activities.

It is more convenient to analyze the quality of activity from the standpoint of a systematic approach. The theory of quality management, it seems to us, is more reasonable to build on the foundation of a comprehensive consideration.

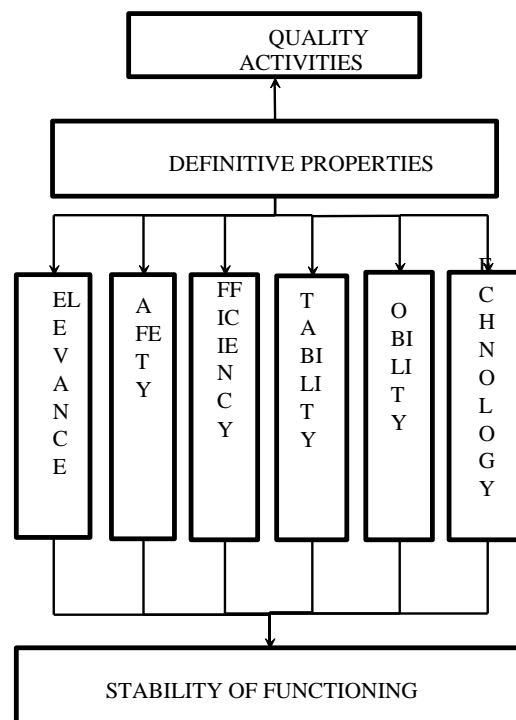


Fig. 2. A universal model of systemic relations of the qualitative properties of professional activity

The situation that has formed in special - not philosophical - cognition (in practice, too) forces us to return to the difference that exists between complex and systemic methods, because substitutions of these methods have become too frequent.

The systems approach is fundamentally distinguished by the way of constructing knowledge, in which the relationships that form the elements,

signs, are built depending on the basic relationship, called the backbone factor. The system is formed similarly to the crystallization process by sequential increment of the components.

It is systematically expedient to build, for example, products from leather, fur, textiles, when a certain agreed state of the quality of the material is taken as a system-forming factor and the whole range proposed for production is "tied" to it. The quality

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and place on the market in this case will be determined by the quality of the corresponding state of the material used in the manufacture of each specific series of products.

An integrated approach is based on a certain qualitative basis and requires a comprehensive

analysis of the quality of the phenomenon, and the aspects of research can be both equivalent and appear in a certain rating dependence. A good example of an integrated approach is the construction of quality management. Schematically, it looks approximately as shown in Figure 3.

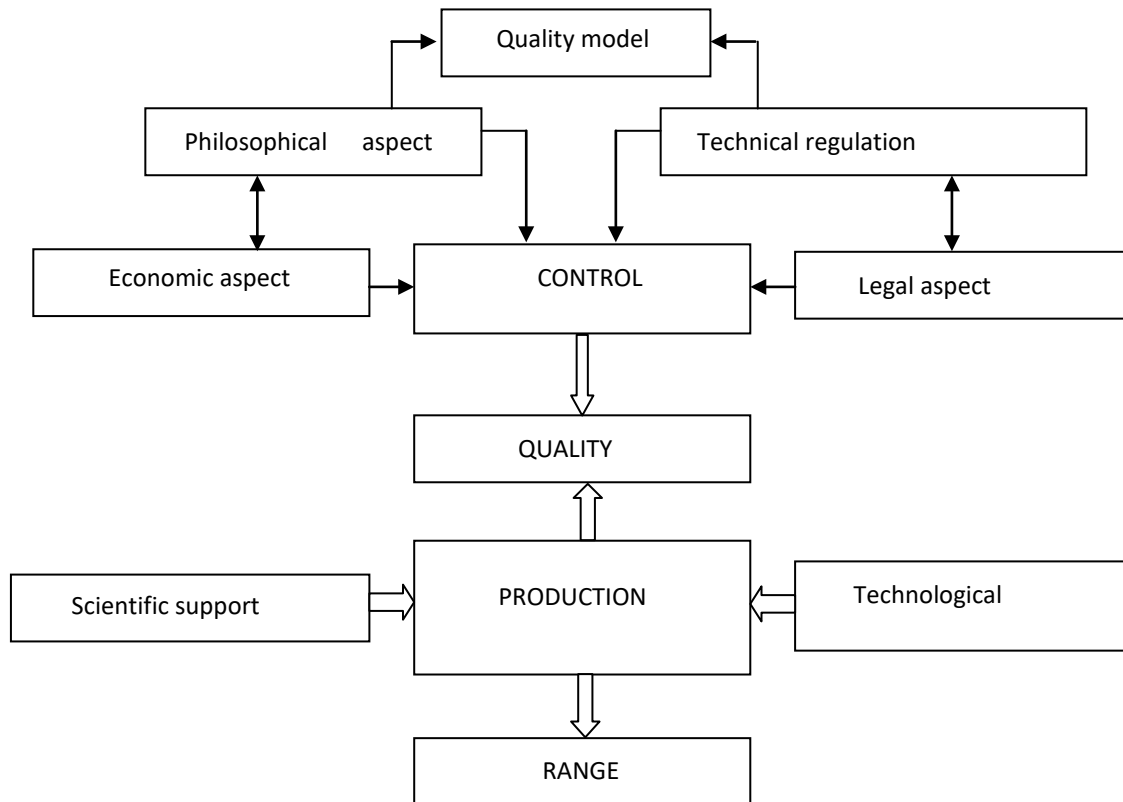


Fig. 3. Schematic diagram of integrated production quality management

The above diagram demonstrates the relationship and role responsibility of the main elements of the preparation and implementation of the production quality management process. The nodal relations are quite clearly visible on it: the connection of the philosophical aspect with technical regulation, which allows concretizing methodological and theoretical studies to the level of normative and technical tasks; technical regulation with a legal aspect, including in the latter the use of patent and licensed elements: philosophical and economic analysis, which gives the former a specific subject orientation in market conditions, and the latter a methodological perspective, the dependence of production quality on the technological state of production and scientific equipment

To complete the philosophical analysis of quality at the level necessary for the use of this knowledge in the practice of economic management of production quality will be helped by a schematic diagram of the relationship of philosophical concepts describing quality, docked with economic categories.

It was developed by us several years ago. Our return to her is forced. The reason is that we didn't have a choice. Philosophers continue to analyze quality abstracted from specific forms of economic practice in the light of their professional interests. Economists represent quality narrowly empirically within the framework of mercantile interest.

Philosophy warns that the objectification of quality has real meaning exclusively in the epistemological aspect of its consideration: when deciding the question of the nature of quality. Indeed, in the perspective of the relationship "object - subject", quality is primary - it is objective in nature. Even while constructing quality, we are deprived of absolute freedom in our creativity. Professional creativity is limited by the objective roots of the quality created by creativity. The quality of both things and theories is objective with the only difference that the quality of a thing is objective in material expression, while the quality of a scientific theory is objectified by the adequacy of the reflection in it of the objective quality of a thing, the relations

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of which are reproduced in scientific theory. The quality control system is shown in Figure 4.

In the theory of quality management, it is important to correctly understand dialectics as a production organization; as an activity organized by production, finally, as an objective and subjective commodity produced. Prominent Russian scientist, public figure L.P. Krasavin, in order to emphasize the active nature of quality associated with the subjective creativity of a professional, coined the term "quality".

The subjective side of the quality of a product is revealed in the market through a complex relationship between creators, intermediaries and consumers. The originality of the national mentality intersects with them - in the United States and Western European countries a pragmatic, utilitarian approach dominates the interpretation of quality on the market, in Russia the traditional side of the attitude to product quality was contemplation, high-quality goods, and nowadays for most Russians there is more than something intended exclusively for use.

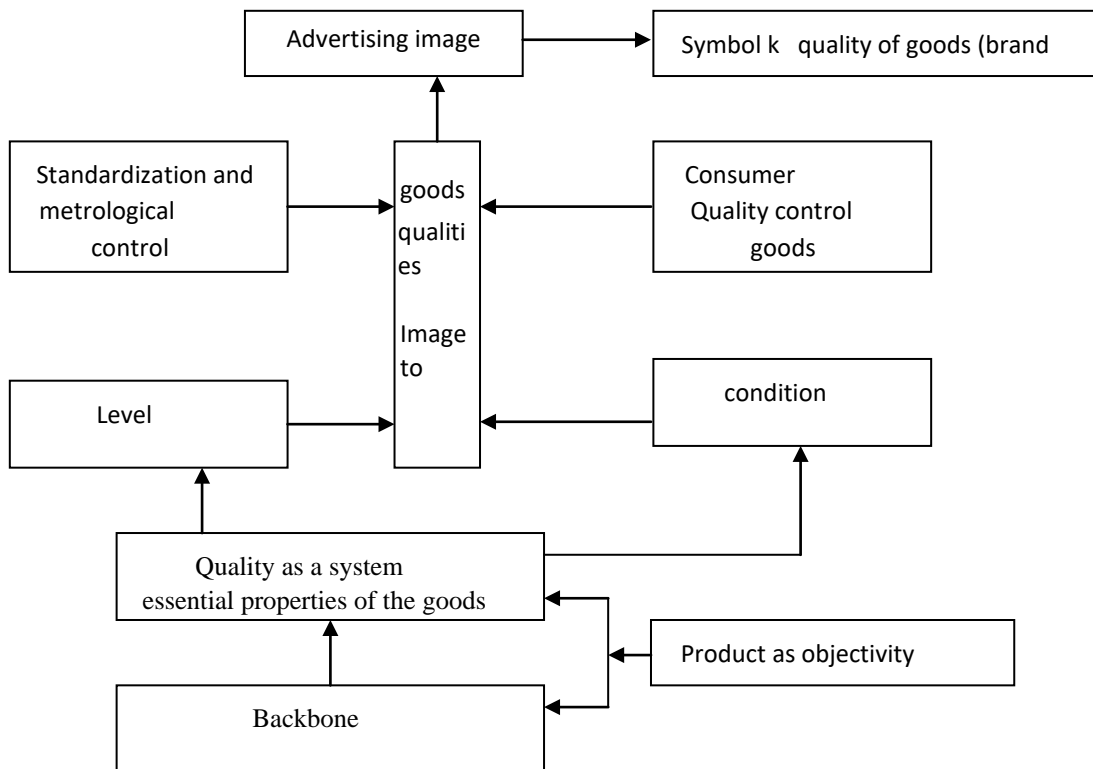


Fig. 4. Quality control system

Creators and manufacturers of quality goods need to educate potential consumers of their products, proceeding from the fact that in a market, product quality is a collective image. The image of the quality of a product, of branded production, of course, can be promoted with the help of advertising, but such one-sidedness is uninhibited and dangerous.

The sustainability of the reputation of a quality product is ensured by the entire mechanism of the market, including its extensive infrastructure. The enlightened consumer is actively involved in the process of "struggle" for quality. The market needs it like a pike in a pond to keep the crucian carp awake. The unwillingness to spend decent funds for educating the consumer, the desire to "shoe" him with false, superficial advertising will inevitably turn into a boomerang.

Unfortunately, many Russian manufacturers are not afraid of the boomerang. They know that they will not stay long in this sector of production. As long as the market puts everything in its place, reacts appropriately to pseudo quality, they will be different and this "crap" for them will lose relevance.

Although experts believe that the Russian market has swung towards product quality, objectively the situation on the market has not changed significantly. The small percentages on which encouraging conclusions are based are far from being qualitative characteristics.

The effective demand of the overwhelming majority of Russian citizens does not allow them to focus on the quality of goods. The shift towards interest in the quality of the goods must go through the obligatory stage of expanding the range of available goods for the mass buyer, and this stage has

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not been passed by the Russians, which, in other words, does not mean deactualization of the quality of the goods.

Integrating what has been said, we present a formula that allows us to reveal the terms of the quality of a product, that is, a product produced by a

person to meet certain needs. It can also include natural phenomena included in market relations: clean air, mineral springs, therapeutic mud, clays, warm sea, etc., as well as those whose production is not designed for implementation, considering these cases as simplified option.

$$CT_{scan} = \underbrace{\sum eu}_{\text{objective compound}} + \underbrace{D + F_p + R}_{\text{subjective compound}} \tag{1.1} \tag{24}$$

Where CT - product quality; objective compound
 $\sum es$ - the sum of the natural properties of the material;
D - activity, natural prerequisites are transformed into a commodity;
Joint venture - the consciousness of the buyer;
R - advertising support.

The graphical equivalent of the formula is shown in Figure 5.

This formula also describes the quality of an intellectual product. Why is it necessary to expand the interpretation of the concept of "natural properties" by including in its content the intellectual and psychophysiological prerequisites for creative

activity. An economic understanding of quality, on the basis of which all known concepts of production quality management were directly developed. It evolved according to dialectical laws, while economists themselves were not always aware of the dialectic of the process.

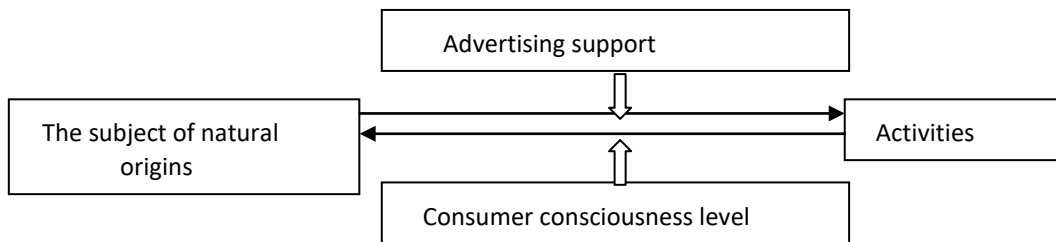


Fig. 5. The graphical equivalent of the above formula.

The development of economic awareness of quality was carried out "under the influence of contradictions between the internal and external goals of the manufacturer - ensuring the quality of products and, accordingly, strengthening the position of the manufacturer in the market (external goal), as well as increasing production efficiency, that is, increasing the profit of companies (internal goal). At each stage of production, market and society, this contradiction had its own specifics and was resolved in different ways."

B.S. Alyoshin et al. Distinguishes four phases in the formation of a modern philosophical and economic interpretation of quality: the "rejection phase", "quality management phase", "the phase of continuous quality improvement" and "quality management program".

The history of economic quality management dates back to the era of workshop production. In medieval cities, guild organizations were necessarily created, one of the most important functions of which

was the certification of craftsmen. To become a recognized master, it was required to pass a serious quality check of their products. All products of the workshop craftsmen had the author's "stamp" and were unique in their own way. Quality management was simplified by production itself, by its manufacturing nature, which did not allow production to expand on a scale. Of course, no agreed quality standards existed at that time due to the difficulty of comparing strictly individual products of masters, and even more so trying to develop a certain model to follow. The uniqueness of the master's work excluded the imitation of anything in principle.

Only a long time later, standardization of product quality appeared at S. Colt's arms factories. Such an unusual decision was prompted by the fact that in conditions of mass production, the final product began to be assembled not from specially made and fitted parts, but from randomly selected parts from the corresponding batch. For the first time, production was equipped with special gauges, and

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trained inspectors checked the parts on them before assembly.

The heyday of the idea of standardization fell on the era of the development of automobile production in the United States. G. Leland, the creator of the Cadillac company, came up with a pair: "through" and "non-through" caliber. G. Ford, having built an assembly line, went further. He replaced the input control of components with output control, thanks to which calibrated, high-quality parts were delivered to the main production - assembly, which significantly increased labor productivity and significantly improved the quality of the final product. For the first time, a technical control service was created at Ford factories, independent of production.

G. Ford's associate F. Taylor, who worked in conjunction with his patron, did a serious job of scientific understanding of innovations in production. As a result, he managed to formulate the principles of scientific management focused on the quality of production: a systematic approach; personnel management; obligatory division of responsibility between performers and organizers in achieving high-quality and effective work; the need for scientifically grounded labor rationing.

F.U. Taylor, undisputed founder of scientific management. It was he who first discovered the "depletion" of the effectiveness of the main position in management practice: "initiative - reward" for the quality of work. "In contrast, F.W. Taylor, the development of the scientific organization of labor suggests the development of numerous rules, laws, formulas that will replace the personal judgment of the individual worker and which can be usefully applied only after a systematic accounting of measurements, etc. their actions. "

One cannot but agree with the resume of D.M. Gvishani: what Taylorism has in the strict sense of this term boils down to the following:

the creation of a scientific foundation that replaces the old, traditional, practically established methods of work, scientific research of each of its individual elements.

Cooperation between management and workers in the practical implementation of a scientifically developed work organization system.

Equal distribution of labor and responsibility between management and workers.

F. Taylor himself represented the guarantees of the quality of production and its efficiency: "Science instead of traditional skills; harmony instead of contradictions; collaboration instead of individual work; maximum performance instead of limiting performance; development of each individual worker to the maximum productivity available to him and maximum well-being. "

Try, argued to argue F. Taylor. It is not surprising that his view of the organization and

management of machine production hypnotized his contemporaries.

There is an opinion according to which the concept of F. Taylor, G. Ford, A. Foyle and M. Weber "In its main features, has existed until now and has become a model for organizing production in most modern enterprises. It was only in the 70s that another concept began to come to replace it - the Toyota production system".

The ideology of the "rejection phase" was simple and clear: at the output of production there should be only high-quality products, the meeting of the consumer and defective products should not be allowed. The main efforts of managers should be focused on quality control of components and assembly of finished products. The relative simplicity of the concept of the "rejection phase" was its reliability and the relativity of its reliability, led to the need for innovations in the future.

The reliance in the ideology of production quality on the "rejection phase" has a practical effect. It would be surprising if the result were not positive. Increased attention to quality control is logically presupposed as a condition for the functioning of production. This requirement at the market level of comprehension accompanied the development of production activities throughout its existence.

The stability of the scientific solution to the problem of managing the quality of production of the economic (and, to a certain extent, social) effect, achieved by the pioneers, is surprising.

And yet the latent side of the "rejection phase" had to appear. The displacement of management to the phase of high-quality preparation of production - in essence, towards the special status of control functions - signaled an increase in the corresponding costs of providing quality products.

The quality of production and the quality of manufactured products are one and the same, but not the same. The development of production is undoubtedly due to the quality of the manufactured goods. E. Deming rightly at the head of the list of the "seven deadly diseases" of modern production put "production planning, not focused on such goods and services for which the market is in demand."

Production during the transition from industrial to post-industrial society of the mass consumer is increasingly becoming a function of the market "The buyer is always right" - no matter how the well-known judgment is contrary to the seller, who is forced to adapt to the buyer's demand, he has no choice. There is also no choice for the manufacturer, for whom the "seller" is the "buyer".

The quality of the product is a special "song" of production. Only a "concert" cannot be made up of one song. The quality of production is also characterized by its economic efficiency. The pursuit of product quality cannot be the end in itself of production, otherwise a good deed will turn into a

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fatal disease. The quality of the product is not able to compensate for the inefficiency of production as a whole.

Improving the quality of the final product always requires costs to ensure it, which becomes a problem for developers of an efficient production strategy. The goals of increasing production efficiency and improving the quality of manufactured products were not combined in the concept of the "rejection phase", so it was replaced in the 1920s by the "quality management phase". Its developers have made an attempt to overcome the critical cost of product quality, evident in the "rejection phase". They were unable to resolve the contradiction that had arisen. We managed to soften it. Among the innovators of the "rejection phase" reconstruction was V. Shewhart, an employee of the technical control department of the American company "Western Electric", who proposed a method for constructing diagrams, better known as "W. Shewhart's map control".

As a first approximation, the American specialist's initiative looks quite radical. W. Shuhart rejects the key scheme of quality control of F. Taylor, G. Ford. In the center of quality management, instead of the stage of preparation for production, at which it is necessary to reject low-quality products, the production process itself appears.

The system of V. Shuhart's methods was aimed at improving the technological process, which was intended to help increase the output of finished high-quality products.

In the concept of W. Shuhart, one senses from the outset a dialectical approach to the matter. His predecessors tried to "sort out production on the shelves" and load the "shelves" so as to get the desired result. As a result, they overloaded one of the flank "shelves" and the whole structure was skewed. The stage of preparation - control became the most costly, while the main stage - the technological one became dependent on it and was pushed to the periphery of the management process, undeservedly suffered.

V. Shuhart called "things" by their proper names and arranged the stages according to the rank, highlighting the technological one. He risked, simplifying the stage of production preparation, reducing the quality of components. In exchange, he hoped to receive a gain in the main production link.

By investing as a priority means in improving technology, the manufacturer strengthens the production process, makes it, in principle, more efficient due to the organization and technical equipment. As for marriage, it is more expedient to track it precisely when organizing relations in production itself, relying on scientific developments and the timely introduction of new products in the technical process, complete with measures for preparing the quality of the readiness of performers.

The main object of quality management of V. Shuhart's concept is the production process. The exit from it represents the flow of measurements of the quality parameters of individual products.

V. Shuhart retires Ford's former goal of "getting admission". G. Ford's idea worked out, awakened new thinking. She is replaced by V. Shuhart forms a tandem of goals: ensuring the sustainability of the process and reducing variations in stability. V. Shuhart considered the presence of variations to be a natural formation. He even deduced a criterion for the quality of the process - the stability of the process should be considered in a statistical sense. Variations in the parameters of products are nothing more than the implementation of a stable random process, the distribution function of which remains constant for a certain time.

V. Shuhart believed that variations in product parameters are the result of two groups of reasons: special and general. Special ones are rooted in the disruption of the production process. They are identified using a control chart and eliminated based on the readings of such a chart.

Common causes are inherent in the process itself. There are many of them, but individually they are not essential. The danger lies in the sum of these causes. Common causes of variation in product parameters are of concern to managers, often of high level and skill. By their investigations and actions, they are able to limit the actions of common causes. At the same time, V. Shuhart made two very valuable conclusions, which should be guided by the production manager.

First, the search for the guilty is necessary, however, having found the guilty, we are rarely able to influence the situation. It is necessary to look for the reasons for the discrepancy and eliminate them, involving all its participants in this process.

Second, process variations become the source of defects and inconsistencies. Reducing variations in V. Shuhart's quality management system is a complex goal. Associating the number of variations with the organization of the production process, W. Shuhart was clearly aware that in order to reduce variations, a new configuration of relations between people employed in production was needed. The essence of such a new configuration should be comradely cooperation. By the very feature of production, people rally into teams.

W. Shewhart's system is a serious step forward in comparison with F. Taylor's system. F. Taylor focused on the mechanism of action, and W. Shuhart - on the mechanism of interaction between people in the entire spectrum of their relations: technical, economic, psychological.

B.S. is absolutely right. Alyoshin et al., Arguing: "Such a concept as "tolerances" (one of the most important inventions of F. Taylor) undoubtedly remains in practice. "Tolerances" are the form,

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language of quality requirements, the result of quality planning. Another thing is changing: the opposition of tasks of planning, execution, control and corrective actions. Such tasks are performed by teams ... "

Comparison of the two above-mentioned systems of economic quality management can be presented as follows (Fig. 6).

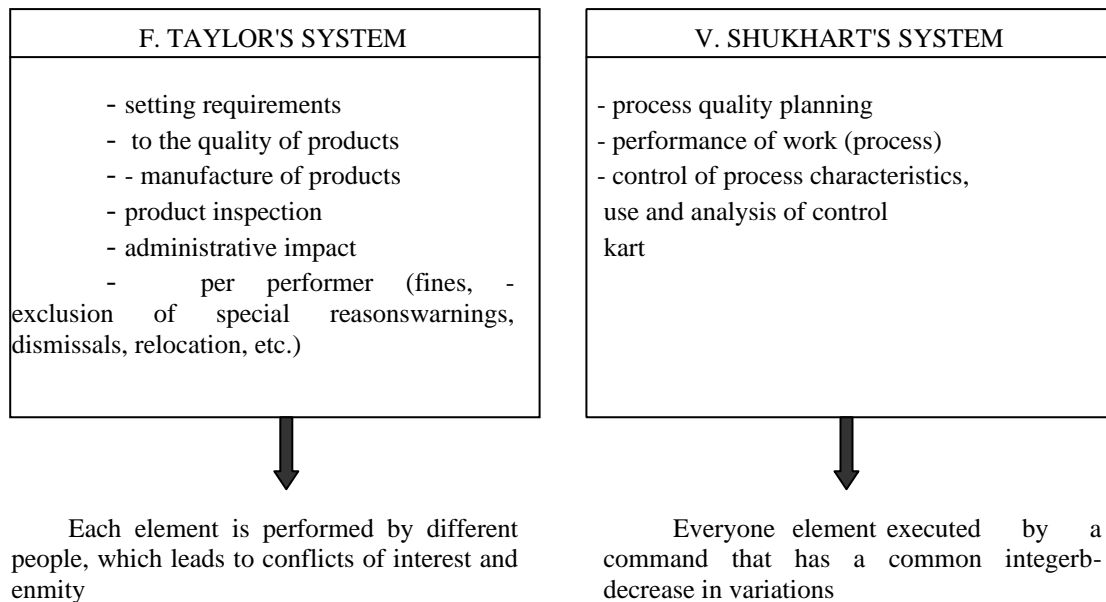


Fig. 6. Comparison of F. Taylor's and W. Shewhart's systems

At the same time, we note that the ideas and methods of V. Shukhart continue F. Taylor's aspiration to put quality management on a scientific basis, to use scientific methods in the organization of production. But even here W. Schuhart is "ahead" of F. Taylor.

For F. Taylor and G. Ford, science (and scientific methods) boiled down to those concepts that allow one to quantitatively measure the mechanical actions of an individual performer, find the optimal route of movements and take it under effective control, having previously loaded it with tasks in full. The "classical" (Taylor's) theory of quality management was based on centrifugal forces and movements and production: division of labor, specialization of actions, individuality of the performer. This one-sidedness was understood by critics.

W. Schuhart considered the mechanistic view of the development of production in general and quality management in particular as an obvious simplification. The production process not only unites the interactions of centrifugal and centripetal forces - individual and collective actions: it does not allow the reduction of what is happening in it to relations of a mechanical type.

A person participates in production as a subject of actions and relationships. Moreover, a person as a subject of labor is a decisive factor in production. The

development of production should be based on the development of the subject and the relations of the subject and the relations of the subjects.

Subjective potential in the form of individual knowledge, skills and aspirations is the main reserve of production efficiency, which science helps to activate and organize properly. In this understanding, science includes social and humanitarian components.

- simplification of the representation and nature of human behavior in the organization. V. Schukhart understood this, explained it as best he could, and expected to be understandable and in demand by practical management.

V. Shukhart's new ideas did not pass unnoticed by the business, but, apparently, the inertial forces of business movement are so great that the ideas begin to act on it only over time and totally.

The shortcut to profit out of habit was thought to be the simplest. Any complication comes with additional costs. Will they be justified? In addition, measuring the mechanics of an action is much easier than measuring the motivation for action.

But it is surprising that, almost half a century later, J. March and G. Simon noted: in the United States, there are two widespread views of the position of people in an organization: "the consideration of an employee as an inert instrument carrying out the assignment indicated to him, and the treatment of

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personnel as what something given, and not as a variable in the system. " Another authoritative scientist M. Hare agrees with them: "There are implied assumptions about a person on which, as it seems to me, the classical theory of organization and management is based: he is lazy, short-sighted, selfish, prone to mistakes, does not know how to judge sensibly and even can be a little dishonest. " M. Hare's text explains that the classical interpretation of the organization of management is still very popular in practical management.

Three main provisions of the "classical" theory of quality management have not been eliminated until now. They continue to impress, warming the souls of patrons, caressing their self-awareness, reinforcing self-confidence in their chosenness. Everything is so well laid out in its place: the worker is a performer, in fact a "rational animal" with a clearly expressed dominant to maximize economic conclusions; "Each individual responds to economic incentives as an isolated individual"; "People can be treated like machines in a standardized way."

W. Schuhart had many supporters who left their own noticeable and appreciated mark: M. Follett, E. Mayo, C. Barnard, F. Rotlisberger, G. Simon. The thirties of the last century were marked by the "humanistic challenge" of the "preaching of administrative responsibility."

In theory, events unfolded according to a logical scenario. Practice, on the other hand, was not so susceptible to changes in views, so the effectiveness of the new approach to economic quality management left room for reflection on the complexity of the relationship between theory and practice.

The construction of the economy itself hindered the totality of the introduction of progressive ideas. In order for a person to develop as a subject of production - to mobilize his abilities of knowledge, it is imperative that the economy turns "face" to a person, acquires a "human face". In another way, it is impossible to inscribe the talents of the individual into the interior of the production, to make them interested colleagues.

Dialectics warns: truth is concrete. The theory is effective within a specific historical framework. Her life can be long or short, but it is always finite. The elements of the theory and the experience of its exploitation, expressed in historical lessons, continue to work, being embodied in other, relevant theories and practical actions.

Today's economic component of quality cannot fail to take into account the acquisitions of V. Shukhart, M. Follett, G. Simon and all those who argued the need to engage in the struggle for the quality of the subject's ability to think and get involved in business. In particular, in our opinion, the strength of V. Shukhart's "control charts" remains. They are simple and make it possible to monitor the

quality of the process and the activities of the performers. And for the performers they are more understandable than the not always understandable displeasure of the manager, so we give a sample of them (Fig. 8).

Having developed a model of a sustainable process, V. Schuhart significantly expanded the possibilities of scientific analysis of production quality, thanks to which those aspects and stages of production that remained in the shadows in the "classical" concept were revealed. He introduced the concept of "adjusting the process according to the data of its measurements" into the characteristic of the quality of production, which is quite fashionable to consider as a concretization of the concept of "feedback" in relation to quality management.

In the theory of random processes, a quantitative measure of the dependence of a sequence of random variables is the autocorrelation coefficient, which takes values from 0 to 1. When its values are close to 0 for neighboring observations (in practice, <0.2-0.3), the process is considered "white noise" ... If the values of the autocorrelation coefficient are close to 1, then various feedback control systems should be used for this process.

It is not difficult to see in Shewhart's concept a desire to theoretically comprehend the specific state of mass production of its time. He tried to look at the conveyor through the eyes of science. And he managed to do a lot. At least, V. Shukhart's ideas today, although they have aged, are still viable. With a creative approach, they give good results.

A remarkable contribution to the practice of quality management was the creation of a quality audit service, the function of which was significantly different from the tasks faced by F. Taylor's technical control departments. She was not engaged in sorting, but in checking the performance of the quality assurance system by monitoring small workings from batches of products. Thus, W. Schuhart found a way to reduce the cost of quality, which increased disproportionately when organizing production according to the recommendations of F. Taylor. However, the original thinking of V. Shukhart and his organizational talent did not resolve the old contradiction between the need to ensure production efficiency and the market demand for a quality product, and the production itself for quality raw materials and components. Each production process has a limit on the yield of quality products. This limit is not laid down in the process. It is an attribute of the system practiced at the enterprise, the product of all aggregate activities, the characteristics of labor organization and production management, including the quality of production. Approaching the limit leads to an increase in the main contradiction.

Quality assurance requires more and more resources, which leads to a decrease in production efficiency.

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In the fifties, a new concept of quality management was formed. Her inspiration was E. Deming. The name of the next stage in the development of a philosophical and economic understanding of production quality management emphasizes its essence “the phase of continuous improvement of quality”.

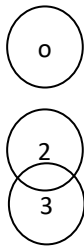
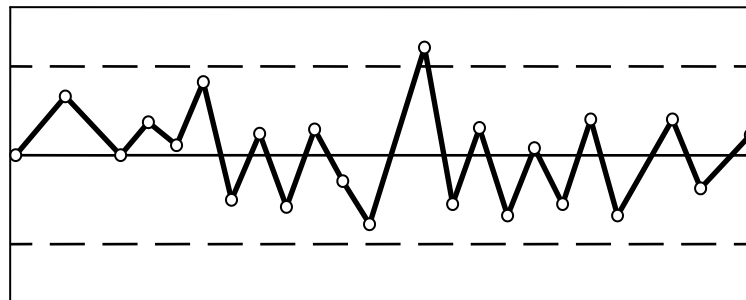
The version of production quality assurance proposed by E. Deming turned out to be a long-liver,

having existed "in authority" for almost half a century, until the mid-nineties. Such a duration of the practical relevance of the concept of E. Deming is explained, as it seems to us, by the fact that it was able to become skillfully "planted" on the basis prepared by W. Schuhart, and is already a software product in form.

Upper control
the border

Center line

Lower control
the border



- 0 DATA COLLECTION: Collect data and map it
 - 2 CONTROL: Calculate trial control limits from the process data.
 - 3 Identify the specific causes of variation and act on them
- ANALYSIS AND IMPROVEMENT: Rate variations for special reasons and take measures to reduce them

Repeat these three phases to continuously improve the process.

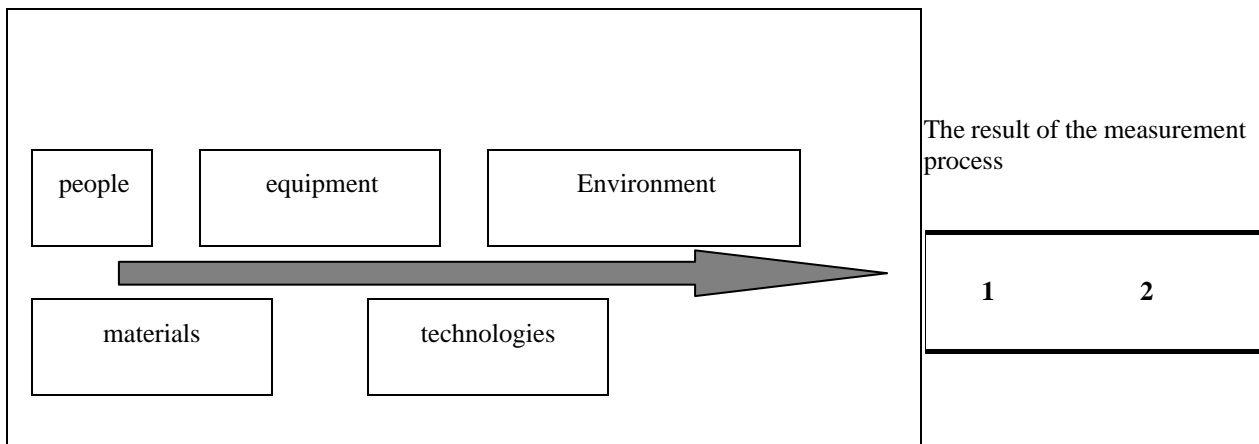


Fig. 8. V. Shewhart's control card

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E. Deming's management program is built on three axioms focused on industrial practice:

- the first practical axiom asserts that any activity must be defined as a technological process, from which the conclusion follows about the possibility of its improvement;
- the second practical axiom was formed by E. Deming as follows: production has two forms of state - is in a stable or unstable state. In both cases, it is not enough to solve particular problems, fundamental changes are needed;
- E. Deming's third practical axiom is as follows: the top echelon of enterprise management in all cases is obliged to take responsibility for the result.

Deming's axioms achieve practical concreteness within the framework of a special management program that summarizes the theoretical and real experience of organizing production quality management. The program is represented by several levels of comprehension and practical implementation of ideas: "Fourteen points", "Seven fatal diseases", "Difficulties and false starts", "Chain reaction according to Deming", "Principle of continuous improvement (Deming cycle)".

Of particular interest for the practice of improving quality management at enterprises are the penultimate and last sections of the program. The Deming Cycle is essentially a scheme proposed by W.

Schuhart, which Deming also admitted. "Chain Reaction" is a product of E. Deming's own creativity.

In the Deming-Shewhart cycle, four stages are looped: observation, development of measures to improve the situation, implementation and analysis.

The task of the quality manager at the first stage is to collect information and identify weak links in production that require restructuring.

At the second stage, the manager develops organizational measures aimed at changing the situation. Among them is the connection of all performers through motivation.

The next stage is implementation and monitoring of the modernization process. The cycle ends with the stage of analyzing the results obtained from the implementation, building up experience to repeat the cycle.

Probably, graphically, the Deming-Shewhart cycle best demonstrates the spiral of development, each turn of the spiral is a relatively closed cycle of actions. The next round "relies" on it, continuing the general process. If it were not for the tradition to call such discoveries by the names of the authors, the Deming-Shewhart cycle would have been called the "spiral cycle" of quality management. The Deming-Shurkhat cycle is indisputably relevant even now for improving the organization of production, since it reflects the universal law of building management.

We cannot but pay tribute to E. Deming and for his development of a "chain reaction" in quality management, shown in Figure 9.



Fig. 9 . "Chain Reaction" by E. Deming

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In it, he linked economic and social actions, emphasizing the character of historical time.

The heyday of E. Deming's creativity is associated with the revival of the Japanese economy. The government and industrialists of the country believed the arguments of E. Deming and he deservedly shared with them the glory of the "Japanese miracle". His contribution is obvious in the achievement of Japanese specialists in the field of improving the quality of production, which are clearly highlighted in the study by B.S. Alyoshina with co-authors:

1. Long-term, consistent and purposeful solution of quality problems on the basis of everything advanced that accumulates theory and creates practice in this area.

2. Consistent and persistent establishment of a system for studying consumer needs - (prevention of the main "fatal disease of the economy" according to E. Deming's classification - ed.), The formation of a respectful attitude towards the consumer and his requirements up to the consumer cult - (the consumer is always right - ed.) Consumer (at the same time) is understood in a broad sense, as the next link in the technological chain.

3. Striving for universal participation in achieving quality, from senior managers to executors of specific work.

4. Understanding that even a perfectly debugged work organization system loses its effectiveness without constant checks and improvement.

5. Organization of work on quality assurance directly by foremen and foremen. Training, including special programs on national television, national conferences for foremen and foremen.

6. Particular attention is paid to mobilizing the physical and intellectual potential of workers. Quality circles - a group analysis of the state of affairs at a specific site and the development of proposals for improving quality and increasing the efficiency of processes, production.

7. Extensive development of a permanent system of promoting the importance of high quality products to ensure high rates of economic growth.

8. State influence on a radical improvement in quality, primarily of export products, including mandatory state certification. An attempt to export uncertified products is considered contraband. State support for exports, assistance in promoting goods to the markets of other countries. "

We deliberately did not shorten the fragment describing the Japanese practice of creating a quality management system, because in it, like a mirror, one can see Russian miscalculations, namely Russian ones, since, having declared the Russian Federation the successor of the USSR, Russian politicians and economists close to them in 90 -ies systematically destroyed the socialist experience of building the

quality of production instead of rationalizing it. In the 90s, quality was not needed by anyone who was supposed to be responsible for it. The economy was reoriented towards raw materials, the quality of which is either determined by natural origin, or "compensated" by the realized quality.

Comparison of the economic policy of Japan in the 1950s and subsequent years with the economic policy of the Russian Federation in the 90s, announced by the revival of Russia, leads to a sad conclusion: loud statements rarely correspond to deeds. The interests of the Fatherland during the period of Yeltsin's democratic reforms worried politicians least of all, and did not care about quality at all, squandering previous national acquisitions. However, a political assessment of this stage of our history was given long ago, and we are interested in that part of the theory that directly works for the country's economy. In this context, it is appropriate to "walk" through a number of Japanese achievements, bearing in mind the opportunity to draw practical political and economic lessons from them. The total conclusion is beyond doubt: the efficiency of the economy is determined not by the quality of the goods produced, but by their assortment and quality. The transition from quantity to quality could be expected only by those who simplified dialectics to stupidity. It is not quantity that turns into a new quality, but quality and only that.

The Japanese were taught by Americans, but the Japanese studied very seriously from the experience - both positive and negative - of the Soviet Union. We still haven't made up our minds in practice. The whole world is skeptical about our current declarations and certifications. Those who do not know how to appreciate and use their own achievements are not able to adequately master others.

In Japan, the attitude to quality became a national idea, and was embodied in the form of "struggle", in which everyone from the watchman to the general director was prestigious to participate. A system of mutual interests has developed, we are supported by finances, organizationally (building a career) and spiritually.

We are continuing a protracted search for an idea that would unite the nation. The quality is not visible even next to what is offered. It does not appear in the candidates for the national idea. Only enthusiasts are seriously engaged in quality, making their way through the "bushes" of democracy, apathy, etc.

Our "helmsmen" are not up to quality. Captains are still paving the way to the West and investing in non-native economies. Paradox: investments of foreigners in the Russian economy in the near future will exceed the contribution of compatriots.

Having lost the prospect of becoming an oligarch and feeling pressure from the fiscal services, oligarch

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candidates are looking for happiness in distant countries.

The Japanese concentrated their capital in their home country. Patriotism meant more to them than personal gain. This is the reason (not the only one) of the "Japanese miracle".

The Allies in 1945 destroyed everything that was on the Japanese islands, except for national self-esteem. And it became a launching pad for the revival of the country. Let us emphasize that the Japanese were actively looking for specific mechanisms for transforming quality into the total interest of the nation in the practice of organizing quality service in the USSR: "cadres decide everything!", "Quality is the main focus!", "Everything is at the service of quality!" Are slogans from Soviet history. And behind them was strict party and state control.

The Japanese submitted to the struggle for quality all national and state (municipal) reserves, forcing even television to work for quality. Essentially - the media weren't limited to quality advertising. They organized schools, courses, universities, teaching the quality of key players: foremen and foremen. National finances were used to educate and train quality work and its organization.

What do we have? Quality is at the mercy of everyone who makes a profit on training and education. What they did was cram the problem into the ad product.

We do not have a national quality assurance program. We also do not have a state priority project (along with well-known national projects). One gets the impression that, having officially announced the support of international quality systems, the top political management of the Russian Federation considered their mission fulfilled, deciding that the rest will be regulated by the market.

E. Deming's ideas were continued in the concept of another American who worked for the "Japanese miracle", J. Juran. J. Juran shifted the emphasis in the development of a quality management system from statistical methods towards the absolute value of the customer, dividing the emerging problems into random and chronic ones. Accidentally (suddenly) emerging quality problems of one-time (single) origin. They are not inherent in production. Problem solving should be done routinely as part of ongoing management. To this end, it is necessary to fairly clearly distribute the responsibility of managers for taking control measures and the timely introduction of corrective measures.

The problem of a chronic nature is another matter. They are present in the process and are, as it were, "planned" from the very beginning. J. Juran understood chronic problems as a result assumptions made on the previous phase process. Until a certain point, such tolerances do not significantly affect the quality, then, under the influence of the conditions of sale and their own

movement, they acquire a significant meaning and become unacceptable. It is the chronic problems of J. Juran "accused" of stagnation or loss of quality indicators. Have

the management of the company should not be complacent about the good performance in comparison with the past. It is necessary to look not backward, but forward, otherwise it is easy to get into a crisis situation. Calm management is a "deadly disease" for production.

It is pointless to try to solve chronic problems with orders. We need to start by identifying their main causes and sources. Knowledge of the reasons, J. Juran, is usually found behind the capabilities of line managers. This requires a collegial form of analysis of what happened - "brainstorming".

The second half of the twentieth century was marked by an intensive invasion of quality management by mathematical methods of process research. A new scientific discipline arose - the theory of management decisions, which was the development of operations research. In decision theory, the focus was on decision making. It was interpreted by a process available for quantitative measurement.

The work was carried out in two directions. The supporters of the first of them tried to find mathematical models suitable for use in real production situations (Fogal, Luce). The developers of the second turned to statistics, game theory, widely using methods of statistical testing ("Monte Carlo method").

The one-sidedness of both approaches gave rise to the third school, its founders wanted to "tie" mathematical research to the problems of quantification of economic phenomena as much as possible. As a result, the so-called "econometric" approach to the analysis and management of economic processes, primarily the efficiency and quality of production, appeared.

According to the above concept, the economic and mathematical model should have four components:

1. It should include economic phenomena of qualitative content, expressed in certain units of measurement. Such quantities are parameters of the model;

2. It should include certain quantitative relationships and dependencies between the parameters. These can be balance ratios or more complex dependencies linking the results of processes with their causes;

3. The model should determine the area of permissible changes in the parameters of the model in time, space and volume - "restrictions imposed on quantitative dependencies";

4. It should be a system of interrelated parameters, dependencies and constraints with certain inputs and outputs.

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The control of such a system, that is, obtaining certain results at the output, should be carried out by influencing only the input. Without interfering with its internal structure.

The most famous economic models belong to L. Klein and A. Goldberg. V. Leontiev, who received the Nobel Prize for his work, also contributed to the mathematical modeling of economic activity.

The effectiveness of economic and mathematical modeling of relatively large-scale economic phenomena is not high. Without denying the importance of such modeling, the prominent economist T. Haavelmo wrote: "It is quite possible that as more and more sophisticated methods develop, we will come closer and closer to realizing one unpleasant fact: economic "laws" are difficult to accurately measure, and therefore we live in fact in a world of large but largely superficial or spurious correlations. You can, of course, refer, as always, to bad statistics. However, I think we can find an explanation in another, namely, in the imperfection of economic theories."

Quality management is somewhat of an exception. In contrast to the low efficiency of using the mathematical apparatus in the study of the economy as a whole or individual industries, the application of mathematics to quality management turned out to be quite an acceptable action. Both Deming and Juran actively used its capabilities.

Analysis of the economic strategy in the field of quality management shows that the effectiveness of quality management depends on the agreed macro and microeconomic views. Real Japanese experience teaches this as well. The solution of the quality problem itself is supposed to be a step-by-step process from identifying problems, through diagnosing their condition and searching for solutions to implementing the decisions made, retaining and developing the results achieved.

At the first stage, J. Juran called "a problem in which a solution is programmed", problems are singled out, priorities are identified, a rating order is established; the performers and their powers are determined.

At the diagnostic stage, the optimal symptoms of the condition are determined; hypotheses are built, tested; the search for the reasons is in progress.

The stage of finding solutions involves finding optimal solutions; development of the necessary measures; implementation of the adopted decisions.

The final stage consists of checking the effectiveness of the implementation results, comparing the dynamics of the achieved results with the planned ones.

The high efficiency of the concepts of Deming and J. Juran provoked F. Crosby to combine their systems with the experience of quality management accumulated in the USA.

F. Crosby's Zero Defects program did not become something fundamentally new in the theory of quality management, but it contained interesting ideas. For example, a statement about the prevention of defects; the need to develop a "quality policy", the requirement to connect to the quality of the activities of non-production units.

F. Crosby believed that at each technological site there should be an engineer responsible for quality. His professional duties include providing a daily list of problems causing significant and frequent defects; systematizing them according to the degree of importance for quality; determination of corrective actions; attraction of personnel employed at the site.

The "Continuous Quality Improvement Phase" helped to overcome the tension between quality costs and production efficiency. The consumer began to receive high-quality goods at an affordable price, the implementation of the idea of a "consumer society" has come nearer.

From the manufacturer's point of view, this is an ideal situation. But the assessment of the situation was one-sided, only from the point of view of the consumer; the quality parameters were not set by the one who consumes the product, for whom the product is made.

Quality was standardized in the manufacturer's norms and, naturally, reflected primarily his own interests. The consumer was left with a choice: to purchase a product of a certain quality or refuse.

This again led to the "overheating" of production, to an increase in its cost, since there were frequent miscalculations in determining the needs of consumers. A high-quality (according to the manufacturer's assessment) product, available at a price, did not find the necessary demand from consumers.

The new form of contradictions had to be eliminated taking into account the interests of the consumer. The "Continuous Quality Improvement Phase" has given way to the "Quality Planning Phase".

The work of G. Taguti is considered the beginning of the next phase. It was he who introduced the concept of "loss function" into the theory of quality management and developed a modern methodology for planning industrial experiments. The aim of G. Taguti's research was to overcome the contradiction between quality assurance and production efficiency in its existing forms.

Four new ideas form the foundation of the quality planning concept:

1. Conclusion that product defects are mainly due to poor quality actions at the design stage;
2. Conclusion on the need to focus the main products not on full-scale testing of models of goods, but on mathematical modeling of both goods and the process of their production. Due to this, they hoped to

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timely detect and eliminate the reasons for the increase in marriage. It was proposed to take the design and technological processes under control until the stage of real production;

3. The idea that the concept of "zero defects" should be replaced with the idea of "satisfied customer";

4. High quality of goods is emphasized by reasonable prices and constant price reductions, thus ensuring a stable market demand for quality goods.

A new round in the development of quality management, overcame the marked form of the fundamental contradiction between quality and production efficiency, but not the contradiction itself. At present, its next "ecological" form is taking shape.

The inclusion of ecological cleanliness in the quality characteristic of a product requires significant costs.

The peculiarity of the modern stage of quality management lies in the fact that all known formulas (phases) are practiced at enterprises. B.S. Alyoshin and co-authors, reflecting this unusual way of

existence of history and modernity, built the "Tower of Quality". It is of not only theoretical but also practical interest (Fig. 10).

In the seventies, A. Feigenbaum summarized the accumulated intellectual and practical experience in the development of the problem of economic quality management and laid the foundation for what is known today as TQC-Total Quality Control (total quality management).

Essentially, TQC is not a quality management system, but a system of sufficient conditions for a quality process. Development logically went to the development of TQC. All previous steps on the path to quality management of quality, despite the progress of the movement, were of the same type. They "tied" the solution of the problem of economic quality management to some fragment (fragments) of the process. Thus, the improvement of quality management "bypassed" the essence of the production process - its unity and the systemic nature of its unity as connections and dependencies built in a certain way.

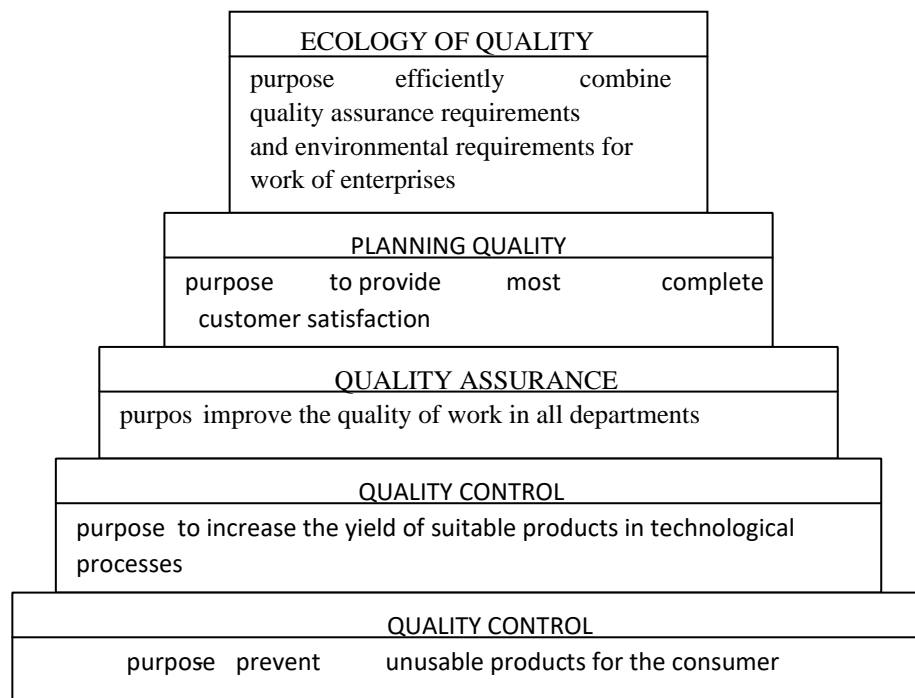


Fig. 10. "Tower of quality" according to B.S. Alyoshin

E. Deming, K. Ishikawa, F. Crosby and A. Feygenbaum came closest to understanding the quality system as a reflection of the production system.

The main conditions of TQC are the following:

1. Ensuring the totality of participation in solving the quality problem of all employees;

2. Awareness of total responsibility for the quality of all participants in the process, understanding that no specialized department (quality control department, OUK, etc.) is able to cope with the task;

3. Compliance with the quality of activities at all stages of the "life cycle" of the product: from the development of the product concept and marketing research to the method of disposal of the product and

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its packaging. In the context of increasing environmental requirements in a number of countries, for example, Japan, certification of goods involves the mandatory development of a method for recycling even packaging;

4. The totality of improving the knowledge and skills of performers and managers; regularity of specially organized forms of professional development; planning related costs;

5. Achieving a total understanding that the quality of work is achieved not so much by technology and technology as by focusing on the quality of employee motivation, and motivation should not be one-sided, closed only on financial returns. Then it will be stable;

6. The totality of the structuring of activity, its differentiation into operations, interrelated technological processes, transitions, and each link in the process should be understandable for its intended purpose to all performers. Studies of eliminating the causes of defects have shown that up to 90% of the problems submitted for consideration are resolved, while 75% of them are capable of solving by the controllers themselves (direct executors and organizers);

7. Totality as understood by the consumer; the consumer is not someone who is outside the brackets of the production process, the consumer is every next link of the production itself - "internal consumer", therefore, an awareness of responsibility to the consumer is required throughout the entire production cycle;

8. Total cultivation of the special status of the consumer and his

interest in the quality of the product;

9. Continuous quality engineering;

10. Understanding the importance of defect prevention, its economic advantages over the elimination of defects;

11. Team spirit of all participants in the process; corporate culture;

12. A leading position in the activities that ensure quality, of the top management, understanding of quality as the goal of entrepreneurship.

Quality management in the XXI century is based on the reciprocity of total quality management (TQM) and quality system standards (ISO 8402; ISO 9000; ISO 9001). The main difference between the quality system standards is that in many countries, including Russia, they have acquired state registration and are administratively fixed. Therefore, clarity in the definition and content of the concept of "standard" is important. In the USSR and the Russian Federation, it is customary to assign a "quality mark", officially certifying that the product meets certain agreed parameters. "Standard" in Russia and most other countries is a set of rigidly fixed, often administratively, characteristics of

products, services, and activities. Analogs of our "quality marks" are found in European countries, in particular in Sweden (TCO 92; TCO 95; MPR on monitors).

From the perspective of the consumer's interests, the "standardized" concept of "standard" is not as relevant as for the manufacturer. The latter, taking advantage of the starting advantage, taking into account, first of all, his own interests. Hence the conventionality, the relativity of any standard and "standard sign" until the standard balances the mutual interests of both parties: the manufacturer of the product and its consumer.

The most common quality system standard ISO 9000 is built on the Deï special system of organization. The basis of this idea is the thesis about the documentation of all processes related to production: the purchase of raw materials, components; preparation of production by its organization; delivery of products to the consumer; providing warranty support; scientific and technical equipment of production; personnel management.

As a result, the concept of "quality" acquires new facets, expands; the traditional understanding of quality is being modified. The content of the concept of "quality" is loaded with knowledge corresponding to the changed situation. A classic example of the dialectic of the development of a concept.

The most obvious illustration of what has been said is the rather frequent reports that reputable firms such as Ford, Toyota and others are recalling their products due to the discovery of a technical discrepancy in just one of the nodes.

It would seem that it was easier and cheaper to instruct service centers to replace low-quality components. In fact, firms are doing the right thing in terms of market competition and their brand position.

In a complex system, a structural and technological defect of one unit inevitably affects the entire system, so it is not easy to replace a unit or block. It is necessary to comprehensively test the product as a whole so that the manufacturer's warranties work according to the declared standard.

ISO 9000 its modifications ISO 9000-2000 do not guarantee product quality. They are "determined" to provide such production conditions that make it possible to count on the "most probable" quality reserve of productive activity.

Another "weakness" of these systems is that they explain "what to do", but they practically do not explain "how to do it".

ISO 9000 ideologues argue: "What should be done?" - the question is "standard" and is subject to standardization. The question is: "How should I do it?" - due to the specific conditions of production in each individual case. Therefore, "how to do it" must be decided by manufacturers on the spot.

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With the introduction of ISO 9000-2000, the concept of "QS" (quality system) has become obsolete, giving way to QMS defined by the International Organization for Standardization:

1. Constant monitoring of consumer interests;
2. Systemic leadership of the head, ensuring the unity of the goals and directions of the firm's activities, as well as a stable internal environment based on cooperation and all-round motivation;
3. Maximum involvement of the abilities, knowledge and skills of employees in the production process;
4. Using a process approach in managing activities and resources;
5. The need for a systematic approach to management;
6. Striving for continuous improvement of the firm's activities;
7. Making decisions only taking into account a comprehensive analysis of the entire possible amount of "information for thought";
8. Development of mutually beneficial relationships with suppliers.

From now on, international quality standards require not goods to be submitted to the "quality mark", but the method of their production. "Quality" is the compliance of the organization and management of the enterprise's activities with the quality management system (QMS).

The modern history of the economic aspect of quality management reveals a very instructive relationship between specific scientific, special and philosophical approaches to solving socially urgent problems of production activity.

Philosophical teachings about quality, undoubtedly, have always had an effect on economic knowledge. K. Marx began with G. Gogol, went through the "course" of economic analysis and founded the historical-materialist view of social development. Then he returned to the analysis of economics and left an impressive mark on social philosophy and economic theory. Something similar can be said about the creative ways of O. Proudhon, J. St. Mill.

History repeats itself on a new round. Thinking economists go from practice to philosophy in order to use philosophical knowledge and method to develop a deeper understanding of the subject of their own research. All modern concepts of quality management are due to philosophy no less than economic theory.

The philosophical analysis of the social process led to the conclusion about the growing role of the "subjective factor" in it. The "human factor" in philosophical humanism has always been presented as the decisive condition of history. This was the opinion of the leading thinkers of Antiquity, the Renaissance, the Enlightenment. But the "human

factor" and the "subjective factor", contrary to the widespread practice of bringing them closer to the point of identification, are far from the same thing.

"Human factor" is a concept that characterizes the entire complex of human capabilities. The concept of "human factor" expresses the dualism of our nature - a combination of biological and social in it; organization and personality; physics, physiology, psychology, intelligence, behavior and activity. How advertising likes to present: "all in one" or "in a package".

The "human factor" is, in fact, the person himself in the context of his opportunities for realizing his own potential. The clever, educated Oblomov lying on the couch, as well as the active Stolz, are examples of contrasts along with the title "Human Factor".

In the concept of "human factor" is not an expression of preference, either biological or social. I think that's right. To define "a person in action" - no matter in which one: turning over with a newspaper in the hands of Oblomov, or active enterprising Stolz - a synthetic concept is needed.

It was proposed to call an abstract person in a state of abstract activity "human factor", thus including an abstract person in an abstract historical process. In theory, the main thing is to find a conceptual equivalent to describe the object of research.

The object of research in our case is social progress. The task is to understand the factors that set history in motion and give the movement of history progressiveness.

The logic of reasoning is not complicated. The history of mankind is either objectification outside of human substance (objective idea, World reason, World Will, God, etc.), or the product of the activities of people themselves: their reason, feelings, will and practical activity.

The problem can be simplified, because in both versions, human activity is envisaged, with the only difference that in the first case, history is made by him according to a program developed outside of human life, and in the second, a person paves the way for history, guided by his own ideas and motives. In history, whatever one may say, one cannot deviate from human participation. History is "tied" to a person just as he is "tied" to history.

It is then that it becomes relevant to "disassemble" the "human factor" into its components, its quality, to divide what exists in a person himself exclusively in unity. Divide conventionally, depending on the contribution to historical progress of two "halves" of a person: biological and social.

The concept of "subjective factor" appears. And its components are the "individual" form of the subjective factor, and the "collective form of the subjective factor." Politicians who emphasize the

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historical nature of human activity note the collective essence of this activity. With regard to production and production quality, the "subjective factor" is concretized to the level of "performer", "manager" and "team".

For those who object to us, considering that we have narrowed the understanding of a person in the structure of the economic form of his activity to the size of a "subjective factor", ignoring his biological status, which is also presented in production and affecting its quality, we will answer: no, but modern production, then there is a science-intensive, high-tech production based on the power of knowledge, not muscles; on responsibility and organization, depends precisely on the "subjective factor" of a person.

The logic of the development of the process of economic quality management convincingly testifies that total quality management, to which everything was going, is possible with the total mobilization of human subjective forces: knowledge, beliefs, desires, will of interests, upbringing, education, concentrated in the professional form of culture.

The classics of quality management economics, from Taylor to Crosby to Freygenbaum, were deeply concerned with mobilizing the motivation of production participants, rightly believing that it is the lifeblood of quality work. But they were realists and realistic experience told them: do not absolutize the moral factor, no matter how significant it is. Quality is created by free will, but it is controlled administratively and legislatively. The legal aspect of achieving TQC objectives is highly significant and requires constant attention.

Is it possible to imagine a situation when quality will be achieved only due to the self-organization of the manufacturer, thanks to the team spirit, social dedication of each and every one individually, and a high level of professional qualifications? The answer is at the discretion of the reader, but a hint suggests itself: it is possible.

So what happens? Is legal regulation an unnecessary or unnecessary matter? Not. Trial fantasy does not take into account the purpose of production, which, by the way, is very well spelled out in TQC.

The goal of production is not the quality of the product (this is a crafty goal, self-deception). The purpose of production is not the quality of production (this is also a craftiness) The goal of production is customer satisfaction with the quality!

Production even in a subsistence economy, in which the producer and the consumer are one and the same person, does not exist on its own and for itself. As for the commodity form of production, the consumer is the main figure in it.

Therefore, the understanding of quality is not in the competence of the manufacturer alone. It is formed in the mutual interest of the manufacturer and

the consumer in the properties of the product (and its price), intended for sale.

The manufacturer has one small advantage in dealing with the consumer. It is not easy to use it, but the chance is quite real. A manufacturer of technically complex products that require knowledge and skills in operation may try to form a consumer's taste for it through educational and advertising activities. The mechanism, of course, is costly, but it is unlikely to win the fierce competition in the market in any other way.

The interests of the producer and the consumer do not always coincide, not immediately and not for a long time, because these are the interests of the subjects of production, separated by the barricade of the market. The market is the ring for them. The manufacturer is interested in profit. The consumer is in preserving finances. One strives to fill the cash register, the other does not empty the wallet. In doing so, both look at quality as a reward for winning a battle. Legal regulation helps to give the fight a civilized character. Prevent deception.

The state cannot be aloof from the events taking place in the market, for the economy gives rise to politics; the movement of the market determines the movement of large social groups. And if today the class struggle has lost its relevance, then tomorrow the place of the proletariat and peasants will be taken by dissatisfied consumers - some with quality, some with a price - consumers, whose number will be no less, and the desire to win will be even steeper.

The state cannot deal with the fate of each citizen individually, and it is hardly advisable, but the fate of social groups should be in the zone of special attention of any state and always, if, of course, the state itself does not want to be in the zone of special attention of that main part of society, which in a quiet time is called the electorate, and in not a quiet time - the people.

Quality is a policy, firstly, and only, and secondly, a product of the intricacies of relationships in the market. Supporters of absolute market liberalization are "scientists" provocateurs of tension in public relations and "disruptors" of national security.

All modern social experience confirms that participation in quality management is a function of the state and even interstate cooperation. An example is the Bologna Agreement. It was prepared by the social movement, but, in order to give it real power as a controller of the quality of education, legalized by the collective political will.

The attention of the state should be focused on:

- intensification of the import substitution process by improving the quality of domestic products;
- building up the production potential of enterprises, creating advanced technologies and new

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types of high-quality products, so that, as the domestic market develops and integrates into the world economy, the share of Russian products in the domestic and foreign markets will be expanded. "

The actualization of the legal resources of the state along the entire vertical of political power in the field of quality management will undoubtedly contribute to the achievement of the following most important results:

- ensuring a high-quality standard of living of the population, without which it is definitely impossible to get out of the demographic collage. In order to be among the leaders in a non-absolute indication - the reserve fund, a loan paid ahead of time, a loan, a part written off even for those who are not able to pay it in the foreseeable future - it is necessary to improve the quality of products and services in the social sphere;

- strengthening security, territorial integrity, preventing military aggression;

- strengthening of the position in Russia in international relations, greater pliability in economic partnership;

- creating an image of Russia as a really great, and not just a huge country;

- developing environmentally sound policies and economic practices.

Integrating the analysis of real to the consequences of the intensification of state behavior in the quality market, we note the most important thing. This is the only effective way to ensure national security, that is, what is in the ranking of the state's tasks above everything else, since the achievement of everything else is possible only under conditions of national sovereignty.

A systematic approach to solving the quality problem in the USSR began to take shape in the 50s. The Saratov system of defect-free manufacturing of products, the NORM, KANARSPI, KS UKP systems were quite a successful experience of the socialist embodiment of the need to manage the quality of production.

In the mid-60s, the Lvov initiative was widely adopted in the domestic industry, which was recognized as a "system of defect-free labor" - SBT.

The highest achievement of the "struggle for quality", apparently, was the creation, based on a combination of a serious experiment (VNIIS) and a comprehensive generalization of practical work to improve the quality of work at the leading Lviv enterprises, of the Integrated Product Quality Management System (KS UPK).

This system turned out to be the first, where the organizational and technical basis of product quality management was the enterprise standards. Unfortunately, the effectiveness of the application of best practices was low. By the beginning of the 90s,

only 10% of technical products for civilian purposes corresponded to the best foreign analogues.

The state possesses large and multilevel possibilities of influencing the quality of production and the quality of products. The legal mechanism in the hands of the state is capable of influencing both directly and indirectly improving the quality of the production process.

With the help of tax policy, you can stimulate high-quality production and block low-quality ones. Protecting the consumer from a low-quality product, the state actively prevents unscrupulous manufacturers from entering the market.

The basis of legal support for the quality of production in our state is the Constitution of the Russian Federation. The 1993 Constitution was developed at the height of the redistribution of property and therefore its creators did everything to make the provision (articles) of the Supreme Law extremely abstract, declarative. But in its abstract format, the Constitution of the Russian Federation did not ignore the right of Russian citizens to quality goods. Relevant articles have been formulated to match the time of her birth; nevertheless, in this form, some certainty is present.

Article 41 of the Constitution of the Russian Federation says: "Everyone has the right to health protection." Of course, it would be better to add - "and a healthy lifestyle." And even better: "the right to health protection and a healthy lifestyle of Russian citizens is guaranteed by the state." However, in this scenario, the "legitimate" interests of the future oligarchs would suffer, so we settled on what we have.

This article does not seem to have a direct relationship to legal quality management. There is an indirect one, mediated by the protection of the country's population's right to health.

Goods for immediate and long-term consumption must be of the required quality level so as not to harm health. Otherwise, there are serious legal and financial penalties for the manufacturer and the seller.

In order to ensure the protection of the right to health protection, all possible tolerances (MPCs), sanitary and hygienic requirements, state standards for products, services, industry standards were developed in the company with which their own "standards" of enterprises (TU) turned out to be. Management structures were created, or modernized ones inherited from the socialist time.

A modern structure of quality management has been built on the basis of the rights of citizens to quality goods, proclaimed by the Constitution.

The state does not interfere in the technology of production quality management. Its activities are aimed at controlling the method of production to exclude the possibility of harm to the health of citizens (and non-citizens) and harm to the natural

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GIF (Australia)	= 0.564	ESJI (KZ)	= 9.035	IBI (India)	= 4.260
JIF	= 1.500	SJIF (Morocco)	= 7.184	OAJI (USA)	= 0.350

environment of human life, as well as to prevent the appearance of dangerous low-quality goods on the market, deception of consumers and legal regulation of relations between the seller (manufacturer) and the buyer in situations that require a similar measure.

The market is dedicated to environmental activities within a normalized relationship. Prices,

priorities, demand, supply, advertising - all these are the mechanisms of the market as long as they remain within the economic relations that are moral for the same markets.

The scheme of the right provision of quality management is shown in Fig. eleven.

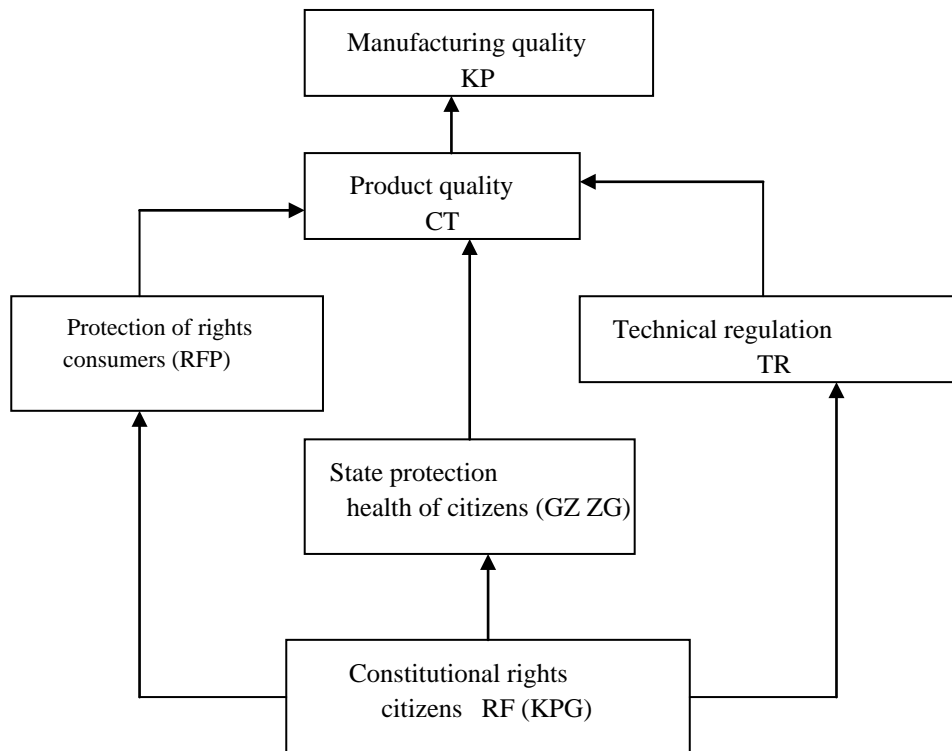


Fig. 11. Scheme of legal support for quality management

Conclusion

Many violations of economic relations inevitably lead to the intervention of law enforcement agencies designed to protect the affected entity within the framework of the current legislation.

Any act of "sale and purchase" is a subordinate act and the legislator or the executor must be included in the process. Otherwise, the rights of the owner will suffer and the violator of market relations under the jurisdiction will not receive punishment.

The situation with the legal support of quality management is complex. The market has divided the producer and the consumer, squeezing an intermediary (and more than one) between them. In this connection, it is necessary to differentiate the concepts: "quality of production"; "The quality of the goods produced"; and the "quality of the goods purchased" by the consumer.

An intermediary - a "speculator" - is quite capable of violating technical conditions when delivering goods to the place of sale, in storing goods, preparing them for sale. As a result, the

quality parameters of the product will change. The legal protection of the consumer spelled out all possible situations and measures of responsibility of the seller.

Consumer legislation has been around for a long time in European countries and North America and has been refined over the centuries. In its current state, it is quite effective, which forces violators to reckon with it in order to avoid serious financial sanctions of deadly anti-advertising.

Russian experience in the legal regulation of relations in this area is much poorer; moreover, it took shape in the specific conditions of the socialist market.

The Law of the Russian Federation "On Protection of Consumer Rights" was adopted in 1992 and was repeatedly amended (09.01.96; 17.12.99; 30.12.01) in order to make it more adequate to the developing economic situation.

The subject, whose interests are protected by this law, is a consumer who has purchased a product, more precisely, a product that does not meet the entire set of consumer and technical characteristics.

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And the object of legal relations is the quality of the goods.

Thus, the Law has a double effect: it protects the buyer from low-quality products and protects the market from low-quality goods. The manufacturer (and the intermediary) received a legal signal about the need to present quality products to the market.

In the peripheral area of interest of the legislators was the intensification of the activities of a number of federal bodies: for standardization, metrology and certification, sanitary and epidemiological surveillance, environmental protection and natural resources.

The categorical apparatus of the Law on the Protection of Consumer Rights was composed of the concepts: "consumer", "manufacturer", "seller", "standard", "lack of goods", "significant shortage of goods", "safety of goods". As we see in the categorical apparatus of the law, there is no mention of "quality", despite the fact that it protects the consumer from low-quality goods, and in doublet tries to protect the market from marriage and counterfeit products.

The developers of the ideology of the Law acted logically. They divided the content of the concept of "quality of goods" into components: "manufacturer of goods", "performer", "seller", "standard", "consumer", having built a system out of them, the forming factor of which was made "standard".

The relationship between the consumer and the producer is regulated in the Law with the help of the concept of "standard", which is subject to change in a certain system of units.

"Standards" are meant to exist at two levels: universal, controlled by the state, and sectoral, private, set by the manufacturers themselves, and have passed the necessary certification procedures.

According to the logic of building subordinate relations, the requirements of a higher level of organization are the benchmarks for the rest of the "pyramid". In case of contradiction, the advantage belongs to the one who (or what) is higher, i.e. more important.

It was superfluous to introduce into the conceptual apparatus of the Law the concept of "quality (goods)". It has been successfully replaced

by the more verifiable concept of "standard". At the same time, it reminds all market participants, from the manufacturer and the contractor to the consumer, who is the boss in the house.

From a philosophical and economic point of view, the main defect of the law is the locality of purpose. The state is still hypnotized by the effectiveness of the economic liberalism of the American model, overly delicate in expressing its economic interests, forgetting that these are not the interests of state administration, but of the people of Russia. The state, especially the executive branch as a top manager, must fulfill the interests of the people, instead of fearing to be misunderstood by foreign partners. Foreign partners, when necessary, tighten the nuts tightly.

The state should introduce an economic policy in relation to quality on a larger scale, then its effect will be more significant and the private court practice that has considered private claims against the seller about poor-quality goods will be sharply reduced. A private lawsuit for a manufacturer of low-quality products and a wholesaler of his fueling in the market is all too early that a mosquito squeak.

It is necessary to protect the market from low-quality goods, as G. Ford, senior, did in his time, when he entrusted the "phase from rejection" to special production, taking quality control out of the brackets of the main production process. As a result, substandard components were no longer supplied to the assembly line.

The state does not need to strive to be a subject of the market, it needs to be above the market, stimulating producers of quality goods, and preventing low-quality goods from entering the market. In the first case, economic incentives are required, in the second, administrative and criminal sanctions.

Now the state is approaching the problems of quality management, as if, in a half-turn, modestly distancing itself. It is necessary to turn to face him and tackle quality, "rolling up your sleeves." Only then will the time come when the ministers will not be able to postpone the execution of the President's instructions for years.

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