



Clustering Universities According to Performance Indicators and Determination of Organizational Culture Types in Clusters*

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ABSTRACT

This study aims to reveal the organizational culture types of state universities in Kazakhstan, to define the dominant organizational culture type and to interpret the organizational culture types in terms of performance indicators. In order to achieve this goal, statistical data collected from 29 state universities were classified using hierarchical cluster analysis and Ward's Technique. In this context, firstly, the concept of organizational culture and its effects on organizational performance were explained in the light of literature information, then cluster analysis was conducted on universities in terms of institutional size and performance. In addition, since a data-oriented approach was preferred in this study, universities were classified based on objective data instead of predetermined criteria. Finally, SPSS 22.0 program and Organizational Culture Assessment Tool were used to analyze the validity of the obtained data and the relationships between the variables, and as a result, the organizational culture types of universities were revealed, the dominant organizational culture type among them was determined and suggestions were given based on empirical findings in the study. It is expected that the results of this study will bring different perspectives on the effect of organizational culture on performance indicators in state universities in Kazakhstan.

Keywords: Universities, Organizational Culture, Institutional Performance, Cluster Analysis, Organizational Culture Assessment Tool.

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1. INTRODUCTION

The effects of globalization, the developments in information and communication technologies in today's rapidly increasing and continuous environmental changes, and the increase in product and service variety according to customer expectations are the reasons for the intense competition environment (Kelesbayev et al., 2020). Any organization uses the necessary strategies to gain competitive advantage in this competitive environment. Competitive advantage is reflected in the superior economic

performance of the organization (Kelesbayev et al., 2015). Therefore, one of the most fundamental questions is why some organizations in the same sector perform better than others.

The dynamic environment of higher education demands robust methodologies for evaluating and enhancing institutional performance (Bekebayeva et al., 2024). In the realm of higher education, the evaluation of universities based on performance indicators has become increasingly crucial for stakeholders seeking to understand and improve institutional effectiveness (Matlis et

al., 2024). One innovative approach to this assessment involves clustering universities according to their performance indicators and determining the organizational culture types within these clusters. As universities worldwide compete for prestige and resources, performance indicators such as research output, teaching quality, and student satisfaction have become central to assessing their effectiveness (Hazelnorn, 2015). These indicators are pivotal not only for institutional benchmarking but also for guiding strategic improvements and policy decisions (Altbach and Basset, 2019).

In addition to quantitative metrics, the organizational culture within universities plays a crucial role in shaping their performance outcomes. Organizational culture—encompassing shared values, norms, and practices—significantly influences institutional effectiveness, employee satisfaction, and overall success (Schein, 2010). Understanding how cultural factors interplay with performance indicators can offer deeper insights into why some universities excel while others struggle.

To address this, some studies apply clustering techniques to categorize universities based on their performance indicators. By grouping institutions with similar performance profiles, they aim to reveal patterns and trends that may not be immediately apparent through individual metrics alone (Johnson and Wichern, 2018). This clustering approach allows for a more nuanced analysis of institutional performance and facilitates a better understanding of the broader landscape of higher education. Subsequently, another researchers examined the types of organizational cultures prevalent within these performance-based clusters. This analysis drew on established frameworks of organizational culture, such as those proposed by Cameron and Quinn (2011) and Hofstede et al. (2010), to identify and categorize the cultural attributes associated with different clusters. By linking performance metrics to cultural types, they aimed to uncover how specific cultural elements contribute to or hinder institutional performance.

As for our research work seeks to bridge the gap between performance measurement and cultural analysis, offering valuable insights for university administrators, policymakers, and researchers. By integrating performance indicators with organizational culture types, we provide a comprehensive framework for understanding and enhancing university performance in the ever-evolving higher education landscape. Also, by examining the interplay between performance metrics and organizational culture, valuable insights can be gleaned to inform strategic decision-making and foster continuous improvement within the higher education sector.

Thus, the aim of the present study is to reveal the organizational culture types of universities in Kazakhstan, to define the dominant organizational culture type and to write the comments of the organizational culture types in terms of performance indicators. It is expected that the results of this study will bring different perspectives on the effect of organizational culture in universities on performance indicators. In this context, firstly, the concept of organizational culture and its effects on organizational performance will be explained in the light of literature information, then cluster analysis will be conducted in terms of institutional

size and performance for state universities in Kazakhstan. Finally, the organizational culture types of universities in Kazakhstan will be revealed using the Organizational Culture Assessment Tool (OCAI), the dominant organizational culture type among them will be determined and suggestions will be given based on empirical findings in the research.

Here, the main questions of the research are determined as follows:

- (a) How are universities in Kazakhstan clustered according to performance indicators?
- (b) What are the organizational culture types of universities in Kazakhstan?

Accordingly, in this study, along with the interpretation of the relationship between organizational culture types in terms of organizational performance indicators, the phenomenon of organizational culture in a developing country like Kazakhstan was also examined. Evidence regarding the connection between organizational culture and performance indicators was shown using data obtained from universities in Kazakhstan.

2. LITERATURE REVIEW

Nowadays, there are increasing studies on the relationship between organizational culture and performance. A significant number of publications are being made on the strategic aspects of organizational development, where culture is seen as a competitive advantage. Studies show that organizational culture is related to many different factors and that organizational performance is affected as a result of this relationship (Kose and Korkmaz, 2019).

The relationship between organizational culture and performance has been examined in many organizational studies (Wilderom et al., 2000; Fey and Denison, 2003; Sorensen, 2002; Smollan and Sayers, 2009; Wilderom et al., 2012). Although these studies reveal results that show the importance of organizational culture, the great complexities involved in investigating the relationship between organizational culture and performance require further research. Wilderom et al. (2000) examined ten studies that tested the relationship between organizational culture and performance and revealed that there is evidence for the claimed predictive effect of organizational culture on organizational performance.

Therefore, understanding organizational culture within universities is crucial as it influences various performance outcomes including academic excellence, employee satisfaction, and institutional effectiveness. In this regard, we have made a brief review of relevant literature. This review examines the methods used to reveal different organizational culture types in universities, identifies dominant culture types, and interprets these cultures in relation to performance indicators.

2.1. Conceptual Framework of Organizational Culture

Organizational culture refers to the shared values, beliefs, and norms that shape the behavior of individuals within an organization. Schein (2010) provides a comprehensive framework, describing organizational culture as a dynamic system that evolves over time, influencing and being influenced by performance outcomes.

Several models categorize organizational cultures. Cameron and Quinn (2011) present the Competing Values Framework (CVF), which identifies four primary culture types: Clan, Adhocracy, Market, and Hierarchy. Each type affects organizational behavior and performance differently.

2.2. Revealing Organizational Culture Types

Surveys such as the Organizational Culture Assessment Instrument (OCAI) by Cameron and Quinn (2011) are frequently used to assess cultural types in universities. Meyerson and Martin (1987) discuss how these tools provide insights into the dominant cultural traits within an institution.

Interviews and focus groups are employed to gain deeper insights into organizational culture. Schwartz and Davis (1981) advocate for qualitative methods to understand the underlying cultural dynamics that quantitative tools might miss.

Direct observation and ethnographic methods are used to study cultural behaviors and practices. Van Maanen (1979) explores how ethnographic research provides a rich understanding of cultural norms and practices within organizations.

2.3. Dominant Organizational Culture Types in Universities

Characterized by a focus on collaboration, mentoring, and employee involvement, Clan culture is often found in institutions that prioritize student and staff welfare. Kezar and Eckel (2002) highlight that universities with Clan cultures often experience high levels of staff and student satisfaction but may struggle with administrative efficiency.

Adhocracy culture emphasizes innovation, risk-taking, and flexibility. Hoffman and Woehr (2006) discuss how this culture supports high research productivity and entrepreneurial activities, making it prevalent in research-intensive institutions.

Focused on results, competition, and achieving goals, Market culture is often associated with institutions that emphasize performance metrics and external rankings. Kotter and Heskett (1992) argue that universities with Market cultures are typically driven by performance indicators and external validation.

Hierarchy culture values structure, control, and standardized procedures. Peters and Waterman (1982) note that such cultures are often seen in institutions with strong administrative systems and procedural rigor, which can lead to stability but may hinder innovation.

2.4. Interpreting Organizational Culture Types in Terms of Performance Indicators

The impact of culture on academic performance varies. Kezar and Eckel (2002) show that Clan and Adhocracy cultures tend to support higher academic outcomes through a supportive and innovative environment, respectively.

Adhocracy cultures, with their emphasis on innovation and flexibility, are often linked to higher research output. Hoffman

and Woehr (2006) provide evidence that universities with an Adhocracy culture produce more high-impact research compared to those with Clan or Hierarchy cultures.

Clan cultures are generally associated with higher student satisfaction and retention due to their supportive and collaborative environment. Pascarella and Terenzini (2005) highlight that a nurturing culture improves student engagement and satisfaction.

Hierarchy cultures are linked with higher administrative efficiency due to their structured approach. Ouchi (1981) demonstrates that institutions with Hierarchy cultures often exhibit efficient operations and well-defined processes, which can enhance overall institutional performance.

2.5. Case Studies and Applications

Comparative studies reveal how different cultural types affect university performance. O'Reilly et al. (1991) compare various universities and illustrate the correlation between organizational culture types and performance outcomes.

Understanding the impact of culture on performance can inform policy decisions. Schein (2010) suggests that aligning organizational culture with strategic goals can enhance institutional performance and effectiveness.

2.6. Challenges and Future Directions

Accurately measuring and assessing organizational culture remains a challenge. Denison and Mishra (1995) discuss the complexities of cultural assessments and advocate for improved methodologies to capture cultural nuances.

Organizational culture is dynamic and can change over time. Kotter and Heskett (1992) emphasize the need for longitudinal studies to track cultural changes and their impact on performance.

Combining qualitative and quantitative approaches can provide a more comprehensive view of organizational culture. Martin (1992) suggests integrating different methodologies to enhance the accuracy of cultural assessments.

To sum up what has been said so far, revealing and interpreting organizational culture types in universities is essential for understanding their impact on performance indicators. Different culture types, such as Clan, Adhocracy, Market, and Hierarchy, affect various performance metrics including academic achievement, research output, student satisfaction, and institutional efficiency. Future research should focus on refining measurement tools, addressing the dynamic nature of culture, and integrating multiple methodologies for a holistic understanding of organizational culture in higher education institutions.

Unfortunately, while these articles provide valuable information on clustering universities according to performance indicators, there is a lack of direct information on determining organizational culture types in clusters based on university performance indicators. When the literature review is examined, it is striking that the number of studies conducted on this subject is quite low. In particular, no

empirical study on the subject has been found in Kazakhstan. In this context, it is thought that the study will be important in terms of contributing to the literature. In addition, by examining the interaction between the performance indicators of universities in developing countries and different types of organizational culture, it will contribute to the accumulation of knowledge in line with the development of organizational performance measurement scales in universities.

3. METHODOLOGY AND DATA

To achieve the main objective of this study, statistical data collected from 29 state universities in Kazakhstan were classified using Hierarchical cluster analysis and Ward's Technique. Hierarchical cluster analysis tries to minimize the within-group variance while maximizing the between-group variance. Among the hierarchical clustering methods, Ward's technique is generally accepted as the technique that gives the best results (Aitimbetov and Shilibekova, 2019). The aim of Ward's technique is to minimize the variance within the clusters. For this purpose, the following formula for the sum of squared errors is used (Murtagh and Legendre, 2014):

$$ESS = \sum_{i=1}^n x_i^2 - \frac{1}{n} \left(\sum_{i=1}^n x_i \right)^2$$

Where x_i is the score of the i th observation. In the first step of the clustering process, since each observation is a cluster, ESS is zero. The Ward technique continues by obtaining groups or observations that result in the minimum increase in ESS (Murtagh and Legendre, 2014).

In addition, since we preferred a data-driven approach to universities in this study, they were classified based on objective data rather than predetermined criteria. All state universities were included in each cluster analysis when they were included in the relevant data sets. This analysis showed that we needed to conduct a separate cluster analysis for each variable (quantitative, ranking and performance). Based on the findings of a trial cluster analysis, it was decided to conduct a three-stage cluster analysis, which was specified as quantitative criteria for state universities, ranking criteria for universities and performance criteria for universities (performance was used as a criterion in the cluster analysis).

Using the datasets and the findings of a pilot cluster analysis, a framework for cluster analysis was developed. Quantitative and performance variables were selected as the main variables for classification.

The sources of comprehensive and reliable statistical data used for performance variables are:

- IQAA: A non-governmental organization "Independent Agency for Quality Assurance in Education" is a non-profit organization established to improve the quality of education and competitiveness of national and foreign educational institutions of Kazakhstan; it provides information about the excellence of specific educational institutions to stakeholders in Kazakhstan and abroad.

- Webometrics: The largest academic ranking of Higher Education Institutions. Since 2004, an independent, objective, free, open scientific application has been carried out by Cybermetrics Lab (CSIC) every 6 months to provide reliable, multidimensional, updated and useful information on the performance of universities around the world.

In order to find an answer to the developed basic question, this study was conducted in universities in Kazakhstan. According to the data taken from the website of the Ministry of Science and Higher Education of the Republic of Kazakhstan, it was determined that the number of universities in Kazakhstan is 119 (<https://www.gov.kz/memleket/entities/sci/activities/31809?lang=kk>). Of these universities, 29 state universities were determined as the sample of the research.

The universe of the research was divided into four clusters as a result of cluster analysis. According to these four clusters, the academic staff with the titles of professor, associate professor, lecturer, department head, dean, manager, and expert working in four state universities in Kazakhstan (Al-Farabi Kazakh National University, Dulati Taraz State University, Dosmukhamedov Atyrau State University and Taraz State Pedagogical University) were selected and an attempt was made to reach all the academic staff in the universe.

The accessible study universe of the research and the number of university employees as sample size are shown in Table 1. As can be seen in Table 1, according to the statistics of higher education institutions in Kazakhstan in 2023, a total of 3659 faculty members and academic staff work in the research universe of four universities. The minimum total sample size to be reached was determined as 995.

When the distribution percentages of the research sample according to universities are examined, it is seen that a representation parallel to the university sizes is provided.

In the study, the Organizational Culture Assessment Instrument (OCAI), developed by Cameron and Quinn (2011), was translated into Kazakh and adapted to universities in order to examine the organizational culture of universities. OCAI is a valid scale for assessing organizational culture. The scale, which addresses organizational culture in six dimensions, includes four options representing four different culture types in each dimension. Therefore, OCAI was selected as the most appropriate tool for culture analysis in universities and used in the study.

Table 1: Research Universe and Sample Size Numbers

University Name	Research Universe	Sample Size
Al-Farabi Kazakh National University	1 970	320
Dulati Taraz State University	610	235
Dosmukhamedov Atyrau State University	672	245
Taraz State Pedagogical University	407	195
Total	3 659	995

Source: <https://www.gov.kz/memleket/entities/sci/activities/31809?lang=kk>

As a result, the survey forms that were usable from the feedback obtained were included in the research. In the analysis of the survey data, the program designed in Microsoft Excel program of the OCAI tool, which is accepted worldwide, was used. In addition, SPSS Statistics Base 22.0 statistical program was used to analyze the validity of the data obtained and the relationships between the variables.

4. RESULTS

The analyses were conducted in two stages. In the first stage, 29 selected state universities in Kazakhstan were classified in terms of their institutional size and performance. Four universities were selected from the four clusters formed as a result of the cluster analysis. In the second stage, a culture analysis was conducted with OCAI on the selected universities with a sample size of 995.

The results of the internal consistency analysis of the statements used in the OCAI instrument for current and preferred situations are shown in Table 2.

In Table 2, it is seen that the total values of the organizational culture types in the OCAI tool are within acceptable limits in terms of the comparison reliability coefficient.

The results of cluster analyses of state universities based on quantitative-performance indicator variables are presented in Table 3.

Among the 4 clusters formed as a result of the cluster analysis, 4 state universities in Kazakhstan (Al-Farabi Kazakh National University, Dulati Taraz State University, Dosmukhamedov Atyrau State University and Taraz State Pedagogical University) were selected for organizational culture analysis.

As a result of cluster analysis, employees of 4 selected state universities were asked to evaluate the culture, norms and values within the scope of six dimensions when conducting a survey. These six dimensions are: (1) Dominant characteristics (2) Organizational leadership (3) Management of employees (4) Organizational glue (5) Strategic emphasis (6) Success criteria. The total number of points should be 100, so the evaluation of the organization's culture by employees is reduced to the distribution of the total number of characteristics of each type of culture: the most pronounced receives a high score, the least pronounced should receive the least score. Therefore, the OCAI tool provides not only an assessment of the actual culture

type in the organization, but also a comparison with the desired culture type.

Table 4 shows the wording of general questions, principles, criteria, rules for situation assessment and summary data obtained during the survey of employees in universities (as a percentage of the total number of participants). However, the large amount of data in the table does not allow for a comprehensive assessment of the situation, therefore, summarized data and comments are presented at the end of the table.

Moreover, unfortunately, some of the participants could not fill in the answers to this question correctly. Therefore, the average data given in Table 4 are calculated based on the answers of participants who correctly distributed the percentages. They are between 80 and 95 percent in different evaluation parameters.

Additionally, the data in this table are distributed quite evenly in four options (A, B, C, D), in any case "zero" rows or cells, and the values vary between 25% and 50%.

The analysis showed that there are significant differences in the opinions of employees about the academic organizational culture: in all parameters used to assess its current state, employees of Al-Farabi Kazakh National University and Dulati Taraz State University characterize the current culture as a clan culture. However, the clan type culture is almost close to the dominant culture of these universities, as is the market type culture. In Dosmukhamedov Atyrau State University, although the clan type culture is the dominant culture type, the scores of the market type culture are also very high.

In other Taraz State Pedagogical University, the hierarchy type culture came first in three parameters (this is a general style of leadership in the organization; the essence of the organization and strategic goals), but in most cases the leadership of this parameter

Table 2: Results of internal consistency analysis of Organizational Culture Assessment Tool Scale

Culture type	Reliability coefficients for the current situation	Reliability coefficients for the preferred case	Comparison reliability coefficient*
Clan	0.80	0.83	0.82
Adhocracy	0.76	0.74	0.83
Market	0.66	0.71	0.67
Hierarchy	0.75	0.72	0.78

*Reliability coefficients reported by Cameron and Quinn

Table 3: Results of cluster analysis

Cluster	n	Universities
Cluster A	8	Abay State University, Al-Farabi Kazakh National University, Gumilev Eurasian National University, Kazakh National Agricultural University, Karaganda State Technical University, Serikbayev East Kazakhstan State Technical University, Satpayev Kazakh National Technical University, Kazakh Women's Pedagogical State University
Cluster B	7	Buketov Karaganda State University, Auezov State University, Toraygirov Pavlodar State University, Korkut Ata Kyzylorda State University, Dulati Taraz State University, Shakarim Semey State University, Kozybayev North Kazakhstan State University
Cluster C	3	Dosmukhamedov Atyrau State University, Yessenov State University of Technology and Engineering, Atyrau Oil and Gas University
Cluster D	9	Jangir-khan West Kazakhstan Agricultural and Technical University, Kostanay State Pedagogical University, Baytursunov Kostanay State University, Ualikhanov Kokshetau State University, South Kazakhstan State Pedagogical University, Jubanov Aktobe State University, Karaganda State Industrial University, Taraz State Pedagogical University, Zhansugurov Zhetysay State University

Table 4: General questionnaires of the Organizational Culture Assessment Tool instrument and percentage of total number of participants

Serial number	Question Titles	Current situation				Preferred situation			
		3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
1	Dominant characteristics	KazNU	TarSU	ASU	TarPU	KazNU	TarSU	ASU	TarPU
A	The organization is a very personal place. It's like an extended family. People seem to share themselves a lot	36	34	25	19	34	34	37	36
B	The organization is a very dynamic and entrepreneurial place. People are willing to stick their necks out and take risks	20	19	23	23	19	23	18	18
C	The organization is very results-oriented. Getting the job done is a major concern. People are very competitive and achievement-oriented	27	25	31	28	27	25	28	29
D	The organization is a very controlled and structured place. Formal procedures often govern what people do	17	22	21	30	19	19	17	16
	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2	Organizational leadership	KazNU	TarSU	ASU	TarPU	KazNU	TarSU	ASU	TarPU
A	Leadership in the organization is generally thought to exemplify mentoring, facilitating, or nurturing	40	32	26	26	36	38	35	35
B	Leadership in the organization is generally thought to exemplify entrepreneurship, innovation and risk taking	18	22	20	20	23	22	19	19
C	Leadership in the organization is generally thought to have a no-nonsense, aggressive, results-oriented focus	25	25	26	26	22	22	27	27
D	It is generally thought that leadership in an organization shows coordination, organization or smooth working efficiency	16	21	29	28	19	18	19	19
	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
3.	Management of employees	KazNU	TarSU	ASU	TarPU	KazNU	TarSU	ASU	TarPU
A	The management style in the organization is characterized by teamwork, compromise and participation	40	32	28	18	36	39	35	34
B	The management style in the organization is defined by individual risk taking, innovation, freedom and uniqueness	19	22	21	19	18	22	20	20
C	The management style in the organization is characterized by fierce competitiveness, high demand and achievement	24	23	28	24	30	21	24	24
D	The management style within the organization is characterized by security of employment, conformity, predictability and stability in relationships	17	23	23	40	16	18	21	21
	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
4.	Organizational glue	KazNU	TarSU	ASU	TarPU	KazNU	TarSU	ASU	TarPU
A	The glue that holds the organization together is loyalty and mutual trust. Loyalty to this institution runs high	40	29	29	28	34	38	35	35

(Contd...)

Table 4: (Continued)

Serial number	Question Titles	Current situation				Preferred situation			
B	The glue that holds the organization together is a commitment to innovation and development. There is an emphasis on being on the cutting edge	18	23	26	21	20	21	28	28
C	The glue that holds the organization together is the importance given to success and goal achievement	26	23	21	26	25	22	22	22
D	The glue that holds an organization together is formal rules and policies. Maintaining a smoothly running organization is important	16	25	24	24	21	18	16	15
	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
5.	Strategic emphasis	KazNU	TarSU	ASU	TarPU	KazNU	TarSU	ASU	TarPU
A	The organization emphasizes human development. It maintains high levels of trust, openness and participation	40	29	31	30	34	38	32	31
B	The organization emphasizes acquiring new resources and creating new challenges. Trying new things and seeking out opportunities is valuable	21	21	24	24	28	23	28	28
C	The organization emphasizes competitive actions and achievements. Achieving stretch goals and winning in the marketplace are dominant	22	24	24	25	22	21	24	24
D	The organization emphasizes permanence and stability. Efficiency, control, and smooth operations are important	17	25	21	21	15	19	16	16
	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
6.	Success criteria	KazNU	TarSU	ASU	TarPU	KazNU	TarSU	ASU	TarPU
A	The organization defines success on the basis of human resource development, teamwork, employee commitment and concern for people	35	35	29	33	36	36	35	35
B	The organization defines success based on the most unique or newest products. It is a product leader and innovator	19	19	22	21	22	23	26	26
C	The organization defines success on the basis of winning in the market and overcoming competition. Competitive market leadership is very important	26	23	23	22	26	22	22	22
D	The organization defines success on the basis of efficiency. Reliable delivery, smooth scheduling, and low-cost production are important	20	23	26	25	17	19	17	17
	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Description: Answers to the question: "Each of the six questions contains four possible answers. Distribute points among these four alternatives on a 100-point scale in the weight ratio most appropriate to your institution. The alternative that most closely resembles your institution's situation should be given the most points. The total score must be equal to 100, with possible zeros. First, score according to the "Current Situation", then answer the "Preferred Situation" using the same questions

cannot be called absolute. For the other three parameters, the clan system is leading.

Thus, in the preferred case, the clan type culture is generally ranked first in all universities selected for analysis, indicating that

employees prefer to work in a "family" type of culture. However, we can say that national culture also has an effect on university employees in Kazakhstan preferring clan type culture. In the conclusion section of this thesis, detailed explanations will be given about the effect of national culture.

Table 5: Percentage of participants representing different organizational culture types

Serial number	Culture type	Current situation				Preferred situation			
		3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
1	Type of Organizational Culture	KazNU (X̄)	TarSU (X̄)	ASU (X̄)	TarPU U(X̄)	KazNU (X̄)	TarSU (X̄)	ASU (X̄)	TarPU (X̄)
A	Clan	39	32	28	25	35	37	35	34
B	Adhocracy	19	21	23	21	22	22	23	23
C	Market	25	24	27	25	25	22	25	25
D	Hierarchy	17	23	24	28	18	18	18	17
	Total	100,0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

To understand what the numerical values are for each of the different types of organizational culture, it is necessary to generalize the six evaluation parameters. Table 5 shows the percentage of the number of participants.

According to the data shown in Table 5, in the first two universities (Al-Farabi Kazakh National University and Dulati Taraz State University) the clan type culture is now dominant in the university as a whole. In Dosmukhamedov Atyrau State University, at the unit level, a struggle is observed between clan and market type cultures. Because the market type culture features are also quite dominant in the university. In Taraz State Pedagogical University, it was found that the hierarchy type culture is dominant.

Data on preferred culture speaks of employees' desire to see, above all, a clan-type culture at the university level.

In summary, when the research results are evaluated in general, it is determined that there are differences between the current and preferred states of organizational culture in universities. Thus, in general, employees of universities state that they want less bureaucracy, more favoritism and competition. At the same time, we see that the current and preferred states of Dosmukhamedov Atyrau State University and Taraz State Pedagogical University almost coincide.

5. CONCLUSION AND RECOMMENDATIONS

The reasons for examining the organizational culture of universities in Kazakhstan in this study are that universities operating in the country are known as sociocultural organizations that carry out the function of transferring and training scientific knowledge of highly qualified academicians, and also have their own traditions, history, ideology and cultural phenomena. This research will allow to reach sufficiently understandable generalizations of empirical data and to build theoretical models that will allow to make high-quality evaluations of the processes occurring in higher education institutions.

In addition, the fact that no empirical study on the subject has been found in Kazakhstan is important in terms of the contribution of the research to the literature. This study examines the clustering of universities with organizational culture and institutional performance indicators in a developing country like Kazakhstan.

Firstly, one of the most important findings obtained as a result of the Hierarchical cluster analysis conducted for 29 state universities in Kazakhstan in this research was that 4 clusters were formed. Then, as a result of the OCAI analysis created on the basis of the Competing Values Model, it was determined that the dominant type culture in universities in clusters A and B was clan and market type cultures. Although the universities in these clusters do not focus on growth, the clusters mostly consist of universities with high quality education and great performance. In universities in clusters C and D, it was determined that the hierarchical culture was dominant, and the clusters included medium-sized and relatively old universities. Moreover, clan culture has become dominant in its profile as a general cultural type in current and preferred situations in state universities in Kazakhstan.

Secondly, this study used Cameron and Quinn's Competing Values Model for organizational culture analysis.

In summary, by evaluating the above-mentioned studies, we can show the effect of national culture on organizational culture as the main reason for the emergence of clan type culture as the dominant type culture in universities in Kazakhstan as a result of this study.

Market type culture is in second place in the general cultural profile of current and preferred situations. Market culture prioritizes the satisfaction of group needs of employees based on success. Focusing on the external environment is one of its most important emphasis. The prestige of the organization, public opinion, attitude of students and their parents are perceived as the most important criteria. It takes into account the annual growth of the number of students and the stability of the market, combined with control (maintaining a certain level of profitability of the university). Universities in Kazakhstan need to constantly increase their competitiveness in line with the new demands of the market.

The second dominant type of culture identified as a result of the analysis conducted in this study, market culture, can be explained by Kazakhstan's participation in the Bologna process because universities dominated by this type of organizational culture are highly competitive.

Hierarchy is the third organizational culture type that has a high score in universities as a result of this study. The basic features of the hierarchy type culture are formal rules, policies and procedures. The evaluation of teaching quality is formal. Usually, feedback from students is absent or formal. This culture focuses on the internal support of employees and the orderly organization of all

processes. It is in the foreground to observe all the rules and inner comfort of teachers, not students.

In short, considering that Taraz State Pedagogical University and most similar old state universities in Kazakhstan are state organizations that are dominated by cultural elements such as official rules, policies, procedures, clear definitions and formal functioning processes based on tasks, the dominance of the hierarchical culture is significant.

As a result of the research, no type of organizational culture was found in universities where rules were completely unimportant and control mechanisms were ignored. Future research may include comparing the organizational culture of state and private universities, and examining demographic characteristics or faculties separately in order to see differences in organizational types in order to increase both internal and external validity of the results obtained in this study. In addition, the reasons for the perception of dominant type cultures as the dominant organizational culture type in the university as a result of this study can be examined more deeply using qualitative research methods.

REFERENCES

- Aitimbetov, M., Shilibekova, U. (2019), Classification of academic organizations in kazakhstan using hierarchic cluster analysis. *Bulletin of the Khalel Dosmukhamedov Atyrau University*, 54(3), 76-88.
- Altbach, P.G., Basset, R. (2019), *The Global University: The Coming Era of International Higher Education*. United Kingdom: Palgrave Macmillan.
- Bekebayeva, M., Kelesbayev, D., Sadykov, A., Kalykulov, K., Yertayev, Y. (2024), Analysis and evaluation of the image of the university in the context of the city-university interaction. *International Review of Management and Marketing*, 14(5), 158-165.
- Cameron, K.S., Quinn, R.E. (2011), *Diagnosing and Changing Organizational Culture: Based on the Competing Values Framework*. Hoboken: Jossey-Bass.
- Denison, D.R., Mishra, A.K. (1995), Toward a theory of organizational culture and effectiveness. *Organization Science*, 6(2), 204-223.
- Fey, C.F., Denison, D.R. (2003), Organizational culture and effectiveness: Can American theory be applied in Russia? *Organization Science*, 14(6), 686-706.
- Hazelkorn, E. (2015), *Rankings and the Reshaping of Higher Education: The Battle for World-class Excellence*. United Kingdom: Palgrave Macmillan.
- Hoffman, B.J., Woehr, D.J. (2006), A quantitative review of the relationship between organizational culture and organizational performance. *Journal of Management*, 32(3), 435-453.
- Hofstede, G., Hofstede, G.J., Minkov, M. (2010), *Cultures and Organizations: Software of the Mind*. United States: McGraw-Hill.
- Johnson, R.A., Wichern, D.W. (2018), *Applied Multivariate Statistical Analysis*. United Kingdom: Pearson.
- Kelesbayev, D., Alibekova, Z., Izatullayeva, B., Dandayeva, B., Mombekova, G., Taizhanov, L. (2020), Establishing a quality planning scheme with kano model and a case study. *Quality-Access to Success*, 21(176), 56-64.
- Kelesbayev, D., Kalykulov, K., Yermankulova, R., Dandayeva, B., Aymurzayeva, A. (2015), Determination of quality requirements in tourism management and finance departments of Akhmet Yassawi University by Kano model. *Mediterranean Journal of Social Sciences*, 6(3), 34-42.
- Kezar, A., Eckel, P.D. (2002), The effect of institutional culture on change strategies in higher education: Universal principles or culturally responsive concepts? *The Journal of Higher Education*, 73(4), 435-460.
- Kose, M.F., Korkmaz, M. (2019), Why are some universities better? An evaluation in terms of organizational culture and academic performance. *Higher Education Research and Development*, 38(6), 1213-1226.
- Kotter, J.P., Heskett, J.L. (1992), *Corporate Culture and Performance*. Mumbai: Free Press.
- Martin, J. (1992), *Cultures in Organizations: Three Perspectives*. Oxford: Oxford University Press.
- Matlis, G., Dimokas, N., Karvelis, P. (2024), Unveiling university groupings: A clustering analysis for academic rankings. *Data*, 9(5), 67.
- Meyerson, D., Martin, J. (1987), Cultural change: An integration of three different views. *Journal of Management Studies*, 24(6), 623-647.
- Murtagh, F., Legendre, P. (2014), Ward's hierarchical agglomerative cluster method: Which algorithms implement ward's criterion? *Journal of Classification*, 31(3), 274-295.
- O'Reilly, C.A., Chatman, J.A., Caldwell, D.F. (1991), People and organizational culture: A profile comparison approach to assessing person-organization fit. *Academy of Management Journal*, 34(3), 487-516.
- Ouchi, W.G. (1981), *Theory Z: How American Business Can Meet the Japanese Challenge*. Boston: Addison-Wesley.
- Pascarella, E.T., Terenzini, P.T. (2005), *How College Affects Students: A Third Decade of Research*. San Francisco: Jossey-Bass.
- Peters, T.J., Waterman, R.H. (1982), *In Search of Excellence: Lessons from America's Best-Run Companies*. United States: Harper and Row.
- Schein, E.H. (2010), *Organizational Culture and Leadership*. New Jersey: Jossey-Bass.
- Schwartz, H.S., Davis, S.M. (1981), Matching corporate culture and business strategy. *Organizational Dynamics*, 10(1), 30-48.
- Smollan, R.K., Sayers, J.G. (2009), Organizational culture, change and emotions: A qualitative study. *Journal of Change Management*, 9(4), 435-457.
- Sorensen, J.B. (2002), The strength of corporate culture and the reliability of firm performance. *Administrative Science Quarterly*, 47(1), 70-91
- Van Maanen, J. (1979), Reclaiming qualitative methods for organizational research: A prejudiced review. *Administrative Science Quarterly*, 24(4), 520-539.
- Website of the Ministry of Science and Higher Education of the Republic of Kazakhstan. (2024), Available from: <https://www.gov.kz/memleket/entities/sci/activities/31809?lang=kk>
- Wilderom, C.P., Van den Berg, P.T., Wiersma, U.J. (2012), A longitudinal study of the effects of charismatic leadership and organizational culture on objective and perceived corporate performance. *The Leadership Quarterly*, 23(5), 835-848.
- Wilderom, M., Glunk, U., Maslowski, R. (2000), Organizational culture as a predictor of organizational performance. In: Ashkanasy NM, Wilderom CP, Peterson MF, editors. *Organizational Culture and Climate*. Thousand Oaks, CA: Sage.