ASSESSMENT THE DEVELOPMENT OF THE QUALITY MANAGEMENT SYSTEM OF TEXTILE AND SEWING-KNITTING ENTERPRISES OF THE ANDIJAN REGION OF THE REPUBLIC OF UZBEKISTAN

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A R T I C L E I N F O.	Annotation
Keywords: development, quality management systems, assessment methods, textile and sewing-knitting enterprises, globalization, competition, digitalization.	In this article are discussed the improvement of methods for assessing the development of the quality management system of textile and sewing-knitting enterprises of the Andijan region of the Republic of Uzbekistan. http://www.gospodarkainnowacje.pl/ © 2024 LWAB.

In the context of globalization of the world economy, digitalization, and increasingly escalating competition, the objective necessity remains the introduction and development of a quality management system based on international standards for the production of competitive products by all business entities, regardless of ownership, in particular industrial enterprises. In the context of increasing competition, the insufficiently studied issue of developing a quality management system to improve the quality management process at enterprises, as well as assessing the level of development of its current state, dictate the need to give it special importance.

A number of scientific studies have been conducted worldwide to assess the development and improvement of the quality management system of industrial enterprises, which substantiate the need to assess the development of a quality management system based on specific indicators. In the modern economic literature, there are various points of view and opinions on the definition of parameters for evaluating the development of a quality management system. This is primarily due to the fact that the authors understand the role of the quality management system in the company's strategy differently, taking into account the specifics of the industry: the development and development of a quality management system as part of general organizational excellence - a systematic approach; as a source of increasing the company's potential - a managerial approach; as a source of improving the quality of goods and services - marketing the approach; according to the state of digital technologies and the level of digitization , the digital approach .

Currently, increasing the competitiveness of the textile and clothing and knitwear industry of the New Uzbekistan remains an urgent task. Providing enterprises with innovative digital technology - technologies that guarantee the production of high-quality products - is one of the main conditions for competitiveness. Today, an increasingly acute competitive struggle requires the adaptation of enterprises' activities to rapidly changing market conditions in order to increase the volume of exports to the world market through the development of a quality management system and improvement of its assessment methods. Therefore, one of the urgent problems of today remains the development of a

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quality management system for textile and sewing-knitting enterprises and the improvement of its assessment methods.

Literature review. Such foreign scientists as S.Ya.Grodzensky, V.M.Mishin, S.A.Zaitsev, Yu.I.Rebrin, O.V.Aristov, T.B.Grekhova, E.S.Grigoryan, N.S.Yashin, M.Yu. Starenkov, V.A.Vinarik, E.A.Kovrigin, E.V.Levchenko, L.F.Popova, S.V.Bocharova, A.D.Ovsyanko, G.B.Fedorova, O.Y.Ivanova, E.Y.Prosvirkina and others dealt with issues of quality management and development of the quality management system in the digital economy. Domestic scientists N.K.Yuldashev, D.T.Yusupova, G.Sh.Khankeldieva, G.Hadjiakhmedov, M.Badalova, N.X.Khalilov and others conducted research on the study of common problems of improving quality management in Uzbekistan.

Based on the analysis of the degree of study of the problem we are investigating, we can conclude that certain aspects of this research topic have been studied, but the issue of improving methods for evaluating and developing the quality management system of textile and sewing-knitting enterprises in the digital economy has not yet been fully studied. This circumstance makes it necessary to carry out scientific work in this direction, and also justifies the relevance of the research topic.

Discussion. Solving any problem in organizations is unthinkable without an effective management system. It is necessary to direct the scientific, technical, industrial potential, knowledge and skills of personnel to solve the problem of improving quality at enterprises. Despite the fact that currently a large number of scientific papers and educational publications are devoted to the issue of implementing a "quality management system", there is still no clear idea of what a "quality management system" is, what its essence and purpose are. In this work, an attempt was made to formulate more accurate and complete ideas about these issues based on previous research.

According to S.A.Zaitsev: "The quality management system is a management tool aimed at ensuring the quality of products or services that can meet the needs of consumers in a market economy, characterized by the coordinated activities of all employees and departments of the enterprise" [1]. Researcher T.V.Grekhova also argues that "a quality management system is a tool that improves the quality of products or services, reduces their cost and increases production efficiency" [2]. In the textbook "Quality Management" by N.K.Yuldashev and D.T.Yusupova, the following definition is given: "a quality management system is a set of interrelated and mutually movable elements designed to develop policies and goals related to quality, achieving set goals through joint activities to choose the direction of quality management" [3].

Based on the above information, it is proposed to give the following definition to the quality management system: "A quality management system is a complex of interrelated and interacting elements, organizational structures, processes and resources that ensure the development and functioning of quality goals in an enterprise, as well as leadership in an organization to achieve these goals."

The development of a quality management system (QMS) can lead to an increase in the quality and competitiveness of products, lower costs, increase profits, and increase efficiency. As a result of the research of scientists' views on the role played by the quality management system in the development of the enterprise, the basis was laid for dividing them into the following groups: a systematic approach, a managerial approach, a marketing approach, a digital approach, an innovative approach. Currently, much attention is being paid to digitalization and innovative technologies. The use of digital technologies in order to improve the quality management system not only improves the quality of products (services), but also ensures the growth of the enterprise's potential, profit and competitiveness [4,5].

Based on the correlation analysis conducted by scientists of the development and improvement of methods for evaluating the quality management system in the context of digital technologies, the impact of digitalization on the development of organizations at the present time was considered, but no

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regression analysis and forecast were carried out. Based on the review of research in the field of QMS development assessment, it can be concluded that there is a gap in research on the assessment of the development of a quality management system using an innovative approach, and the need for research in this area has been identified [6,7].

The research was carried out in textile and sewing-knitting enterprises of the Andijan region of Uzbekistan. In the course of the study, when conducting a correlation analysis, it was determined that development indicators can affect net profit, and that there is a correlation between them. The following data were selected as independent variables during the analysis, identified on the basis of indicators for assessing the development of the QMS:

(X1) - the innovativeness of the enterprise's quality management system (I);

(X2) - the degree of consistency of actions at the enterprise (U);

(X3) - compliance of the company's quality management system with the overall strategy (S);

((X 4) - flexibility of the enterprise's quality management system to various conditions (M);

((X5) - manufacturability of the enterprise's quality management system (T). The net profit of the enterprise was chosen as the dependent variable (Y).

The following parameters of the QMS development level were established: high level of development (3.34-5 points), average level of development (1.68-3.33 points), low level of development (0-1.67 points).

During the study, a survey was conducted of managers, heads of various departments, heads of quality management departments, employees of other departments, as well as highly qualified specialists in the field of quality in the Andijan region in 2018-2023, and the level of development of the quality management system of enterprises was analyzed and evaluated, resulting in the following data (Table 1). Based on the assessment of the development of the quality management system at enterprises, it has now been established that the level of development of the QMS of textile and sewing-knitting enterprises of the Andijan region is at an average level.

Table 1 Average estimates of the level of development of the quality management system according to the classification of textile and sewing-knitting enterprises of the Andijan region (2018-2023).

Years	Classification of enterprises	Type of enterprise by classification	Indicators for assessing the development of the QMS					Indicators for assessing the development of the QMS
			I (X₁)	U (X₂)	S (X₃)	M (X₄)	T (X₅)	
2018	In the field of activity	Textile and clothing production	1,33	1,5	1,2	1,7	1,5	
2019			2	2,2	2,1	2,1	2,11	
2020			2,1	2,4	2,12	2,25	2,25	
2021			3	2,85	2,4	2,4	2,15	
2022			3,2	3,05	2,8	3,15	2,51	
2023			3,3	3,1	3	3	3	
2018		Spinning, textile and clothing production	1	1,5	1,5	1,35	1,5	
2019			2	1,8	2,1	2,1	2,71	
2020			2,8	2,8	2,9	2,2	2,78	
2021			3,6	3,4	3,9	3,7	3,79	

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Year	Category	Subcategory					
2022			4,05	3,45	4,15	4,15	4,11
2023			4,8	4,1	4,4	4,7	4,53
2018		Textile and sewing-knitting enterprise as part of the cluster	2	2	2	2,2	2
2019			3,1	3,25	3	2,85	3,44
2020			3,1	2,8	2,8	2,1	3
2021			3,5	3,5	3,6	3,5	3,5
2022			4,2	3,75	4,45	4,4	4,53
2023			4,8	4,25	4,65	4,75	4,71
2018	By the number of employees	The number of employees is up to 100	1,33	1,5	1,2	1,7	1,5
2019			2	2,2	2,1	2,1	2,11
2020			2,1	2,4	2,12	2,25	2,25
2021			3	2,85	2,4	2,4	2,15
2022			3,2	3,05	2,8	3,15	2,51
2023			3,3	3,1	3	3	3
2018		The number of employees ranges from 101 to 250	1	1,5	1,5	1,35	1,5
2019			2	1,8	2,1	2,1	2,71
2020			2,8	2,8	2,9	2,2	2,78
2021			3,6	3,4	3,9	3,7	3,79
2022			4,05	3,45	4,15	4,15	4,11
2023			4,8	4,1	4,4	4,7	4,53
2018		The number of employees is more than 250	2	2	2	2,2	2
2019			3,1	3,25	3	2,8	3,44
2020			3,1	3,1	3	2,1	3
2021			3,5	3,5	3,6	3,5	3,5
2022			4,2	4	4,3	4,4	4,53
2023			4,8	4,25	4,65	4,75	4,71
2018	By the duration of the company's activity	The duration of activity is 5-10 years	1,08	1,5	1,5	2	1,8
2019			2,3	2,98	2,85	2,9	2,95
2020			3	2,8	2,98	2,1	3
2021			3,6	3,9	4,13	3,5	3,9
2022			4,13	4,13	4,3	4,4	4,32
2023			4,8	4,8	4,53	4,73	4,62
2018		The duration of the activity is more than 10 years	1,33	1,5	1,2	1,7	1,5
2019			2	2,2	2,1	2,1	2,11
2020			2,1	2,4	2,12	2,25	2,25
2021			3	2,85	2,2	2,4	2,15
2022			3,2	3,05	2,8	3,15	2,51
2023			3,3	3,1	3	3	3
2018	By holding the ISO 9001:2015 certificate	Holds the SO 9001:2015 certificate	2,1	2,1	2,3	2,1	2
2019			2,3	2,6	2,9	2,3	2,8
2020			3	2,8	2,98	2,1	3
2021			3,6	3,9	4,13	3,5	3,9
2022			4,13	4,13	4,3	4,4	4,32
2023			4,8	4,8	4,53	4,73	4,62
2018		Does not have an ISO 9001:2015 certificate	1,33	1,5	1,7	1,7	1,5
2019			2	2,2	2,1	2,1	2,11
2020			2,1	2,4	2,12	2,25	2,25
2021			3	2,85	2,2	2,4	2,15

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| 2022 | | | 3,2 | 3,05 | 2,8 | 3,15 | 2,51 |
| 2023 | | | 3,3 | 3,1 | 3 | 3 | 3 |

The problems with the introduction of innovative digital equipment and technologies at enterprises and the involvement of qualified specialists have been identified. It is concluded that it is necessary to introduce QMS at textile enterprises based on international standards, the use of digital technology and technologies for the production of competitive products.

Table 2 shows a correlation analysis of the impact of indicators for assessing the development of quality management systems of textile and sewing-knitting enterprises on net profit. As can be seen from the tabular data, the results of the correlation analysis of the impact of indicators for assessing the development of the quality management system of enterprises on net profit turned out to be above 0.5 points, i.e. the correlation between these indicators is at a high level. Based on the analysis, it was found that changes in the indicators for assessing the development of the quality management system of enterprises have a strong impact on the profit of the enterprise. As a result of the analysis, it was concluded that with the development of a quality management system at the enterprise, the introduction of innovations and modern technology, as well as digital technologies, into the company's activities, it is possible to succeed in adapting to the market and meeting consumer requirements, and win the competition [6].

Table 2 Correlation analysis of the impact of indicators for assessing the development of quality management systems of textile and sewing-knitting enterprises of the Andijan region on net profit

Indicators / Name of the company	Y_{sf} (net profit)	X_1 (I)	X_2 (U)	X_3 (S)	X_4 (M)	X_5 (T)
	"Khantex-group" LLC					
Y_{sf} (net profit)	1,0000	0,9108	0,8979	0,8897	0,9653	0,9003
X_1 (I)	0,9108	1,0000	0,9825	0,9823	0,9171	0,9811
X_2 (U)	0,8979	0,9825	1,0000	0,9921	0,9296	0,9910
X_3 (S)	0,8897	0,9823	0,9921	1,0000	0,9410	0,9921
X_4 (M)	0,9653	0,9171	0,9296	0,9410	1,0000	0,9385
X_5 (T)	0,9003	0,9811	0,9910	0,9921	0,9385	1,0000
	"Oliy standart tex" LLC					
Y_{sf} (net profit)	1,0000	0,9519	0,9497	0,9222	0,9718	0,9287
X_1 (I)	0,9519	1,0000	0,9957	0,9844	0,9499	0,9850
X_2 (U)	0,9497	0,9957	1,0000	0,9900	0,9578	0,9865
X_3 (S)	0,9222	0,9844	0,9900	1,0000	0,9551	0,9903
X_4 (M)	0,9718	0,9499	0,9578	0,9551	1,0000	0,9660
X_5 (T)	0,9287	0,9850	0,9865	0,9903	0,9660	1,0000
	"Elegant grand teks" LLC					
Y_{sf} (net profit)	1,0000	0,9497	0,9671	0,9849	0,9267	0,9722
X_1 (I)	0,9497	1,0000	0,9846	0,9423	0,9299	0,8550
X_2 (U)	0,9671	0,9846	1,0000	0,9618	0,9309	0,8896
X_3 (S)	0,9849	0,9423	0,9618	1,0000	0,9605	0,9649
X_4 (M)	0,9267	0,9299	0,9309	0,9605	1,0000	0,8892
X_5 (T)	0,9722	0,8550	0,8896	0,9649	0,8892	1,0000

Based on the data of the conducted analyses, the following conclusions can be drawn. The innovativeness of the enterprise's quality management system, consistency of actions, compliance with strategy, flexibility to environmental factors, manufacturability affect the improvement of product quality and economic efficiency indicators in the future. The author's hypothesis is proved, i.e. the idea

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that if the company develops a quality management system, its effectiveness will increase.

Conclusions and suggestions. When evaluating the development of the quality management system of textile and sewing-knitting enterprises located in the Andijan region, it was revealed that in order to ensure the quality of products manufactured by industrial enterprises and their compliance with international requirements:

the issue of conformity of products to international standards has not been fully resolved at all enterprises;

the quality management systems of enterprises in the garment and knitwear industry are lagging far behind the pace of digitization of the economy;

low level of interaction between business units;

there are problems related to the lack of qualified personnel, the existing potential human resources and the level of computer literacy of our employees;

there are cases of non-acceptance and resistance of innovations by employees at the enterprise;

equipment at many enterprises is physically and morally outdated;

the inconsistency of the system's security with modern requirements, the inability to ensure the inviolability of personal data, the danger of various cyber attacks;

circumstances such as the low level of use of innovations can become the main obstacles to the modernization and development of the quality management system.

The proposed method for assessing the innovative development of the quality management system of enterprises of the textile and clothing and knitwear industry based on such indicators as the innovativeness of the enterprise's QMS (I); the degree of consistency of actions at the enterprise (U); compliance of the enterprise's QMS with the general strategy (S); flexibility, adaptability of the enterprise's QMS to various conditions (M); manufacturability of the QMS the enterprise (T) allows you to evaluate it taking into account such parameters as the period and direction of the enterprise's activity, the number of personnel, and the availability of an international certificate. Based on the assessment method, it is possible to identify high, medium and low levels of development of the quality management system of enterprises.

Based on the analysis, it was found that in the conditions of the digital economy, the development of quality management systems at textile and sewing-knitting enterprises is at an average level, and also that textile and sewing-knitting enterprises need and it is important to improve the quality management systems of enterprises in order to produce competitive products.

In the course of the study, a correlation analysis of the impact of indicators for assessing the development of the quality management system of enterprises in the textile and clothing-knitwear industries on their net profit was carried out. The hypothesis is proved that the innovativeness of the enterprise's quality management system, consistency of actions, compliance with strategy, flexibility to external environmental factors, manufacturability lead to further improvement of product quality and an increase in net profit. The assessment showed that net profit is higher in enterprises where the quality management system has passed international certification.

Based on the strategy, it is advisable to develop a quality management system in the following areas:

introduction of innovative equipment and technologies into the company's activities;

professional development of employees in the field of digital technologies;

search and hiring of qualified personnel (including specialists in management and quality control);

involvement of personnel in the process of developing a quality management system;

it is important that the participants of the the quality management system team studied the stakeholders' wishes and came to a mutual agreement;

continuous assessment, control and development are necessary for the development of the quality management system.

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