



Modernization of Management System of Higher Education Institutions: An Empirical Perspective from Uzbekistan

Hakimova Muhabbat *, Shaturaev Jakhongir, Turabekov Farxod, Khakimova Khulkar

Tashkent State University of Economics, Uzbekistan

*Correspondence: E-mail: m.hakimova@tsue.uz

ABSTRACT	ARTICLE INFO
<p>Nobody doubts the inefficiency and inadequacy of the modern system of higher education management, but the proposed approaches to its modernization are extremely ambiguous. Our solution to this important problem is rather original and unique. The system of management in the field of higher education can be attributed more to a centralized model with certain sprouts, which form the transition to a decentralized form. To speed up this process, we consider it necessary to form more perfect control systems based on network communications. We tried to identify the modernization drivers of the management system of higher education institutions in Uzbekistan, thus we selected three higher education institutions. 600 students, lecturers, and leaders in total were involved in the research observation. The result of the empirical research demonstrated a slight growth in quality assurance and knowledge management in the teaching-learning process and research affairs of the universities, however, there are still many areas yet to get covered or ill equipped.</p>	<p>Article History: <i>Submitted/Received 03 Feb 2023</i> <i>First Revised 12 Mar 2023</i> <i>Accepted 07 May 2023</i> <i>First Available online 09 May 2023</i> <i>Publication Date 01 Sep 2023</i></p> <hr/> <p>Keyword: <i>Diagnostics,</i> <i>Efficiency,</i> <i>E-university,</i> <i>Information and communication</i> <i>space,</i> <i>Management of higher education</i> <i>institutions,</i> <i>Modernization of higher education</i> <i>institutions,</i> <i>Quality of education,</i> <i>Transformation of education.</i></p>

1. INTRODUCTION

Today in the scientific community there is no doubt about the need to modernize the sphere of higher education. Since the university is the main link in this system, it is important to study the existing university management system in the context of possible changes (Coates et al., 2005).

There are pain points in the university management system. An analysis of the practice of university management allows us to identify many pain points that hinder effective development.

- (i) The discrepancy between the legal and actual statuses of the bodies of the university management system. If the new version of the Law "On Education" September 24, 2020, defined the management system in educational institutions as being formed on the principles of unity of command and self-government, then the later Law "On Higher and Postgraduate Education" significantly changed the concept of organizing management in universities in the direction of reducing the importance of the academic council: from the level of a self-government body to the level of a collegiate body (Shaturaev, 2022). What are the key differences? Self-government bodies have a clearly defined area of competence, while collegiality is used to improve the quality and legitimacy of management decisions and, accordingly, extends only to the area of problem areas. Zones for this organization. Self-government is characterized by the presence of functions at all stages of the management cycle, from planning to control functions, and collegiality is associated mainly with the stage of making managerial decisions. The analysis of the differences can be continued; however, it is significant that the current regulatory framework in terms of understanding the place and role of academic councils in the university management system provides fuzzy and contradictory guidelines that allow designing quite significantly different management systems.
- (ii) Inadequate actual status of the Academic Council. Along with the indistinctness of the current legislation in defining the academic council either as a self-governing body or as a collegiate body, there are many problems with the stated nature of the representativeness of this body. The representativeness of any elected body is realized through the observance of the principles of priority of the representative body over the executive bodies; selectivity; representative nature of elected bodies of self-government; independence; responsibility of the representative body of self-government. An analysis of university management practices shows that these principles are applied very limitedly, leaving questions about the representativeness of academic councils in the field of declarations, good intentions, and managerial populism.
- (iii) Blurred distribution of powers. Complex and extremely confusing is one of the key issues of management organization - the issue of distribution of competencies and responsibilities between management bodies. However, the existing legal framework does not contain any norms that give concrete content to the concept of "general management" and "direct management", and the Model Regulations on the university in paragraph 56 transfers the decision on the distribution of powers of the academic council and the rector to the level of the charter of the higher education institution.
- (iv) Uncompensated risks of the election of the governing bodies of the university. The formation of the governing bodies of the university takes place through the election procedure. The rector of the university is not elected directly by the professors and staff of the university, but by a representative body - the academic council, either from

among the members of the council or from a wider circle of people not limited to membership in the council.

Both the academic council and the head of the university are elected (Shaturaev, 2023a). At the same time, the functions of the representative body and the administration are separated: the academic council performs the function of representing the interests of the teaching staff, and the function of rulemaking and control. The university administration acts as an executive and administrative body of general competence (Fayzievna, 2012).

The rector (president) of the university, elected by the entire staff of the university, combines the powers of the highest official of the university and the head of the academic council. In this model, the rector, as the head of the university, to a certain extent is opposed to the administration as the executive body of the university (Shaturaev, 2023). The strong side here lies in the fact that there is an attempt to establish guarantees against the unreasonable concentration of all power in the hands of one official. But this model has the possible conflict between the administrator, who heads the implementation of executive and administrative functions, and the rector (president), who does not have these functions (Abbas *et al.*, 2021).

This model eliminates the organizational isolation of the representative bodies of the university by expanding the powers of the rector, who acts simultaneously in three persons:

- (i) as the highest official of an educational institution;
- (ii) as the head of the executive body - the administration of the university;
- (iii) as the head of the representative body.

The expansion of the powers of the rector, as a result, may also expand the forms of his accountability both to the team that elected him and to the Academic Council itself. A similar model has developed in Uzbek universities (Fayzievna, 2012). With many positive aspects, this model is not without many dangers that were not so obvious in the early 1990s but have become quite clearly manifested recently. Within the framework of this model, the rector dominates all other governing and self-governing bodies of the university, which creates the possibility of manipulating the power resources of the university, monopolizing authorities.

The use of this model should be based on a detailed legal framework that prevents all situations of incorrect redistribution of power and creates mechanisms that exclude the monopolization of power, nullifying the role of self-government bodies in the university. However, the legal field of Uzbek education is practically not "plowed", legal gaps are very, very significant. The functioning of management systems in universities is largely carried out based on established customs and traditions.

2. THEORETICAL FRAMEWORK

2.1. Hierarchy by Minimum

Based on the application of the method of expert assessments by interviewing various representatives of universities, we analyzed the existing management system at universities, gave a general assessment of its effectiveness, and identified many weaknesses: lack of full funding; weak control over the execution of decisions and inconsistency between the actions of management and lower managers (Mannopova, 2020).

The market type of organizational culture, which most fully supports the orientation of the organization to achieve its goals in the most efficient scenario, is rather poorly developed. In the late 1980s, scientists coined the term "horizontal enterprise". The "horizontal enterprise" model is a model of an organization where horizontal management is established between departments (coordination of their activities) and where horizontal

connections turn out to be more important and nodal efficiency factors than traditional hierarchical management, and subordination links.

A distinctive feature of the horizontal organization of the university lies in the gradual reduction in the number of internal tasks and internal processes, in the priority of educational, research, and service processes serving external tasks, and in focusing on the interests of customers and consumers. A horizontal enterprise is a linearly built organizational structure that is formed not around functions or departments but around basic leading processes with specific goals in each of them. It contains a minimum of hierarchical levels, and the main units are autonomous and self-managed interdisciplinary teams.

The main advantages of the horizontal organization in comparison with the classical model are the following effects:

- (i) achieving greater sustainability, and survivability, increasing the adaptive capacity of the organization in a rapidly changing environment;
- (ii) acceleration of information processing and decision-making processes;
- (iii) erasing the boundaries between the departments of the organization, between the organization and the client, which leads to the acceleration of information exchange processes and the reduction of management errors.

With the horizontal organization of the university's activities, the greatest activity comes from middle managers coordinating the work of services and services, since with the reduction of intermediate levels of management, the remaining managers, the volume of work increases with the same resources.

As is known, with a decrease in the number of elements of a complex system, it is possible to maintain and improve its efficiency only with an increase in the activity of elements and an increase in the number of connections between them. Associated with these changes is the need to restructure the psychology of managers and change the criteria for evaluating their work. The leadership of the university in the conditions of the formation of a horizontal organization must not only delegate to the middle level of management appropriate tools, volumes of competence, and managerial authority for making operational decisions but also form (stimulate) responsibility and motivation for creative activity. Within the framework of the horizontal scheme of the organization of university activities, the professional qualities of managers are changing. performance, commitment, loyalty, and focus on the immediate supervisor give way to initiative, unlimited freedom of creativity, and customer orientation.

2.2. Models and Their Structures

Today, two main, opposite, management models are presented in higher education: highly centralized and highly decentralized. Between them there is a kind of average, which can be met in universities, seeking to take into account the changes taking place in the world.

Within the framework of the centralized model, intermediate structures (most often faculties and departments) are administrative units into which it is convenient to divide a cumbersome university complex by separating subdivisions from it (most often on a disciplinary basis). The powers of such units depend on the central leadership, and this dependence concerns both fundamental and secondary issues. This management model is especially prevalent in developing countries.

The decentralized model is a more democratic form of organizing activities and allows you to achieve great results in an innovative economy. However, the transition to this model

should be accompanied by the formation of a higher culture of organizing activities based on the use of perfect management communications.

The Uzbek system of management in the field of higher education can be attributed more to a centralized model with certain sprouts, which form the transition to a decentralized form. To accelerate this process, we consider it necessary, first of all, to form a more perfect control system based on network communications. It should be noted that a centralized management model is more prone to corruption than a decentralized one, so the corrupt elements of this chain of command will hinder rather than facilitate the transition process. In the conditions of Uzbek reality, this takes place at all levels of management in the field of higher education.

There is no objection to the assertion that education is different from other productive activities because its outcome (learning achievement) is difficult to measure. Thus, to assess basic cognitive skills, they came up with exams and tests, and it is virtually impossible to accurately measure social and physical skills. Practitioners, in particular Giddens and O'Sullivan, believe that the quality of education is rather difficult to measure: "Because social and physical skills are not taken into account in empirical studies, they give an incomplete picture of the educational process, and their result should be approached with caution". Therefore, the calculation of the effectiveness of institutional changes in the intra-university management mechanism is a complex, but necessary process for optimizing the functioning of the university.

2.3. Cathedral Management

The role of effective management increases as the scale of production increases. As long as the number of employees and customers is small, informal communication within the organization can be effective. As the number of consumers increases, the system of higher education is, first of all, students, informal connections stop working, and management needs to move to formal methods of monitoring and control. In the system of higher education in Uzbekistan, both in the public and non-public sectors, there is an increase in students. This circumstance enhances the importance of intra-university institutional mechanisms as a way of adapting a university to modern socio-economic conditions.

In management theory, the problem of a clear division of responsibilities is solved by delegating responsibility. Employees and heads of departments must know the scope of their duties, and be competent in the tasks they solve questions. The second problem is related to the discrepancy between the duties of the employee and his real powers. As an example, consider the manifestation of this at the level of heads of departments.

The head of the department is a person responsible for the quality of the educational process in the disciplines and areas within the competence of the department. However, it should be noted that he has no real levers of influence on teachers (Shaturaev, 2023b).

In fact, in all universities, the salary of a teacher does not depend on the actions of the head of the department. It turns out that the immediate supervisor has no real leverage to improve the quality of the educational process. He cannot fire a teacher, this is the rector's competence, he cannot change the level of payment, but he is responsible for the quality. This imbalance in rights and obligations leads to the fact that the head of the department becomes either a nominal subject engaged in paperwork, which has no real impact on the competitiveness of the university.

3. METHODS

We tried to identify the modernization drivers of the management system of higher education institutions in Uzbekistan, thus we selected three higher education institutions. 600 students, lecturers, and leaders in total were involved in the research observation.

4. RESULTS AND DISCUSSION

In the organization of experimental work on the modernization of the management system of higher education institutions, the following tasks were determined based on the research tasks:

- (i) to determine the pedagogical possibilities of students and professors working in higher education following the main trends in the field of education of higher education institutions and to analyze the results;
- (ii) to develop trends in the higher education system and the application of the integration model to the management process based on international experience in the management system of state higher education institutions and preparation of the necessary regulatory documents (based on methodological and scientific recommendations) and experimental testing;
- (iii) to develop a design algorithm for the modernization of the management system of higher education institutions, which envisages a systematic approach, and obtaining the results of their application in the field of management.

It is planned to draw conclusions and analyze the results based on conducting pilot tests on the system of balanced key indicators of the higher education institution and the mechanism for evaluating the effectiveness of its application.

In the implementation of these tasks, in the research process, evaluation works were carried out based on pedagogical observation (questionnaires), tests, and socio-metric methods (questionnaire, interview), and the levels of strategic management system evaluation in higher education institutions were developed.

Experimental work in higher education institutions was organized in the following stages.

- (i) Learning stage (2019-2020 academic year)
- (ii) Foundation stage (2020-2021 academic year)
- (iii) Emphasis stage (2021-2022 academic year)

The main goal of the study phase (2019-2020 academic years) was to study the criteria for determining the rating and analyze their indicators based on the Regulation on the procedure for determining the rating of higher education institutions. In the implementation of this goal, the following tasks were carried out:

- (i) study and analysis of rating indicators;
- (ii) to determine indicators of performance and distinguish them;
- (iii) analysis of evaluation methodology and its measurements;
- (iv) definition and analysis of calculation formulas based on each indicator.

The main goal of the foundational stage (2020-2021 academic years) was to create an effective system for the control of additional educational services and the possibility of introducing them to the educational institution based on the identified indicators, assessment methodology, and calculation formulas. At this stage, the following activities were carried out:

- (i) the indicators and their opportunities for improving education were clarified;
- (ii) the criteria for achieving high performance in each indicator were separated;
- (iii) an electronic system for monitoring educational services was developed and applied to the rating calculation process.

The main goal of the emphasis stage (2021-2022 academic year) was to determine the efficiency of using the electronic system developed during the calculation of the current year's rating indicators. The following tasks were performed at the emphasis stage:

- (i) the objects implementing the electronic system (a complex system of electronic management) were defined;
- (ii) the educational monitoring system was pilot-tested and the results of the pilot test were checked by mathematical statistical methods and conclusions were drawn.

At the study stage, the indicators attached to the Regulation on the procedure for determining the rating of higher education institutions were fully studied and analyzed.

Based on the modernization of the management system of higher education institutions, experimental work was carried out on the activities of professors and teachers. In this, the main attention was paid to the activities of professors and teachers, and managers of higher education institutions based on the modernization of the management system of higher education institutions.

To determine the effectiveness of the modernization of the management system of Higher Education Institutions, indicators with high, medium, and low indicator levels were developed to evaluate the activities of professors and teachers in the performance of indicators and indicators for determining the rating of higher education institutions.

- (i) High level - the improved performance of professors and leaders who are fully involved in the indicators of the rating of higher education institutions and have high results.
- (ii) The middle level is the improved performance of professors and teachers, who are fully involved in the indicators of the rating of higher education institutions and have average results.
- (iii) Low level - the improved performance of professors and teachers who have low results and partially participated in the indicators of the rating of higher education institutions.

A total of 400 professors and 200 managers and 400 students from selected Higher Education Institutions participated in the experimental and control groups. Experimental groups were carried out in two stages. In the first stage, the developed model was conducted in the pre-implementation state and the post-implementation state (Sgier, 2012).

Figure 1 and **2** shows that management systems, especially Quality Management, Information Performance Management Systems, and Total Quality Management are important drivers in the modernization management system of Higher Education Institutions, with 230 (97.5%) votes for agreed and 559 votes (59%) for agree that modernization drivers not been implemented or developed in the university activities. There are 434 (16%) administrative staff and 816 (96%) lecturer staff confirmed that above mentioned drivers have been implemented in the university.

Observation Field	Leaders (Administration)				Lecturers (Teaching Staff)			
	2021-2022			% change from 2021-2022	2021-2022			% change from 2021-2022
	Agree	Disagree	% of total		Agree	Disagree	% of total	
Teaching Excellence	37	13	325,0%	-64,9%	88	12	120,0%	-86,4%
Research Development	21	29	725,0%	38,1%	64	36	360,0%	-43,8%
Technical activities	40	10	250,0%	-75,0%	53	47	470,0%	-11,3%
Public service	17	33	825,0%	94,1%	59	41	410,0%	-30,5%
Management Excellence	35	15	375,0%	-57,1%	37	63	630,0%	70,3%
Academic Environment	47	3	75,0%	-93,6%	85	15	150,0%	-82,4%
Total Quality Management	12	38	950,0%	216,7%	38	62	620,0%	63,2%
Quality Assurance	6	44	1100,0%	633,3%	42	58	580,0%	38,1%
Information Performance Management System	4	46	1150,0%	1050,0%	22	78	780,0%	254,5%
Knowledge Management	11	39	975,0%	254,5%	71	29	290,0%	-59,2%
Total TSUE	230	270	6750,0%	17,4%	559	441	4410,0%	-21,1%

Figure 1. Observation on academic and management system of tashkent state university of economics administrative and lecturers. There are 50 leaders/managers/heads and 100 lecturers/professors from each university who took part in the questionnaire observation.

Teaching Excellence	46	4	22,2%	-91,3%	90	10	0,0%	-88,9%
Research Development	45	5	27,8%	-88,9%	84	16	64,0%	-81,0%
Technical activities	43	7	38,9%	-83,7%	81	19	76,0%	-76,5%
Public service	40	10	58,6%	-75,0%	87	13	52,0%	-85,1%
Management Excellence	44	6	33,3%	-86,4%	90	10	0,0%	-88,9%
Academic Environment	49	1	8,6%	-98,0%	91	9	6,0%	-90,1%
Total Quality Management	37	13	72,2%	-64,9%	79	21	84,0%	-73,4%
Quality Assurance	39	11	63,1%	-71,8%	77	23	92,0%	-70,1%
Information Performance Management System	44	6	33,3%	-86,4%	61	39	156,0%	-36,1%
Knowledge Management	47	3	18,7%	-93,6%	76	24	96,0%	-68,4%
Total UPI	434	66	366,7%	-84,8%	816	184	736,0%	-77,5%

Figure 2. Observation on academic and management system of fergana state university administrative and lecturers. There are 50 leaders/managers/heads and 100 lecturers/professors from each university who took part in the questionnaire observation.

Results were also obtained among the students in the experimental work on the research aimed at the modernization of the management system of higher education institutions. To modernize the management system of higher educational institutions, students were taught the subject of educational management, and the results of their assessment on this subject were obtained. In the selected groups, theoretical and practical training was conducted based on the programs developed in the groups. The first observation was on “Student contribution to the management system and academic well-being” of the Higher Education Institutions.

Figure 3 shows that most of the students of Tashkent State University of Economics agreed or strongly agree about contributing their efforts to the university management system and academic well-being. Almost the same results can be seen in Fergana State University students’ observation demographics (see **Figure 4**). **Figure 3, 4, and 5** shows almost every aspect of the questionnaire. Gulistan State University students mentioned that they are less interested or less involved in the university's fundamental development projects showed by **Figure 5**.

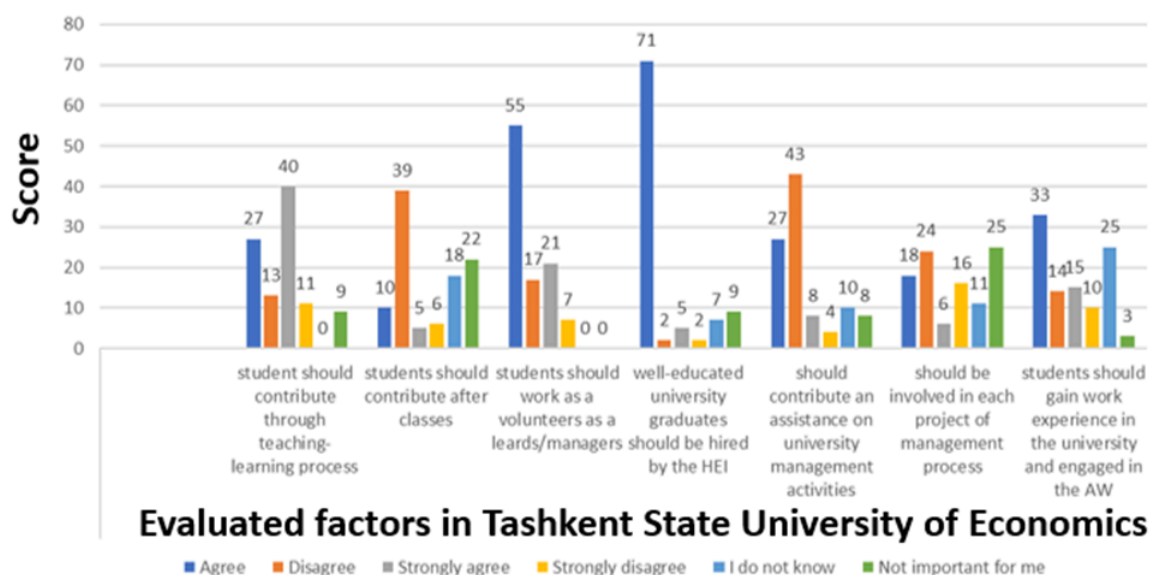


Figure 3. Observation on student contribution to tashkent state university of economics. Students (100 students of each university) poll on their contribution to the management system and academic well-being of the Higher Education Institution.

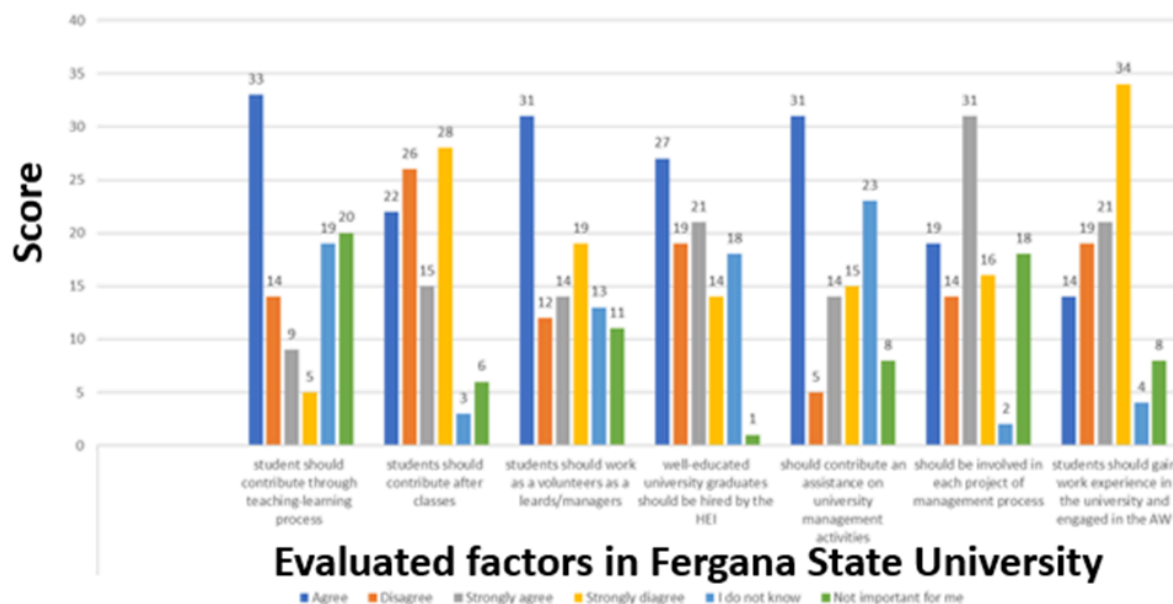


Figure 4. Observation on student contribution to university affairs of fergana state university.

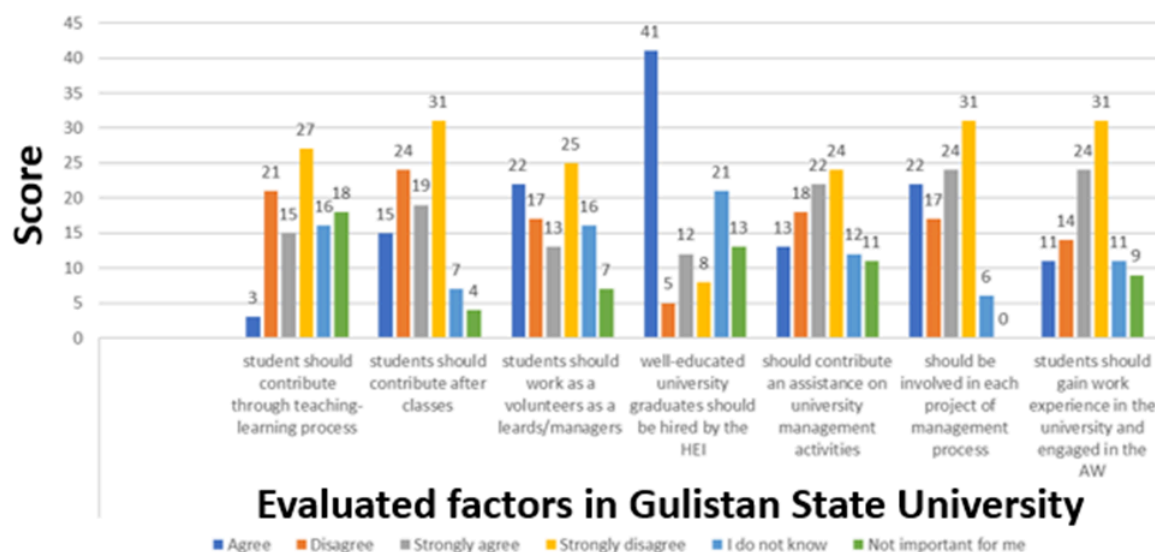


Figure 5. Observation on student contribution to university affairs of gulistan state university.

Job Effectiveness rate improved after being implemented the Management System Model. In Tashkent State University of Economics, except for Management of Financial Affairs, the rest of the cases have been enhanced by implementing the MS Model. There are 100 administrative and teaching staff members in total involved in the questionnaire on the job effectiveness of the administration of higher education institutions. Gradual development has been registered in the field of management of administration, teaching-learning process, teaching staff, and students. The case of quite different at Fergana State University. The newly implemented model has developed mainly the management system of administration of the university. Tashkent State University of

Economics administrative staff is more than 50% in each case, while between 45-50% both in Gulistan State University and Fergana State University.

5. CONCLUSION

The need for effective control and stimulation of the activities of autonomous agents (and most university teachers should be considered as independent autonomous agents) requires reforming the traditional management system and creating an automated management system in the university.

6. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

7. REFERENCES

- Abbas, J., Kumari, K., and Al-Rahmi, W. M. (2021). Quality management system in higher education institutions and its impact on students' employability with the mediating effect of industry-academia collaboration. *Journal of Economic and Administrative Sciences*, 37, 1-19.
- Coates, H., James, R., and Baldwin, G. (2005). A critical examination of the effects of learning management systems on university teaching and learning. *Tertiary Education and Management*, 11(1), 19-36.
- Fayzievna, H. M. (2012). Ways of professional training of children with the limited opportunities. *Social and Natural Sciences Journal*, 4, 5-6.
- Mannopova, E. T. (2020). Intelligent information systems in improving the education management system in Uzbekistan. *European Journal of Research and Reflection in Educational Sciences*, 8(10), 221-230.
- Sgier, L. (2012). Qualitative data analysis. An Initiat. *Gebert Ruf Stift*, 19, 19-21.
- Shaturaev, J. (2022). A case study insight from the public education system of Uzbekistan. *Academic Research in Educational Sciences*, 3(8), 126-137.
- Shaturaev, J. (2023). Leading-edge strategies for enhancing higher education institutions' management systems. *Indonesian Journal of Teaching in Science*, 3(1), 59-66.
- Shaturaev, J. (2023a). Amendment of higher education institution quality assurance. *Indonesian Journal of Multidisciplinary Research*, 3(1), 175-180.
- Shaturaev, J. (2023b). Methodology of teaching english at the primary school level: Enhancing english language skills. *Academic Research in Educational Sciences*, 4(1), 152-166.