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Modernization of the Motivation Systems in Higher Education: Challenges and Digital Solutions

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ABSTRACT

The motivation of academic staff in higher education institutions has become a critical issue, particularly in the context of rapid digital transformation. Faculty motivation is a crucial factor influencing the quality of education, research productivity, and the performance of universities. This study aimed to identify the main factors influencing motivation and to develop recommendations for educational institutions to enhance staff motivation. The research utilized bibliometric analysis through the VOSviewer program to explore relationships between core motivational factors. Initial data were collected via the ePORTAL system, which aggregates comprehensive information about faculty activities, including publications, participation in scientific projects, and teaching performance. The findings suggest that the current motivational systems in Kazakhstan's higher education institutions require significant modernization. Key challenges include insufficient financial support, excessive bureaucratic procedures, and limited career development opportunities. Moreover, adopting digital tools like ePORTAL can enhance the transparency and objectivity of assessing teaching staff performance, providing more substantial incentives for professional growth. The study offers recommendations for university management of educational institutions to increase academic staff motivation that can be adapted to each educational institution's unique profile and priorities. Future research should investigate the long-term effects of digitalization on teaching quality and explore how motivation strategies can be fine-tuned to address regional and institutional disparities. Such efforts will ensure faculty development aligns with national and international educational standards, ultimately enhancing the competitiveness and effectiveness of universities in a global context.

KEYWORDS: Education, Higher Education, Educational Institutions, Modernization, Motivational Mechanisms, Digital transformation, Economic Incentives, Teaching Quality

SCSTI: 12.31.41

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1. INTRODUCTION

At the present stage of society's development, under the influence of various subjective factors, the effectiveness of university teaching staff and their social and cultural activity has significantly decreased. This is due to the imperfection of motivational systems and the impact of political, economic, and technological factors. In this regard, the problem of developing and implementing strategies and methods for stimulating and motivating academic staff in modern higher education institutions is not just relevant but urgent. However, problems such as insufficient funding, bureaucratic obstacles, and limited career opportunities at regional universities remain, which continue to hinder progress.

There is a greater variety of existing research, and significant gaps remain in the comprehensive analysis of the effectiveness of educational quality control mechanisms, especially in terms of their adaptation to constantly changing technological realities and global trends (Asrar-ul-Haq et al., 2017; Al-Kurdi et al., 2020; Daumiller et al., 2020). In addition, many existing incentive models and systems do not consider the quality of teachers' work, and their implementation in some universities does not provide a decent standard of living (Siddique et al., 2011; Abdulsalam et al., 2012). This leads to an outflow of professionals from higher education and a decrease in the quality of educational services. It is necessary to develop an effective system of motivational incentives for teachers at the state level and individual universities.

Modern quality assessment mechanisms often fail to account for digital technologies' full impact on the educational process and its outcomes, highlighting the need to revise and modernize approaches to quality management in education.

Firstly, more attention should be paid to studying the legal and institutional frameworks that could contribute to improving the quality of education. These aspects are crucial in creating the legal foundation supporting innovative teaching methods and ensuring their alignment with international standards. A well-developed regulatory framework must be revised to ensure the effective implementation of educational programs, complicating the introduction of new learning formats, assessment tools, and the formation of motivation for academic staff. The importance of these frameworks cannot be overstated.

Secondly, institutional factors that can contribute to improving higher education quality have yet to be adequately explored. For example, many universities face challenges in applying quality standards in practice due to insufficient institutional support and management flexibility. Institutional mechanisms, such as internal quality assurance systems, research management models, and human resource policies, directly impact the outcomes of educational activities and scientific research. With adequate attention to these mechanisms, it is possible to ensure a high level of practical implementation of educational programs and the achievement of significant research results.

Thirdly, the impact of digital transformation on the quality of educational services needs to be sufficiently studied. Digitalization is changing the educational process's structure and approaches to its organization, requiring universities to adapt to new conditions. This applies to integrating digital tools into the learning process and revising approaches to evaluating teaching quality, learning outcomes, and student engagement. A comprehensive assessment is needed to understand how digitalization affects the accessibility of educational services, including aspects of equality and fairness in access to higher education. In the context of the digital divide, it is crucial to consider that students from different socio-economic backgrounds may have unequal opportunities to participate in the educational process, posing additional challenges to educational systems.

Thus, to ensure a high level of educational quality in Kazakhstani universities, it is essential to pay greater attention to institutional aspects and further explore the impact of digital transformation on educational processes. This

study aims to develop recommendations for managing higher education institutions in Kazakhstan to enhance the motivation of academic staff. In the context of digitalization, solutions such as ePORTAL demonstrate how automation can facilitate the collection and analysis of data on the professional activities of faculty members, allowing for more objective assessments of their contributions to the educational process and motivating them toward further professional development. The significance of this paper lies in creating a flexible and effective system of academic staff motivation, which will be adapted to the constantly evolving educational and technological context and capable of stimulating faculty to improve educational and research outcomes.

2. LITERATURE REVIEW

The motivation of academic staff plays a crucial role in ensuring a high level of teaching, research activity, and the overall functioning of the university. Compelling motivation improves the quality of the educational process and enhances the faculty's scientific productivity and personal satisfaction. In the context of growing competition among higher education institutions and increasingly complex demands on educators, having a motivating environment becomes a decisive factor for attracting, retaining, and developing qualified academic personnel (Pucciarelli & Kaplan, 2016; See et al., 2020). Organizations that focus on creating conditions for professional growth, social interaction, and recognition of achievements can increase employee satisfaction and higher performance in their activities (Asrar-ul-Haq et al., 2017; Nguyen et al., 2020).

Research on the influence of various factors on the motivation and performance of academic staff covers individual, social, organizational, and resource-related aspects. For instance, Stankovska et al. (2017), Minett-Smith and Davis (2020) focused on social support and team interaction. They found that interaction with colleagues and teamwork stimulate professional and personal growth and positively affect motivation, especially among junior staff. Heng et al. (2020) highlighted the importance of individual and institutional factors in motivating faculty, particularly in developing countries. Hu et al. (2020) emphasized that effective leadership and a supportive environment increase motivation, analyzing the impact of factors such as expected performance, perceived complexity, social influence, resource availability, satisfaction, economic benefits, and habit of adopting mobile technologies. Wahyudi (2022) identified five components of motivation: physiological needs, safety needs, social needs, esteem needs, and self-actualization needs, with a particular focus on social motivation and professional collaboration as factors enhancing teacher performance.

Some studies emphasized the influence of leadership style and organizational culture on employee engagement, underscoring their importance in creating and maintaining a motivating work atmosphere. The research showed that successful academic leadership should ensure a balance between tangible and intangible incentives for professional growth and job satisfaction. At the same time, the emphasis is placed on the importance of material incentives and career growth as key motivational factors, especially with the support of management and the creation of favorable working conditions (Abdulsalam et al., 2012; Siddique et al., 2011; Victor & Babatunde, 2014; Graham, 2015; Prodanova & Kocarev, 2023). Furthermore, Al-Kurdi et al. (2020) and Daumiller et al. (2020) focused on the impact of leadership and organizational support on fostering collaboration among academic staff. The authors demonstrated that management support and a favorable working environment contribute to faculty members' professional and personal growth and the adoption of new technologies, positively affecting employee motivation and performance. Mwesigwa et al. (2020), on the other hand, concentrated on comparing democratic and authoritarian leadership styles, showing that autonomy and recognition are

essential factors in maintaining high employee motivation, highlighting the importance of granting more independence in work.

Given the wide range of factors influencing academic staff motivation, examining how these factors are represented and clustered in recent academic research is essential. Bibliometric analysis effectively visualizes these relationships, providing deeper insights into key trends and conceptual frameworks in the literature. To gain a broader understanding of the current research landscape, VOSviewer was employed to generate network visualizations to highlight relationships between key terms in academic publications.

This study used the Web of Science database to obtain relevant publications. The analysis period was limited to 2021–2025, with most publications concentrated between 2021 and 2023. Notably, the number of journal articles exceeds the number of conference papers. A total of over 100 scientific documents were identified based on the query. The results were visualized using the VOSviewer program, where the size of objects reflects the total link strength, and the thickness of the lines represents the intensity of interaction (link strength) between the terms. A sample underwent clustering and network analysis using VOSviewer for the bibliometric analysis. The search query for metadata included vital terms such as TS = ("university" OR "higher education" OR "motivation" OR "academic staff," among others). Network elements are represented as labels and circles, the size of which depends on the significance of the corresponding terms. The analysis revealed several cluster groups, highlighted in different colors, reflecting their interconnection and thematic concentration.

The visualization of the results in network visualization mode using keywords is presented in Figure 1.

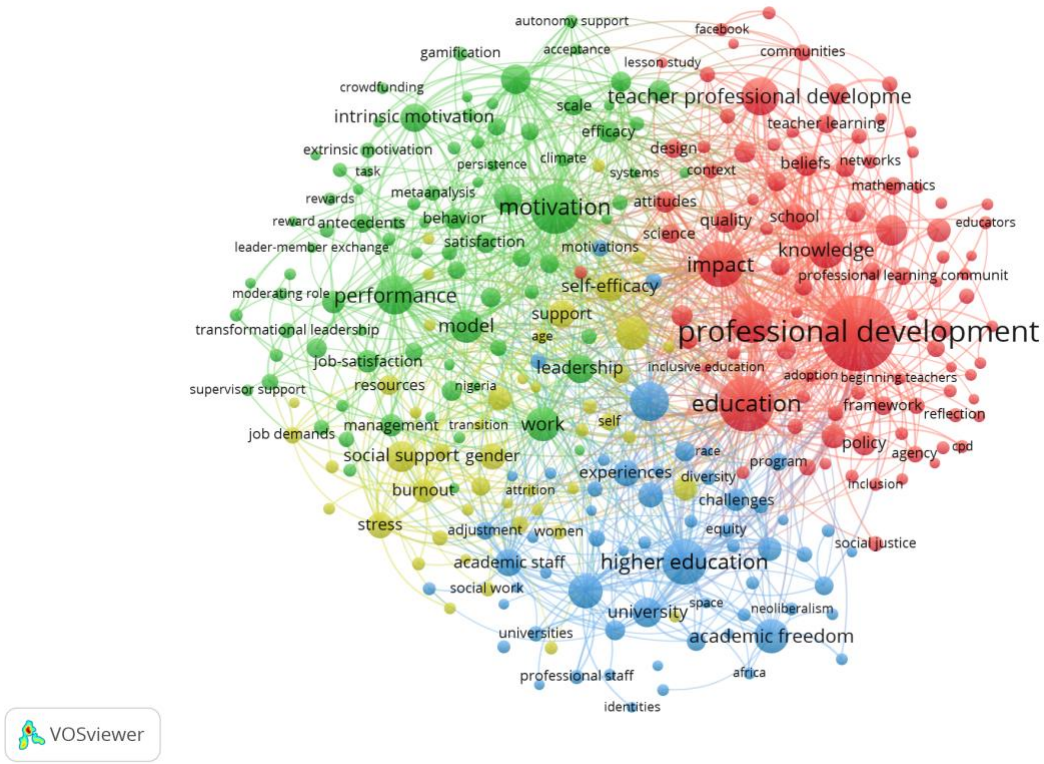

FIGURE 1. Bibliometric map of publications

Note: compiled by authors from the Web of Science database

The visualized data allowed us to identify several clustered networks, which we divided into the following groups: 'professional development' (red), 'motivation' (green), 'stress and burnout' (yellow), and 'higher education' (blue). The interpretation of the cluster groups is based on the keywords found within them. It should be noted that this division is conditional, as both clusters and terms are interconnected.

Thus, Figure 1 reflects the central role of professional development in enhancing the effectiveness and motivation of academic staff. Terms related to professional development, such as teacher training, knowledge, and influence, occupy key positions, highlighting the importance of this factor. The clusters show the relationship between motivation, job satisfaction, leadership, and social support with professional development. This indicates the need for a supportive environment with management support and measures to reduce stress and burnout. Academic freedom and autonomy also play a significant role in influencing faculty satisfaction. In conclusion, comprehensive approaches to professional development and support can significantly improve the motivation and performance of academic staff.

The identified clusters, such as 'professional development,' 'motivation,' 'stress and burnout,' and 'higher education,' mirror the key factors outlined in prior studies. Professional development, for instance, has significantly impacted motivation and job satisfaction, while stress management is crucial for maintaining high performance. These clusters reveal the interconnectedness of these concepts, reinforcing the need for institutions to adopt comprehensive strategies that address multiple dimensions of academic staff well-being.

Next, in the second stage, Figure 2 presents the results in Network visualization mode by keywords.

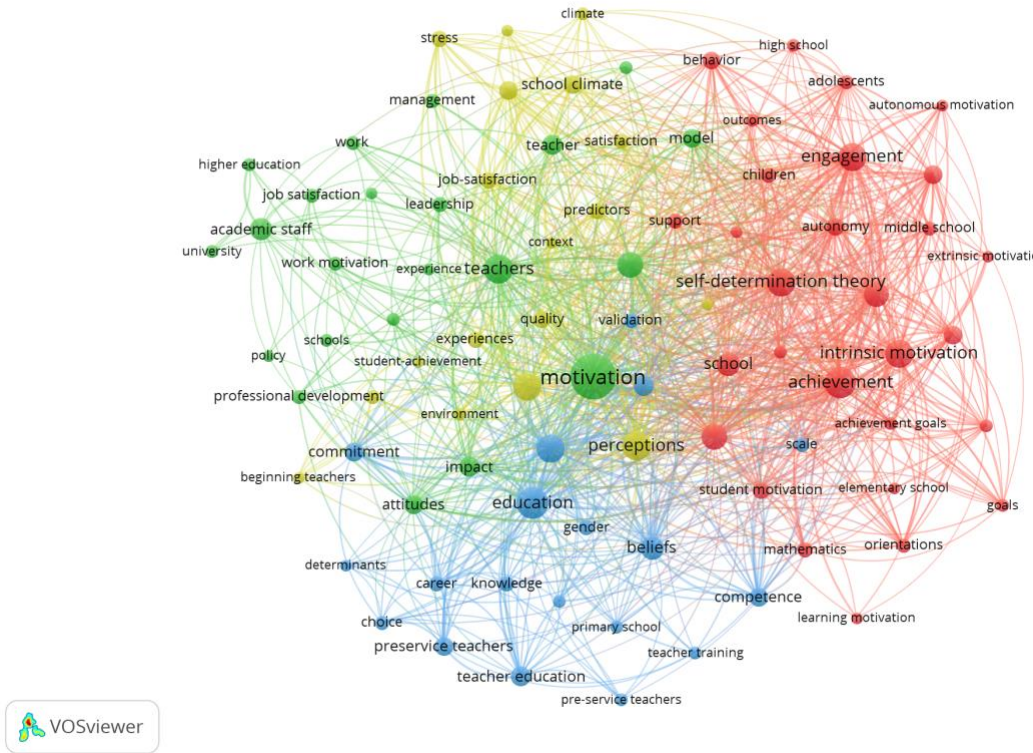

FIGURE 2. Bibliometric map of publications by keywords of the 2nd type

Note: compiled by authors from the Web of Science database

Figure 2 demonstrates that motivation is a central factor influencing critical aspects of the educational process, including academic achievement, professional commitment, and development. Self-determination theory, intrinsic motivation, and goal attainment are foundational components of success for both learners and educators, emphasizing the importance of autonomy and personal motivation. Teacher satisfaction, professional development, and leadership significantly impact creating a favorable work environment and enhancing motivation levels. The relationship between student behavior and climate indicates the substantial impact of the external environment on educational outcomes. Thus, motivation, professional support, and the development conditions for educators are determining factors in the successful functioning of educational institutions.

Next, Figure 3 presents the results in Network visualization mode by keywords of the 3rd type.

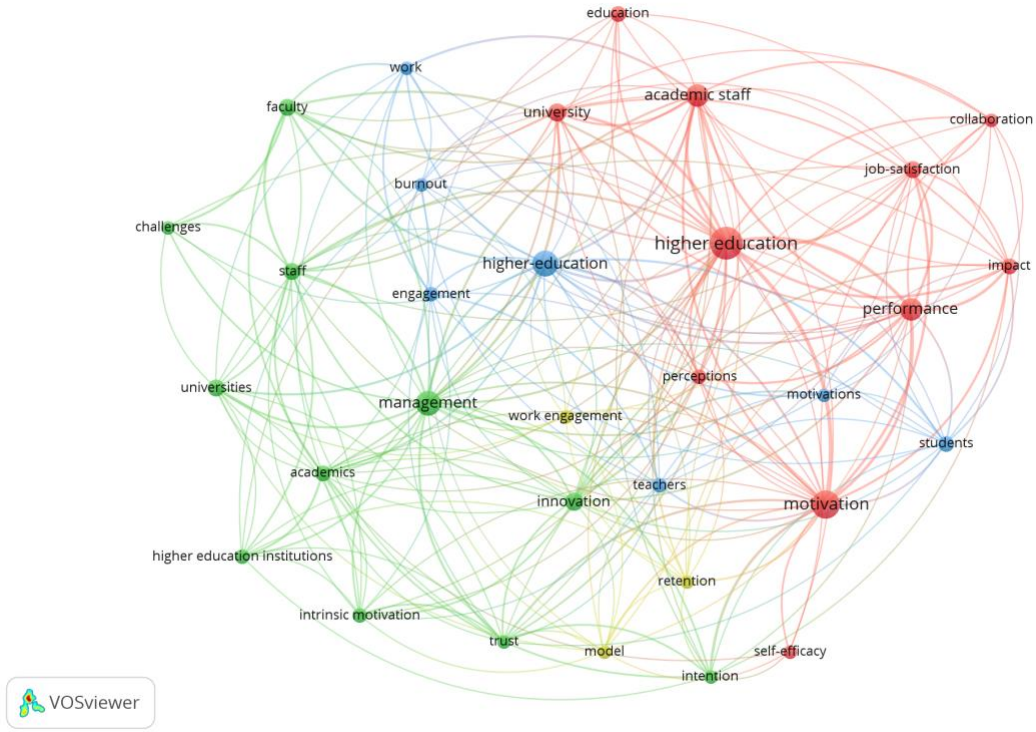

FIGURE 3. Bibliometric map of publications by keywords

Source: compiled by authors from the Web of Science database

Figure 3 illustrates the relationships between key concepts related to higher education, motivation, management, and academic activities. Motivation and performance play a central role in influencing faculty engagement, job satisfaction, and their interaction with students. Management and innovation are important aspects of supporting employee engagement and preventing burnout. Higher education connects academic staff, teachers, and educational institutions, highlighting the importance of motivation management for achieving sustainable levels of engagement and innovative development in universities.

Critical concepts related to higher education, motivation, and academic activities were identified during the analytical review of

the existing recommendations for managing educational institutions used in scientific research.

The analysis of publications from 2021–2023 identified several cluster groups, each combining terms that reflect close relationships between key aspects of the academic environment. Visualizing the results using VOSviewer showed that motivation is the central element influencing professional development, job satisfaction, leadership, and management. Particular attention is given to creating a supportive educational environment that includes stress and burnout prevention measures. The clusters also demonstrate that motivation, professional support, and development conditions play an essential role in improving academic staff performance and the effectiveness of educational institutions.

3. METHODOLOGY

The methodology of the current study is based on a comprehensive approach to managing the motivation of academic staff in higher education institutions in Kazakhstan. A research methodology was developed to assess the key factors influencing faculty motivation, professional development, and performance. Quantitative data collection and analysis methods have been applied to thoroughly examine the motivational systems employed across various universities in Kazakhstan.

The step-by-step framework includes the collection of data from the ePORTAL system, the analysis of faculty performance metrics, the bibliometric analysis of academic publications, and the development of a model for managing faculty motivation (Figure 4).

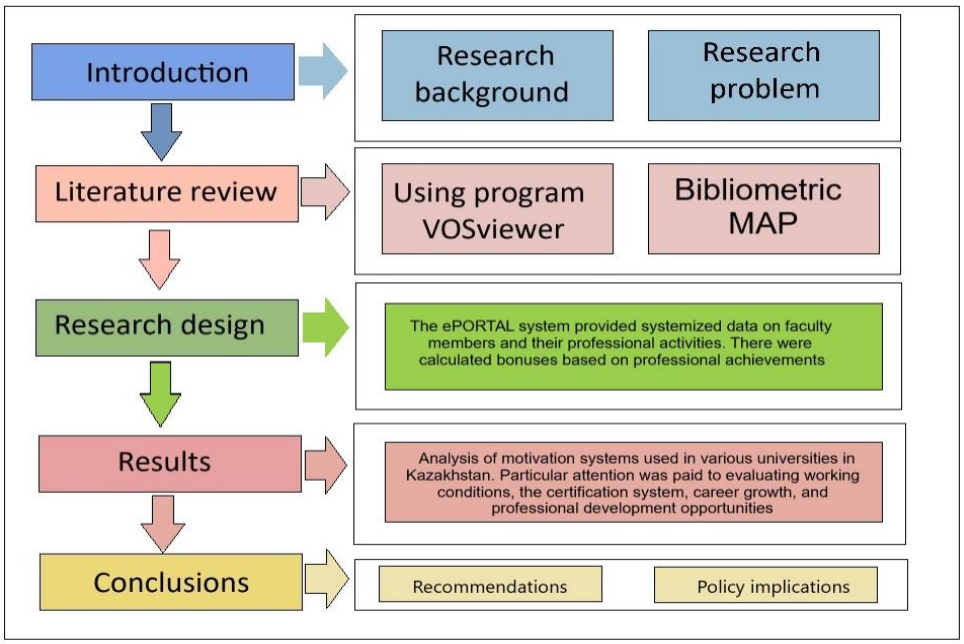

FIGURE 4. Research process

Note: complied by authors

The first phase involved data collection. The primary source of information was the ePORTAL system, which aggregates data on faculty members' professional activities. The primary tool was the ePortal system, which accumulates data on teachers' professional activities. The system collects information based on the following criteria:

1) publication activity (number of publications in scientific journals, participation in writing scientific articles);

2) participation in scientific projects and

conferences (including both national and international scientific event);

3) completion of advanced training courses (training and retraining of teachers);

4) educational and methodological activities (preparation of educational materials, conducting classes, participation in the development of training programs).

In addition, regulatory documents and statistical reports of the Ministry of Science and Higher Education of the Republic of Kazakhstan were used. These documents included materials related to the certification system's reforms and the teaching staff's professional development. Particular attention was paid to data on legislative initiatives aimed at improving teachers' qualifications and certification, which in turn impacts their motivation and level of professional development.

The second phase was data analysis. The ePORTAL system provided systemized data on faculty members and their professional activities. There were calculated bonuses based on professional achievements. At this stage, bibliometric analysis was also conducted using the VOSviewer program, which helped identify clusters of critical terms such as “motivation”, “professional development”, and “stress and burnout” to reveal the relationships between the main aspects of academic staff motivation and their productivity. The analysis revealed how the key concepts are interconnected in the scientific literature and practice.

The third phase was a qualitative analysis of motivation systems used in various universities in Kazakhstan. Both leading and regional universities were studied, which helped identify best practices for managing faculty motivation. Particular attention was paid to evaluating working conditions, the certification system, career growth, and professional development opportunities. During this stage, the following aspects were analyzed:

1) assessment of working conditions, including workload, resources provided, and support from the university administration;

2) assessment of existing certification mechanisms for teaching staff, as well as their impact on career growth and professional development;

3) analyze opportunities for career advancement, participation in research projects, and access to additional educational resources.

The fourth phase involved developing a motivation management model for faculty. This model consists of four key elements: data collection on faculty members' professional activities, analysis of this data to assess their professional activity, verification and validation of the data, and a reward system. Data verification included a multi-stage verification: from the human resources department to internal audits and quality control services. The developed incentive system based on objective data on the results of teachers' work is a powerful incentive to increase their motivation and professional growth.

4. FINDINGS AND DISCUSSION

In modern conditions of rapid changes in the educational sphere and increased demands for the quality of the educational process, the issue of motivating academic staff has gained particular relevance. In Kazakhstan, teachers play a crucial role in shaping a high-quality educational process, making their professional development, engagement, and job satisfaction essential factors for the success of educational institutions. The methods of managing personnel motivation in higher education institutions may vary and are directly dependent on the general motivation system in higher education as well as the specific management practices of individual universities. However, before addressing these methods, it is essential to consider critical categories for managing the effectiveness of innovative activities, such as motivational potential.

In Kazakhstan, the motivation of academic personnel is not represented by direct statistical data at the state level; however, a range of indirect indicators that influence this aspect are available. These include salary levels, working

conditions, certification systems, and professional development opportunities. Salary is one of the key factors influencing the motivation of teachers.

According to statistical data, the average salary of teachers in Kazakhstan is significantly lower than that of other professions with similar levels of education and experience. In 2023, the average salary of teachers was around 120 000 tenge, which is considerably lower than the salaries of engineers and doctors (Bureau of National Statistics, 2023). This situation creates barriers to attracting new specialists to the education sector and retaining existing staff, leading to a decrease in overall motivation.

The certification and professional development system for teachers in Kazakhstan is regarded as an essential tool for enhancing teacher motivation. Between 2010 and 2023, reforms were introduced to improve the certification process and allow teachers to receive salary bonuses based on their professional achievements. As part of the national teacher professional development program, Kazakhstani universities conduct courses and training sessions for teachers in collaboration with various centers. These programs allow teachers and university faculty members to improve their professional level, directly impacting their motivation through career advancement opportunities and salary increases. Within the new certification system, teachers undergo testing and professional development courses, allowing them to raise their qualification categories and receive corresponding bonuses.

Academic staff, particularly university faculty, face several specific challenges regarding motivation. These include insufficient funding for higher education, excessive bureaucratization of certification processes, and limited opportunities for professional growth in regional areas. Another significant problem is the need for more flexibility in professional development programs. Faculty members often encounter courses that need to meet their actual needs or address contemporary educational challenges, reducing such programs' effectiveness and motivational impact.

Thus, new approaches must be introduced to the certification and professional development systems for academic personnel. Opportunities for career growth, salary bonuses, and professional recognition remain powerful incentives for educators, but these incentives require modernization to enhance their impact.

To develop an effective motivation system for academic staff, it is necessary to consider their personal characteristics and the specific aspects of their professional activities. Academic staff members exhibit high diversity across several parameters, such as work experience, scientific qualifications, participation in research projects, and teaching and administrative workloads. These factors play a key role in shaping a motivation approach, as they require individualized strategies that consider staff members' various needs and drivers.

One of the main challenges of educational institutions is finding a balanced approach to motivation that can simultaneously stimulate faculty members to improve the educational process, enhance their qualifications, and participate in scientific research. It is important to recognize that different categories of staff may benefit from different motivation tools: for younger faculty, career advancement and professional development are key motivators, while for more experienced staff, scientific achievements and participation in international projects may serve as more substantial motivational factors.

Therefore, this research aims to identify optimal methods for combining various motivational tools, including both material and non-material incentives, while considering the individual characteristics of academic staff. The development of such approaches will enable the creation of a flexible and effective motivation system capable of adapting to the dynamic educational process.

Further, Figure 5 presents the motivation scheme for university faculty developed in this study.

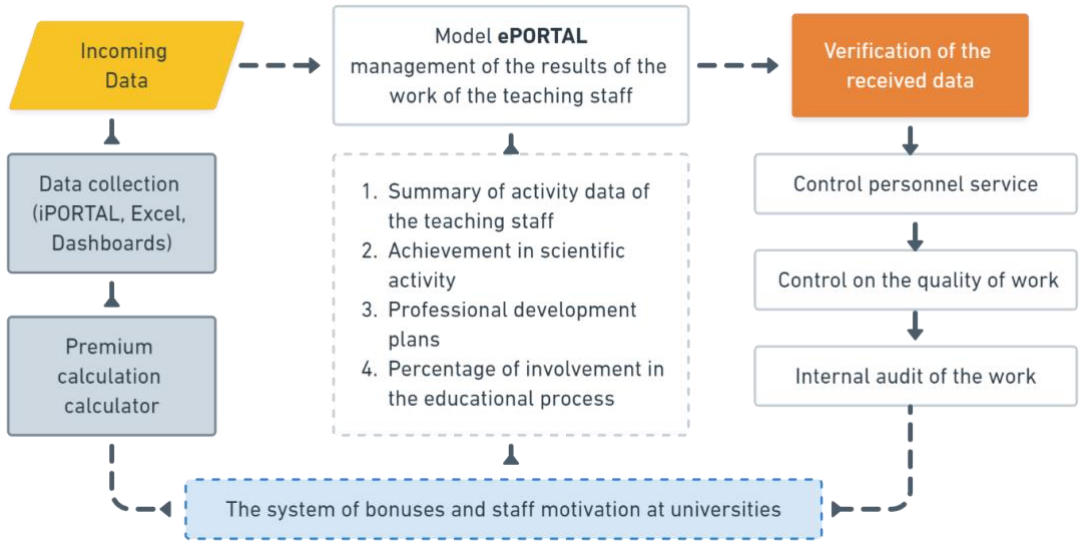

FIGURE 5. The scheme of the performance management system and motivation of the teaching staff through model ePORTAL

Note: compiled by authors

The presented scheme illustrates a model for managing the performance outcomes of university teaching staff based on the ePORTAL system, which serves as the primary tool for collecting, processing, and verifying data on employee activities. Viewing individuals and the organization as a unified whole is essential to understand the importance of effective employees within an organization. In modern organizations, especially educational institutions, personnel are considered a key factor determining the entire structure's quality and success. A robust motivation system is required to ensure employee satisfaction and loyalty, covering various levels of professional activity.

The diagram outlines the critical stages of the management process, starting from the collection of initial data and ending with the system of teacher rewards. Specifically:

(1) The first stage involves collecting input data on the professional activities of teaching staff from various sources, such as ePORTAL, Excel, and dashboards. The collected information serves as the basis for further analysis. At this stage, the data is systematized and processed using specialized tools, including a premium calculation tool, which determines salary bonuses based on the teachers' performance.

(2) The ePORTAL system is the core element of this model, managing data on the teaching staff's performance outcomes. The system analyzes the following indicators: summary data on staff activities, achievements in scientific work, professional development plans, and the degree of involvement in the educational process. This analysis provides a comprehensive assessment of the faculty's professional activity.

(3) After the analysis, the results undergo a verification process, during which the data is checked at several levels. The personnel service ensures the accuracy and correctness of the data, the quality control service monitors compliance with work standards, and internal audits ensure the objectivity of all evaluation procedures.

(4) The final stage is the reward system, which is based on verified and analyzed data. Bonuses and rewards are granted to teachers whose performance meets the established

criteria. This serves as an essential incentive for their further professional growth and motivation.

Thus, the presented model for managing the performance outcomes of university teaching staff through the ePORTAL system contributes to effective data management, enhances staff motivation based on their achievements, and maintains a high level of professional activity within universities. As a result, the ePORTAL system aggregates data from several sources: teacher reports, scientific publications, participation in conferences, results of advanced training courses and methodological work. All this data is uploaded to the system and systematized for further analysis.

Further, the collected data should be evaluated according to specific criteria. Thus, a model for evaluating teachers is based on three critical areas of their professional activity: work with students and scientific and methodological work. Each location is essential for comprehensively assessing teachers' performance (Figure 6).

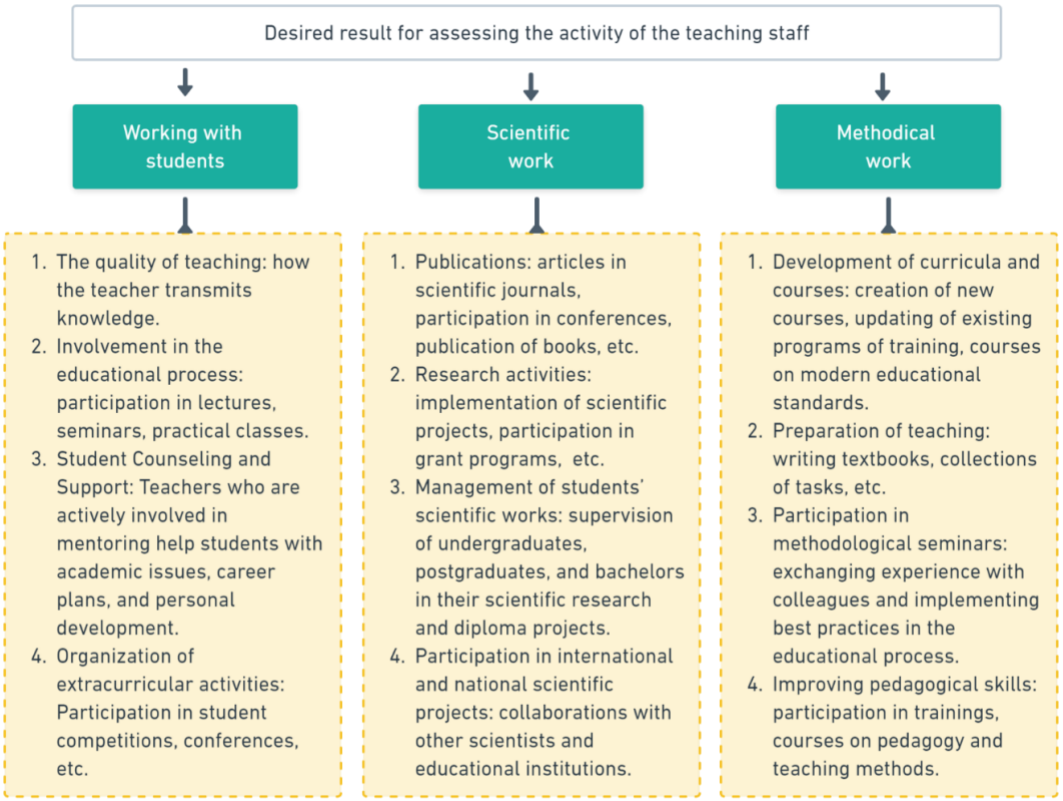

FIGURE 6. Criteria for evaluating the activity of teachers

Note: compiled by authors

The system of criteria for evaluating the activities of the teaching staff, which is based on three key areas, covers all the main aspects of teachers' professional activities and serves as the basis for their comprehensive assessment. Working with students includes the quality of teaching, participation in the educational process and extracurricular life, and advising students. The teacher is evaluated by how effectively he transfers knowledge, supports students, and organizes extracurricular activities. Scientific activity focuses on publications, participation in scientific projects and conferences, and students' scientific research leadership. A teacher's contribution to science is assessed through his study and

interaction with bachelors, undergraduates, and graduate students. Methodological work concerns the development of curricula and materials, participation in methodological seminars, and professional development. It is essential to contribute to the creation and updating of educational resources, as well as the teacher's professional development. In general, the three areas provide a comprehensive assessment of the activities of teachers, contributing to an objective analysis of their professional contributions.

Next, consider in Figure 7 the relationship between the indicators of university development and the achievements of teachers.

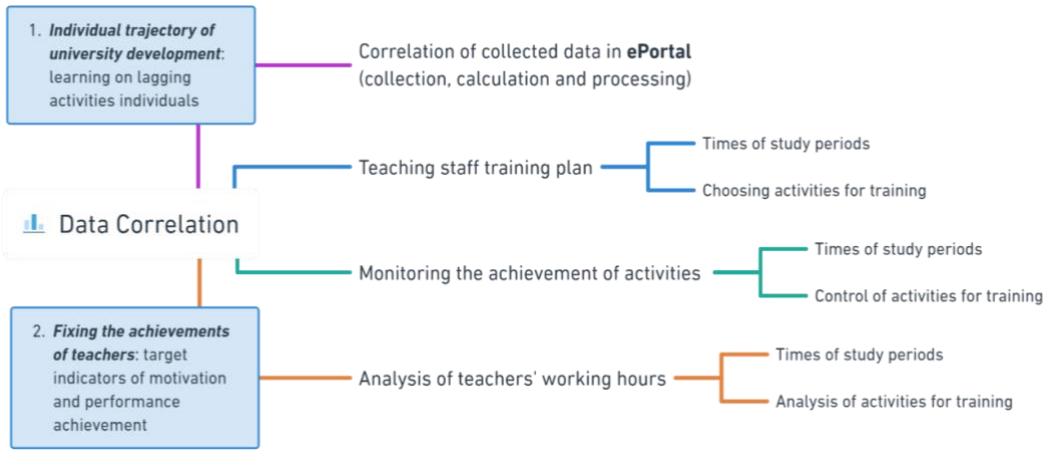

FIGURE 7. Data correlation model for university development and teacher performance

Note: compiled by authors

The model shown in the diagram describes the correlation process of data to improve the effectiveness of educational activities at the university. It focuses on two interrelated aspects: the individual trajectory of the university's development and the fixation on teachers' achievements. As part of the first part of the model, data on students, including those who are lagging behind and advancing, is collected and analyzed through the ePortal platform.

This data is used for planning and monitoring educational processes, including selecting educational activities and monitoring the implementation of educational tasks during certain academic periods. This approach allows us to more accurately consider students' individual characteristics and optimize their development trajectories. The model's second part focuses on analyzing teachers' motivation and effectiveness indicators. Here, their working hours are evaluated, and educational activities are analyzed, which allows us to identify the most effective teaching methods and increase the productivity of the educational process. The interaction between students' trajectories and teachers' activities is carried out through systematic data collection, which allows for making informed decisions to improve educational outcomes.

To manage teachers' motivation in educational institutions, it is necessary to develop a flexible model that considers the specifics of various universities in Kazakhstan. In this context, an ePORTAL system is essential for collecting, processing, and analyzing data on teachers' activities, ensuring the objectivity of assessment and stimulating academic staff based on their achievements. Below is a table illustrating how the proposed model for evaluating teachers' activities through the ePORTAL system can be adapted for leading and regional universities in Kazakhstan (Table 1).

TABLE 1. Recommendations for the management of educational institutions to increase the motivation of academic staff

University	The main evaluation criteria through the portal	Features of model adaptation
Nazarbayev University (Astana)	1. Publications in international scientific journals. 2. Participation in international scientific projects. 3. Work with students and feedback.	Focus on scientific achievements: The portal will monitor publication activity, participation in major international projects, and grants. Teachers with high scientific activity will be considered for publication in leading international journals. The system will also collect data on participation in the educational process and student feedback.
Al-Farabi Kazakh National University (Almaty)	1. Scientific publications and participation in international conferences. 2. Participation in national and international grant projects. 3. Feedback from students.	Scientific and teaching activities: Through ePORTAL, teachers can track their participation in national and international conferences, publications, and grant work. The teaching assessment will include student feedback and an analysis of their interactions, which will increase its objectivity.
University of International Business named after K. Sagadiyev (Almaty)	1. Participation in applied research. 2. Development of educational programs. 3. Working with corporate partners and the business community. 4. Publication activity.	Focus on business research and market communication: Through the portal, the system can track teachers' interaction with the business community and participation in applied research. It is also essential to consider the development of business-relevant training programs and publications in economic and management journals.
Kazakh State University of Architecture and Civil Engineering (Almaty)	1. Development of educational materials and methodological work. 2. Teaching and feedback from students. 3. Participation in applied construction projects.	Architectural and construction projects: ePORTAL can track teachers' participation in applied research and projects in construction and architecture. Teaching work evaluation includes developing new educational programs, student feedback, and methodological activities.
M. Auezov South Kazakhstan State University (Shymkent)	1. Methodical work. 2. Development of educational programs. 3. Feedback from students. 4. Participation in national scientific projects.	Teaching and methodological work: ePORTAL will focus on developing methodological materials and curricula. Participation in national research projects and grants will also be considered. Student feedback will enhance teaching assessment, making the analysis completer and more transparent.
S. Toraighyrov Pavlodar State University (Pavlodar)	1. Teaching and feedback. 2. Methodical activity. 3. Participation in national scientific projects.	Teaching and methodical work: Through ePORTAL, the university will monitor teaching work and collect student feedback. Special attention will be paid to methodological activities, such as developing curricula and participating in national scientific grants and conferences.
Aktobe Regional University named after K. Zhubanov (Aktobe)	1. Methodical work. 2. Assessment based on feedback from students. 3. Participation in regional and national scientific projects.	Teaching and participation in regional projects: The portal allows you to record methodological work and education, including student feedback. Special attention is paid to regional scientific activities, reflected in teachers' participation in local scientific initiatives and educational projects.

Note: complied by authors based on calculations

Thus, in this paper, the portal system and the proposed assessment model can be used to lead Kazakhstan regional universities in increasing academic staff motivation. However, these proposals are only guidelines and do not pretend to be universal. Implementing these approaches should be flexible and customizable depending on the tasks and priorities of a particular university. Each educational institution can vary the evaluation criteria depending on its strategic objectives and available resources. For example, leading scientific universities can focus on international publications and grants, while regional universities can focus on methodological work and student interaction.

5. CONCLUSIONS

The purpose of this study was to identify key factors influencing the motivation of teaching staff in higher educational institutions of Kazakhstan, as well as to develop recommendations aimed at improving their professional activities in the context of the digital transformation of education. In modern conditions of modernization of the educational system, it is critically important to improve the level of qualification of teachers and the development of pedagogical competencies that meet the requirements of Kazakhstan and international standards. In light of the increased attention to this issue, there is a need to ensure sustainable motivation for the professional development of teachers. The practical significance of this study lies in the fact that introducing the proposed motivation system and stimulating teachers' work will allow higher education institutions to solve problems related to the development of human resources more effectively. This, in turn, will contribute to achieving the strategic goals of universities, increasing their efficiency and competitiveness in the educational market.

The results showed that the teacher motivation system is vital in ensuring the quality of the educational process and scientific activity. In Kazakhstan, it is necessary to modernize the motivation system to encourage employees to grow professionally, which can significantly increase the level of education and scientific research in the country. The main obstacles include insufficient funding, bureaucratization, and limited career opportunities, especially at regional universities.

Digitalization affects educational processes, requiring updated approaches to evaluating teaching and learning. Using modern digital tools, such as ePORTAL, allows you to collect and analyze data on teachers' professional activities effectively. This contributes to an objective assessment of their contribution to the educational process and can serve as an incentive for further professional development. Digital tools such as ePORTAL can help assess teachers' professional activities more objectively and create motivational models.

Generally, it is recommended that attention be increased to financing issues and the introduction of material incentives for teachers, including salary increases and modernization of the certification system. Universities need to adapt motivation systems to teachers' individual needs, considering their experience, scientific qualifications, and workload. As a result, recommendations have been developed to manage the motivation of teaching staff at various universities in Kazakhstan. For leading universities, the focus is on scientific achievements, including publications in international journals and participation in international research projects. In regional universities, priority is given to methodological work, student feedback, and participation in national research projects. These recommendations emphasize the need to adapt the motivation system to the specifics of a particular university, including regional conditions and priorities.

Future research may aim at an in-depth study of the impact of digital technologies on the motivation of teaching staff. It is important to analyze how the introduction of new educational technologies affects the involvement and professional development of teachers, as well as their job satisfaction, in the

context of digitalization. It is also promising to study the regional characteristics of motivation, which will reveal differences in approaches to stimulating teachers at leading and regional universities and offer adapted management models.

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REFERENCES

Al-Kurdi, O. F., El-Haddadeh, R., & Eldabi, T. (2020). The role of organisational climate in managing knowledge sharing among academics in higher education. *International Journal of Information Management, 50*, 217-227. https://doi.org/10.1016/j.ijinfomgt.2019.05.018

Asrar-ul-Haq, M., Kuchinke, K. P., & Iqbal, A. (2017). The relationship between corporate social responsibility, job satisfaction, and organizational commitment: Case of Pakistani higher education. *Journal of Cleaner Production, 142*, 2352-2363. https://doi.org/10.1016/J.JCLEPRO.2016.11.040

Abdulsalam, D., & Mawoli, M. A. (2012). Motivation and job performance of academic staff of state universities in Nigeria: the case of Ibrahim Badamasi Babangida University, Lapai, Niger State. *International Journal of Business and management, 7*(14), 142. https://doi.org/10.5539/IJBM.V7N14P142

Daumiller, M., Stupnisky, R., & Janke, S. (2020). Motivation of higher education faculty: Theoretical approaches, empirical evidence, and future directions. *International Journal of Educational Research, 99*, 101502. https://doi.org/10.1016/j.ijer.2019.101502

Graham, A. T. (2015). Academic staff performance and workload in higher education in the UK: the conceptual dichotomy. *Journal of Further and Higher Education, 39*(5), 665-679. http://dx.doi.org/10.1080/0309877X.2014.971110

Heng, K., Hamid, M., & Khan, A. (2020). Factors influencing academics' research engagement and productivity: A developing countries perspective. *Issues in Educational Research, 30*(3), 965-987.

Hu, S., Laxman, K., & Lee, K. (2020). Exploring factors affecting academics' adoption of emerging mobile technologies-an extended UTAUT perspective. *Education and Information Technologies, 25*, 4615-4635. https://doi.org/10.1007/s10639-020-10171-x

Minett-Smith, C., & Davis, C. L. (2020). Widening the discourse on team-teaching in higher education. *Teaching in Higher Education, 25*(5), 1356-2517. https://doi.org/10.1080/13562517.2019.1577814

Mwesigwa, R., Tusiime, I., & Ssekiziyivu, B. (2020). Leadership styles, job satisfaction and organizational commitment among academic staff in public universities. *Journal of Management development, 39*(2), 253-268. https://doi.org/10.1108/JMD-02-2018-0055

Nguyen, P. T., Yandi, A., & Mahaputra, M. R. (2020). Factors that influence employee performance: motivation, leadership, environment, culture organization, work achievement, competence and compensation (A study of human resource management literature studies). *Dinasti International Journal of Digital Business Management, 1*(4), 645-662. https://doi.org/10.31933/dijdbm.v1i4.389

Pucciarelli, F., & Kaplan, A. (2016). Competition and strategy in higher education: Managing complexity and uncertainty. *Business horizons, 59*(3), 311-320. https://doi.org/10.1016/j.bushor.2016.01.003

See, B. H., Morris, R., Gorard, S., & El Soufi, N. (2020). What works in attracting and retaining teachers in challenging schools and areas? *Oxford Review of Education, 46*(6), 678-697. https://doi.org/10.1080/03054985.2020.1775566

Siddique, A., Aslam, H. D., Khan, M., & Fatima, U. (2011). Impact of Academic Leadership on Faculty's Motivation and Organizational Effectiveness in Higher Education System. *International journal of academic research, 3*(3), 730 - 737.

Stankovska, G., Angelkoska, S., Osmani, F., & Grncarovska, S. P. (2017). *Job Motivation and Job Satisfaction among Academic Staff in Higher Education.* Bulgarian Comparative Education Society.

Prodanova, J., & Kocarev, L. (2023). Universities' and academics' resources shaping satisfaction and Engagement: An empirical investigation of the higher education system. *Education Sciences, 13*(4), 390. https://doi.org/10.3390/educsci13040390

Victor, A. A., & Babatunde, E. G. (2014). Motivation and Effective Performance of Academic Staff in Higher Education (Case Study of Adekunle Ajasin University, Ondo State, Nigeria). *Online Submission, International Journal of Innovation and Research in Educational Sciences, 1*(2), 157-163.

Wahyudi, W. (2022). Five components of work motivation in the achievement of lecturer performance. Scientific Journal of Reflection: *Economic, Accounting, Management and Business, 5*(2), 466-473. https://doi.org/10.37481/sjr.v5i2.528

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