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INTEGRATION OF QUALITY PHILOSOPHY AND QUALITY MANAGEMENT IN INNOVATIVE APPROACHES

Gofurjon Kh. Khamrokulov
Tashkent Institute of Chemical Technology, Professor of the Department of Quality and Product Safety Management, Doctor of Chemical Sciences
https://orcid.org/0000-0001-8291-3927
Email: hamroqulov0305@gmail.com

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Annotation:
The article explores the role of quality in the context of globalization, digital transformation, and scientific-technical progress in the 21st century. It emphasizes the integration of quality philosophy with practical quality management. Modern concepts such as TQM, Kaizen, Lean, Six Sigma, and Agile are analyzed, along with their advantages and limitations. The integration of digital technologies (IoT, Big Data, AI, Blockchain) into quality management systems is highlighted as a driver of efficiency, transparency, and sustainability. The study concludes with practical outcomes of this integration, demonstrating its impact on enterprise competitiveness and sustainable societal development.

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In the 21st century, globalization, digital transformation, and scientific and technological progress require enterprises not only to produce quality products, but also to continuously improve production processes. Increased competition in a market economy, growing customer needs, and environmental problems require a new approach to the issue of quality. Today, the approach to quality is based on two main concepts: quality philosophy and quality management. Quality philosophy studies the theoretical, social, and philosophical foundations of the concept of quality. Quality management is a system for ensuring, controlling, and continuously improving quality in practice. The integral integration of these two concepts is of great importance for modern enterprises, increasing competitiveness, strengthening customer trust, and serving sustainable development. Therefore, combining a philosophical approach with practical mechanisms in quality management is becoming an urgent task.

Innovative interpretation of the philosophy of quality. The philosophy of quality has long been formed as an integral part of human activity. Great thinkers such as Aristotle, Ibn Sina, and Hegel interpreted quality as one of the main categories of existence. Today, this concept is enriched with innovative approaches and adapted to modern needs. In the innovative interpretation, quality is no longer limited to satisfying existing needs, but is becoming a process of forming new demands and desires. For example, smartphones were originally a simple means of communication, but today they have become a platform that combines artificial intelligence, the Internet and various digital services. The modern philosophy of quality includes two main areas:

Objective aspects - technical, functional, environmental and safety indicators of a product or service;

Subjective aspects - consumer experience, design, comfort, quality of service and brand reputation.

Thus, in the innovative era, the philosophy of quality is becoming a complex concept that combines social and technical factors. It serves sustainable and competitive development, ensuring the harmony of human values, advanced technologies and market mechanisms.

Modern concepts of quality management. Today, against the backdrop of a rapidly changing competitive environment, increasing complexity of customer demands and technological innovations, traditional methods of quality management are no longer sufficient. Therefore, modern, innovative concepts of quality management are being formed in enterprises and organizations (Table 1).

Table 1.

Modern concepts of quality management and their characteristics

	Concept	Main content	Advantages	Disadvantages
1	TQM (Total Quality Management)	Continuous quality management with the participation of all employees	Quality control is strengthened at every stage	The implementation process takes a long time.
2	Kaizen	A philosophy of continuous, incremental improvement	Savings, employee engagement	The result will appear gradually.
3	Lean production	Optimal resource management, reducing waste	Increase efficiency	Requires high discipline and monitoring
4	Six Sigma	Identify defects and reduce them to 3.4 defects per 1 million products	Quality improvement based on statistical analysis	Qualified professionals are needed
5	Agile Quality	Flexibility and rapid innovative solutions	Rapid adaptation to the market	More suitable for short-term strategy

These modern concepts allow enterprises not only to improve quality, but also to strengthen competitiveness, efficiency and customer trust. Thus, modern quality management is a management system based on strategic thinking, an innovative approach and continuous development.

Integration of digital technologies and quality management. Digital technologies are creating new opportunities in quality management:

IoT (Internet of Things) - provides real-time quality monitoring of products and equipment.

Big Data - analyzes large amounts of data and quickly identifies quality deficiencies.

AI (artificial intelligence) - predicts and optimizes production processes.

Blockchain - allows for reliable control of the origin and quality certificate of the product.

These technologies make quality management systems not only effective, but also transparent and sustainable.

Quality philosophy is a general approach to quality in an organization, a system of values and strategic visions. It emphasizes the need for a deep understanding of quality not only in a product or service, but also in all organizational processes, and the need for continuous improvement. Quality management is a practical management system aimed at ensuring and improving quality, which ensures the coordination of resources, process management and responsiveness to customer needs.

The integration of these two concepts leads to the following important results:

Transforming quality into a comprehensive management system.

Orienting innovation processes to quality.

Anticipating consumer needs.

The integration model can be shown in the following table (Table 2).

Table 2.

Conceptual model of integration of quality philosophy and management

Direction	Philosophical content	Expression in management
Product value	Meeting human needs and values	Market monitoring and consumer analysis
Improvement	Creating new values	Introducing innovative ideas
Sustainability	Benefiting society and the environment	ISO 14001 and the "green technologies" system
Efficiency	Maximum results with minimal resources	Lean and Six Sigma methods

Practical results of innovative approaches. The integration of quality philosophy and management in practice provides the following results:

The reliability of products and services increases;

The cost of products decreases, resources are used more efficiently;

Consumer satisfaction and brand loyalty are strengthened;

The competitiveness of the enterprise increases;

Environmental sustainability is ensured.

For example, in the European Union, manufacturers are creating energy-efficient products by combining the quality management system with the principles of the “Green Economy”.

Thus, the following conclusions and suggestions can be made based on the above. The integration of quality philosophy and quality management in innovative approaches is of great importance in increasing production efficiency, satisfying consumer needs and achieving sustainable development of society.

Conclusion:

The quality philosophy in the innovation era is aimed not only at satisfying needs, but also at forming new requirements.

Quality management systems have been taken to a new level with the help of digital technologies.

The integration of philosophy and management is a key factor in increasing the competitiveness of an enterprise.

Proposals:

Introducing special programs to form an innovative quality philosophy in enterprises.

Modernizing quality management based on IoT, AI and Big Data technologies.

Integrating environmental and social requirements in the development of product quality criteria.

Introducing the integration of innovation management and quality management into the national standardization system.