

**Original Article****Identifying and evaluating the factors affecting the establishment of "quality culture" (QC) and effective factors in the quality of virtual education of Farhangian University****Kamal heshi Nosrati<sup>1</sup>, Jafar Namvar<sup>2</sup>, Mohammad Azimi<sup>3</sup>, zahra khademi Astaneh<sup>4</sup>**

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**Received:** 2023/06/22**Accepted:** 2023/10/22**Abstract**

The purpose of this study is to identify and evaluate the factors affecting the establishment of "quality culture" (QC) and effective factors in the quality of virtual education of Farhangian University. The research method was a two-stage combined exploratory exploration. In the qualitative section, using a semi-structured interview technique, 23 academic and thematic experts were interviewed in a purposeful manner from educational and research centers and the research method in the qualitative part is foundational data theorizing, which seeks to create a theory, model and pattern (Sharmaz, 2007: 462), which is based on the systematic design of Strauss and Corbin foundational data theory. A descriptive-survey method has been used in the quantitative part. To analyze the data in order to evaluate the fit of the proposed model from confirmatory factor analysis and structural equation modeling technique by using Smart PLS software (according to some categories with less items such as single item or two items) used. In the quantitative part of the research, the initial structure of the questionnaire which was compiled with 136 items, in the initial study (content validity) among five quality monitoring and evaluation experts at Farhangian University. The information obtained from the examination of the indicators of each of the dimensions and indicators of the quality culture using the criteria of the absolute magnitude of the factor loadings, T-statistics and R<sup>2</sup>, it should be said that all the items have a suitable factor loading (above 0.7) on the related variable. And these factor loadings were significant at 0.05 and 0.01 levels. In other words, the value of t associated with each factor load is greater than its critical value (1.96) at the 0.05 level and (2.58) at the 0.01 level. Then, in the quantitative section, 389 faculty members and non-faculty members were selected by multi-stage cluster sampling and answered the questionnaires. The studies related to the reliability and validity of the quality culture questionnaire were confirmed. Findings from the first and second confirmatory factor analysis showed that the culture of quality of factors; "Structural / managerial elements"(0.388), "Cultural/ psychological elements" (0.248), "Leadership" (0.500), "Communication" (0.584), "Trust"(0.457), "Commitment"(0.150) and responsibility"(0.528),"Participation"(0.176), "Empowerment"(0.312), "Infrastructure reform"(0.161), "Results and outcomes of quality culture"(0.458) has been formed and its native model has a suitable structural validity for establishment in Farhangian University. As a result, it can be said that the structural model under study is of good quality and the observed values are well reconstructed and the model has a good predictive ability.

**Keywords**

g quality culture, faculty members, university employment, virtual education, Farhangian University.

## Introduction

Although the policy of quantitative development of higher education in Iran in response to the demand for social growth in the form of the development of parallel streams of higher education, has provided the basis for diversity of higher education, but higher education in Iran with the current trend of quantitative growth and lack of tools Specific policy for quality assurance does not have an effective and appropriate model for establishing and maintaining quality (Abbasi& et.al, 2011). Despite this fundamental challenge, from the beginning of the century At present, quality improvement has been one of the main goals of reforms in higher education institutions around the world, while improving quality in higher education has required the establishment and development of a quality culture in universities and higher education institutions around the world (Amin Allah-Tojjar,2014).

Nearly two decades have passed since the first attempts to establish a quality assurance system and turn it into a dominant discourse in the country's higher education. Higher education in Iran has been done. Therefore, "quality culture" has always been one of the important and significant issues of the university system in the country. In the meantime, Farhangian University has faced more serious challenges in terms of quality assurance than other universities in terms of its mission-oriented mission in the field of quality teacher training.

Looking at the changes in the higher education system from the point of view of the student population, indicating quantitative growth and insufficient attention to quality in universities (Ghoorchian &Shahrakipour, 2010). there is still a consensus on the original meaning of quality in higher education. And the main source of discrepancy is due to differences in philosophical and structural foundations and customer-orientation (Fazeli, 2003). Evaluation in higher education and its culture-building According to the intellectual foundations, can be the main precondition for the establishment of a quality assurance system in higher education in which the spread of quality culture by internal quality assessment And the cultural infrastructure in universities can lead to continuous improvement and quality assurance in the long run(Farastkhah,2006).Nevertheless, with the emergence of the comprehensive quality management movement, evaluation of the quality of higher education and its necessity, the main problem for most experts is still the cultural context(Yazdkhasti & Rajaeipour, 2009). According to the above movement in the context of culture, it should be said that the concept of quality, like any other concept, can grow and develop rapidly in the shadow of the development of culture. This issue (cultural view of quality) in recent years, has attracted the attention of academic quality assessment experts to the culture of quality, which years ago, according to the quality culture to provide a they have introduced a comprehensive and sustainable approach to quality in higher education institutions(EuropeanUniversity Association ,2003).

Therefore, it can be argued that the identification of quality activities in universities, the guarantee of a special commitment to quality by faculty members, the provision of various accountability mechanisms, the correct evaluation of domestic and foreign customers of the university and the start of activities The extent of quality-oriented in the form of culture depends on many factors. These quality-oriented activities in the form of quality culture in the university system, today for annual lectures and conferences in the field of university quality evaluation in the country (internal evaluation requires quality culture from the perspective of and the quality excellence of Farhangian University in terms of quality(Bazargan, 2011, Mohammadi & et.al,2013).Thus, the study of the literature confirms that the continuum of the stages of establishing the quality assurance system has the following six stages: 1- Thinking about quality 2- Gaining initial experience 3- Modeling about the evaluation process and its localization 4- Dissemination of quality culture and creating attachment 5- Structuring and 6- Establishing a quality assurance system. According to the efforts made in higher education, it can be concluded that up to the fourth stage of the mentioned stages has not yet been formed in the program of some universities (Bazargan & Ishaghi, 2008). But in recent years Regardless of the spread of quality

culture, structuring has been done in some universities of the country and it should be said that the spread of quality culture is in the shadow of establishing a quality assurance system that can be defensible. According to the needs of the above research field, and to understand this missing link in Farhangian University, namely the design of a comprehensive model of quality culture, for the first time based on combined research to provide a model for the Farhangian university system.

### **Theoretical framework and empirical background**

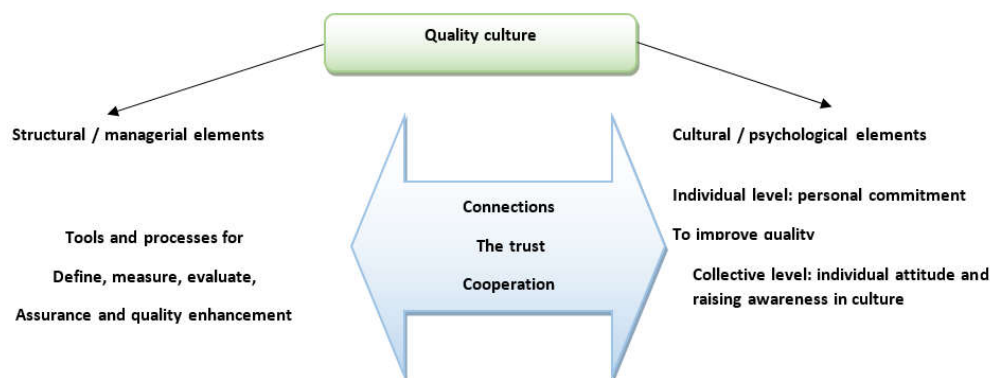
Today, systematic and comprehensive perspectives on quality management are best seen in higher education institutions and have become an integral part of these institutions and to make universities more efficient, effective and customer-oriented. Formalization and standardization of quality management projects has been to expand quality supervision and identify existing capacities to improve the quality structural system) Harvey & Stensaker, 2008). In this process, if the individual independence of employees is neglected and employees are seen as passive recipients of orders, rather than active and participatory people, the tools used for quality management may be given, given how it is implemented from above. It is down, inefficient, or even negatively impacting the organizational process (Harvey & Green, 1993). According to the problems reported by higher education institutions regarding the implementation of the TQM program, the results are more in line with the research findings that have been done in different situations; It should be said that in order for the quality management programs to be successful in the university, the strategies, processes and tools needed for quality management should be implemented in an integrated manner with the existing organizational culture which did not require attention at that time. In most studies, the organizational culture of higher education is defined as follows: "Interconnected and reciprocal relationships that pattern the norms, values, practices, beliefs, and assumptions that determine the behavior of individuals in groups in higher education institutions and provide a specific framework for interpreting events and behaviors." Determines what is inside or outside the environment of the institution".

In recent years, however, the term "quality culture" has been introduced to express the idea that an organization's culture and educational quality should not be considered in isolation, but rather that quality consists of broader cultural perspectives. Due to this emerging term, after 2006, great importance was given to the culture of quality, which was also rooted in its political application. Because, the culture of quality represents a good change from quality control that emphasizes responsibility and order; Towards an increase in the independence, credibility and growth of experience-based education, the rise of expertise and values in higher education institutions (European University Association, 2003). In this regard, the European Association of Universities (EUA) has developed a definition of quality culture, which can be a highlight in trying to implement the characteristics of quality culture. The culture of quality as defined by the (European University Association, 2003):

"A culture that tends to continually improve quality and is characterized by two distinct components: on the one hand, the cultural-psychological elements are shared values, beliefs, expectations and commitments about quality, and on the other, Structural-managerial elements with defined processes to increase quality and help coordinate the work of individuals. »

By this definition, quality culture has been able to be considered as a specific academic organizational culture that includes shared values and commitment to quality. The above definition states that in addition to the "hard" aspects (for example, quality management, strategies and processes), the "soft" aspects (such as values, beliefs and commitments) they affect the culture of quality (Gu & Tang, 2022). In addition, the culture of quality implies collective responsibility. Because, collective responsibility is thought to be closely related to commitment management, such as the plant / root relationship that exists between teaching staff, management and students. Also, in order to develop a culture of quality, there must be a proper balance between top-down

and bottom-up perspectives to increase the quality and coordination between members' work. According to the reports of the European University Association (2006; 2010; 2012), according to Figure 1, in the culture of quality the elements of organizational management, organizational structure and organizational culture and organizational psychology should not be considered separately: they should be trusted. Communication and cooperation should be connected to form the background and development of quality culture.



**Figure 1.** Elements of quality culture (adapted from the European University Association, 2010: 17).

Although the relationship in the culture of quality shows that it is valuable, the exact meaning of the concept of quality culture is still debatable. For example, talking about a "culture of quality" is said to be explicit and direct, a culture that consists of the complex phenomenon of social constructivism and whose main lines consist of organizational context, values is the stage of development and confrontation with organizational quality management. However, it must be said that measuring the culture of quality in an organization is difficult because it involves evaluating it and the common assumptions of the people working in that organization, which is below the level of self-awareness of the people in the organization. This complexity is further felt by the lack of research on emerging topics such as the culture of quality and the lack of adequate research bases for it.

In studies from previous studies, quality culture is a subset of organizational culture that aims to continuously improve quality. Accordingly, the culture of quality in a university can be considered as a set of beliefs, relationships, values and commonalities with which faculty members, administrators and other staff to improve and ensure the quality of university activities. Face (Stoyka & Dragomirova, 2019, European University Association, 2003, Bazargan, 2011). Attention to quality improvement and assurance is undeniable in the context of academic quality culture. Quality culture in higher education is a complex concept and is usually difficult to establish with an acceptable approach. Because, it is manifested with a set of common and understandable elements that require common values, perception and commitment to quality. Also, it should be said that in order to spread the culture of quality in educational departments, faculty members 'commitment to quality, scrutiny, pragmatism, accountability, transparency and members' participation for continuous quality improvement should be considered (Saepudin & et.al, 2021). Recently, another analytical framework of quality culture has been conducted (in case studies see Figure 2). The above framework has not been obtained in their study; rather, it is intended primarily to provide an overview of the factors and variables of others' research when examining the culture of quality. Therefore, different elements (quality culture, formal structure, organizational and psychological factors) have been operationalized in more detail in their research.

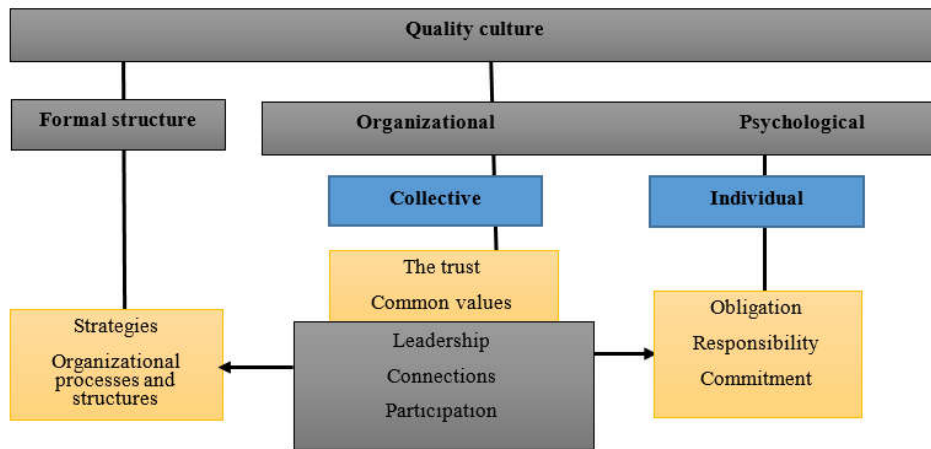


Figure 2. Analytical-research framework of quality culture

Figure 3 also describes the content structure, mechanism, and output of quality culture in higher education centers. In this overview, the main classification of elements of development and organizational content (structural-managerial-communication, leadership, cultural-psychological) are the normal mechanisms (knowledge, empowerment, co-ownership and commitment) and the outputs of quality culture. Student-staff satisfaction, continuous improvement of learning-teaching and learning processes and student-staff growth are depicted, which has a higher scope than the previous scheme presented.

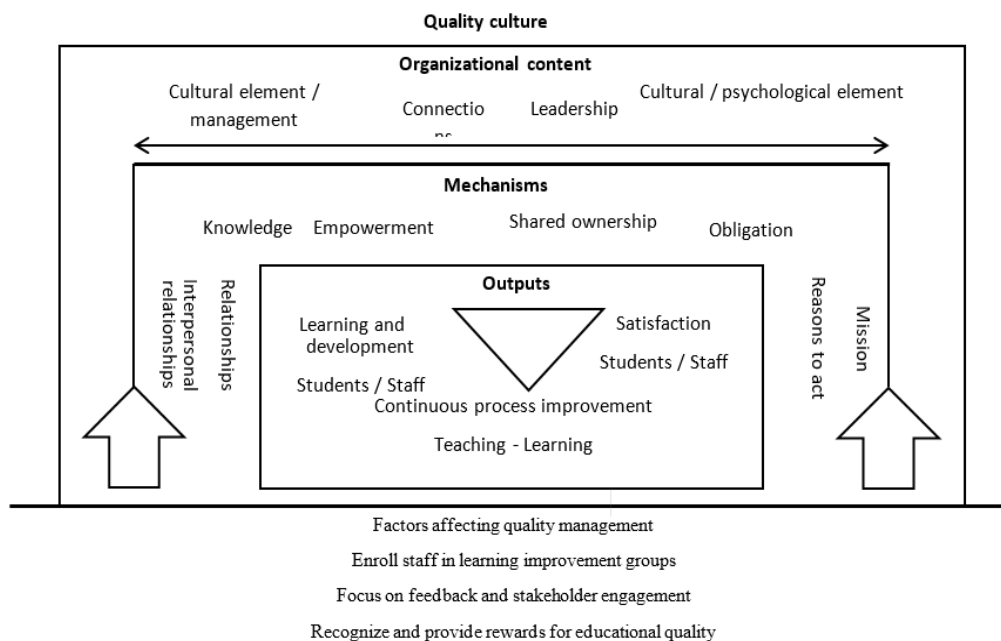


Figure 3. Content structure, mechanism, output of quality culture in higher education center

In general, to draw a culture of quality in academic systems, researchers such as; [10] also on the categories reminiscent of a quality-oriented attitude towards the university in terms of components; Trust, participatory environment, self-management of staff and faculty, attention to continuous quality, not instantaneous and superficial; Systematic planning of the quality process; New insights in academic quality assessment; Gradualist of quality as a criterion of action;

Responding to students; Transparency, comprehensive support oversight, self-direction, collaboration and teamwork, open communication, each of which seems to use the same framework for the theoretical development of a culture of quality.

However, despite the mentioned researches abroad, according to the international studies of the subject, in our country, the problem and challenge of quality culture still remains as a theoretical assumption and in annual lectures and conferences. The evaluation of academic quality is discussed by experts called so, that the vacancy of an experimental research was still strong. According to the challenges of experimental studies, researchers in this study sought to identify and identify the factors and indicators of quality culture in the form of making a valid questionnaire to be able to evaluate the quality culture in the academic system of educators. Have thought. Because, this issue is in double difficulty of study and previous researches (Ebrahimi & et.al,2015) under the title of academic culture study(Khoshdaman & Ayati, 2013).Study of indicators of general culture of universities, Comparison of culture of teaching and learning in two generations of faculty members, (Mohammadi & et.al,2013) Prevalence of university culture by evaluating it from Elements and processes of knowledge management of faculty members, and finally (Amiri & et.al,2010)obtained that the "complexities of culture and its typology in higher education in the country have not yet been able to provide a coherent answer in this regard, and most importantly, the biggest intellectual concern of university administrators at this time is also demanded for a culture of quality in the university system". Therefore, research questions are presented in two parts: qualitative and quantitative:

Qualitative part: What factors are involved in establishing a quality culture?

Quantitative section: Is the quality culture model for establishment in Farhangian University valid and reliable?

### Research Methodology

Considering that the purpose of the present study is to study in depth the culture of quality in Farhangian University and to present and validate its native model to be established in the structure of quality assurance, its design has been a combination of designs and its method, considering that a model already exists And the researcher has been trying to discover this pattern, it is one of the consecutive heuristic (qualitative-quantitative) combined models and because it seeks to build a tool to measure the indicators of quality culture based on the data of the qualitative section, it is of the sequential heuristic type. Instrumentation (Creswell and Plano Clark, 2007). This research collects and analyzes data based on the research strategy of basic theory or theory based on data. Therefore, first the methodology and analysis of the qualitative part and then the methodology and analysis of the quantitative part are presented separately, and in the conclusion section, the results obtained in both sections will be integrated and presented.

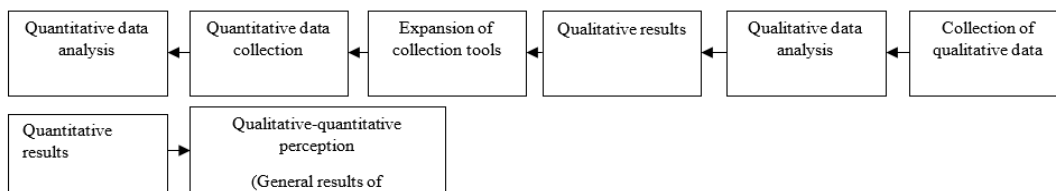


Figure 4. Flowchart of mixed research methods

The research method in the qualitative part is the data theory of the foundation, which seeks to create a theory, model and model (Sharmaz, 2007: 462) which is based on the systematic design of the data theory of the Strauss and Corbin Foundation.

Tools and Sample: In the present study, exploratory and semi-structured interview tools with key informants, note-taking and document review have been used. Sampling in this method has been purposeful and informants have been selected based on the specific objectives of the

research. Has found. Sampling and interviewing continued until the process of analysis and exploration reached theoretical saturation. Taking notes and reviewing documents in this research was the experience of attending the annual quality assessment conferences in universities (including two conferences in 2015 and 2016) and reviewing international articles (2006-2018) in this regard. The result of the analysis of these memoirs has been used in the final coding to name the categories and the final research model.

Exploratory interviews were conducted with 23 key informants. They have been selected from higher education subject matter specialists by purposive sampling using "theoretical saturation". Accordingly, key informants in three groups of subject matter specialists have been selected as follows: 1. Members Faculty (educational and research) who have had various researches in the subject field (academic quality assessment); 2. Experts in the evaluation of higher education; 3. Presidents or deputies of universities and institutions of higher education.

Validation or Acceptance Criterion: The validation of categories and their relationships, which is in fact the validation of the theory, is the most important part of the research activity in the data theory method of the foundation. In order to fulfill the fit criterion, the findings of the present study have been refined and approved by 4 experts in the field of quality assessment; the emerging theory was also presented to three participants and their complementary theories were received and applied. In order to fulfill the criteria of logic and depth of the problem, in the process of interviews and their analysis, an attempt has been made to have a proper order, continuity and sequence, and the findings obtained during the interview in detail, along with Details and according to its characteristics and dimensions should be given. Finally, to meet the criterion of citation notes; because the researcher in the process of analyzing the findings cannot remember all the topics, opinions, insights and statements, the use of notes is necessary. In this regard, the researcher has tried to cite the notes extracted from the data in the process of conducting and analyzing the interviews. In the quantitative part of the research, the initial structure of the questionnaire, which was compiled with 136 items, in the initial study (content validity) among five quality monitoring and evaluation experts at Farhangian University, 16 items were removed for similarity and overlap and 120 items in the final questionnaire was distributed among the statistical sample. Information obtained from the study of indicators of each of the dimensions and indicators of quality culture using the absolute value criteria of factor loads,  $t$  and  $R^2$  statistics, it should be said that all items have a suitable factor load (above 0.7) on the latent variable And these factor loads were significant at the level of 0.05 and 0.01. In other words, the value of  $t$  corresponding to each factor load is greater than its critical value (1.96) at the level of 0.05 and (2.58) at the level of 0.01. As a result, it can be said that these indicators had the necessary accuracy to measure their respective structures. To determine the reliability, the internal consistency method was used using Cranach's alpha to calculate the internal homogeneity. Cranach's alpha coefficients of dimensions and components of quality culture, which indicates high reliability of dimensions and components based on the number of factors extracted from factor analysis. According to the content validity results, the first and second order confirmatory factor analysis for the sample had a good fit.

## Result

In the early stages of open coding, each extracted concept was included in a category. In selecting the categories, the categories that had the most role in constructing meaning were considered. For this purpose, categories were selected that saturated the semantic load the most. Therefore, by examining the initial data, 784 concepts were obtained.

After open coding (first stage), in the second stage of open coding, similar and common concepts and categories were merged through constant comparisons of data, and identical categories with a common semantic load with emphasis on The frequency of concepts and categories was placed in the form of a single concept and category. Accordingly, the data set was

reduced to a limited number of general categories, at which point 120 concepts and 44 major categories were obtained.

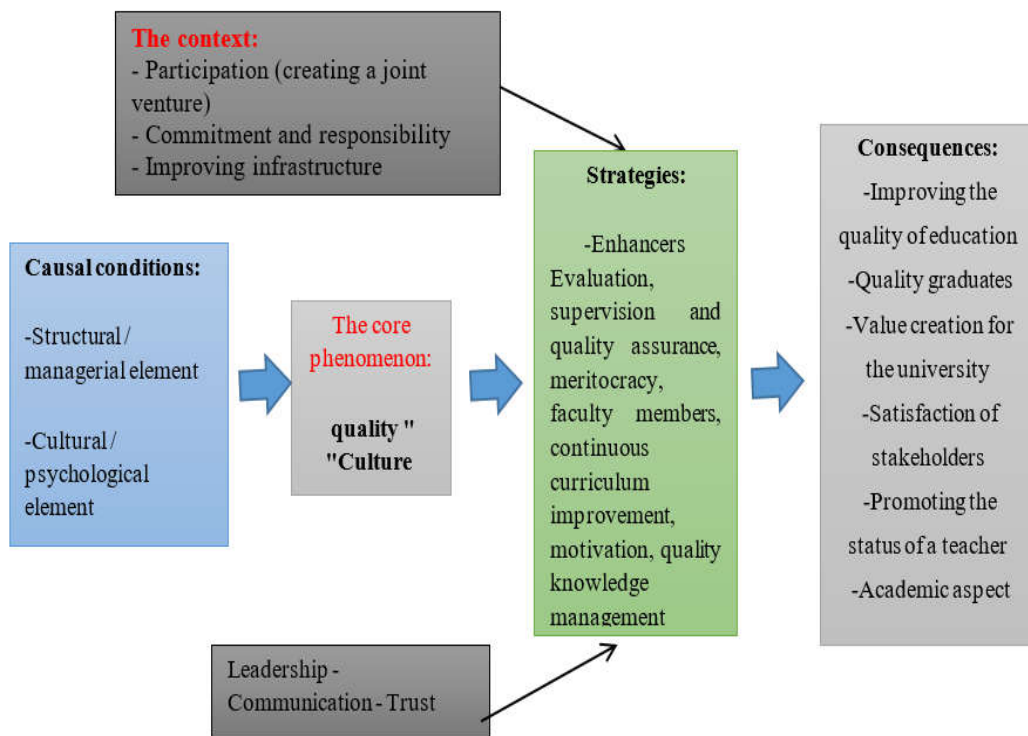
After identifying the main categories of the research, axial coding was performed. At this stage, in order to determine the theory, a logical order had to be established between the central categories. For this purpose, we once again compared the coding and merged them together in the form of categories that fit together. Finally, 10 core categories out of 44 major categories were obtained that formed around an axis to form a strong texture of relationships emerged, which is clearly visible in Table 1 and Figure 5.

**Table 1.** Final classification of major categories (reconstructed) into three dimensions: conditional, interactive / process and consequential

Category type	Axial categories	Major categories	Row
<b>Conditions</b>	<b>Structural / managerial elements</b>	Perspective (University Perspective); Specific policies and procedures; Physical facilities; Transparency; Accountability and the spirit of liquidity; Strategic management and planning; Organizational vitality; Academic independence	1
<b>Conditions</b>	<b>Cultural / psychological elements</b>	Common values and expectations; Missions and missions; Collective agreement; Belief in quality; Quality discourse; Quality intelligence; Attention to subcultures	2
<b>Conditions</b>	<b>Leadership</b>	Systemic attitude of academic leaders; Acceptance of academic leaders	3
<b>Conditions</b>	<b>connections</b>	International Relations; Extracurricular communications; Intra-university communication	4
<b>Conditions</b>	<b>The trust</b>	Joe with confidence; Individual trust	5
<b>Conditions</b>	<b>Commitment and responsibility</b>	Individual commitment; Team commitment; Organizational Commitment; Responsibility for quality	6
<b>Conditions</b>	<b>participation</b>	Involvement of intra-university factors; Student-teacher participation; Involvement of external stakeholders (especially education)	7
<b>Interactive</b>	<b>Empowerment</b>	Evaluation, monitoring and quality assurance, faculty members (professional, scientific and ethical competencies); Continuous curriculum and educational modification; Attention to meritocracy; Motivation (internal and external); Quality knowledge management (sharing, creating the right learning environment, knowledge production, knowledge application)	8
<b>Consequence</b>	<b>Results and outcomes of quality culture</b>	Value creation for the university; Improving the quality of education; Satisfaction of stakeholders; Quality graduates; Improving the status of a teacher; The status of the university system	9
<b>Conditions</b>	<b>Infrastructure reform</b>	Modification of structures; Improving the university infrastructure; Access to financial resources (budget)	10

As shown in Table 1, all major and core categories are categorized into conditional, interactive / process, and consequential categories.





**Figure 5.** The final model for establishing a culture of quality in Farhangian University of the country.

In the quantitative part, the descriptive-survey method is used. The purpose of this stage was to validate the quality culture model based on the factors affecting the establishment of quality culture in the quality stage. The present study population consisted of all faculty members (837 people) and non-faculty members (2586) in Farhangian University of the country. (From the division of the country approved by the Ministry of Interior in 2014, then, from each 5 region, two provinces were randomly selected, and from each province, a sister university campus and a brother's university campus were selected as the final sample (462 people (173 faculty members and 289 non-faculty members) were selected. The developed scale, the obtained tool (120-item closed-ended answer questionnaire with Likert scale measuring scale from 1 = strongly disagree to 5 = strongly agree) was from the qualitative data analysis section in The authority of the statistical sample was set electronically (Google forms) and sent via email to the e-mail addresses of faculty and non-faculty members after calculating the validity and reliability. The return coefficient of the questionnaire was 84% equal to 389 people. To analyze the data in order to evaluate the fit of the proposed model of confirmatory factor analysis and structural equation modeling technique using Smart PLS software (according to some categories with less items such as one-item or two-item) used.

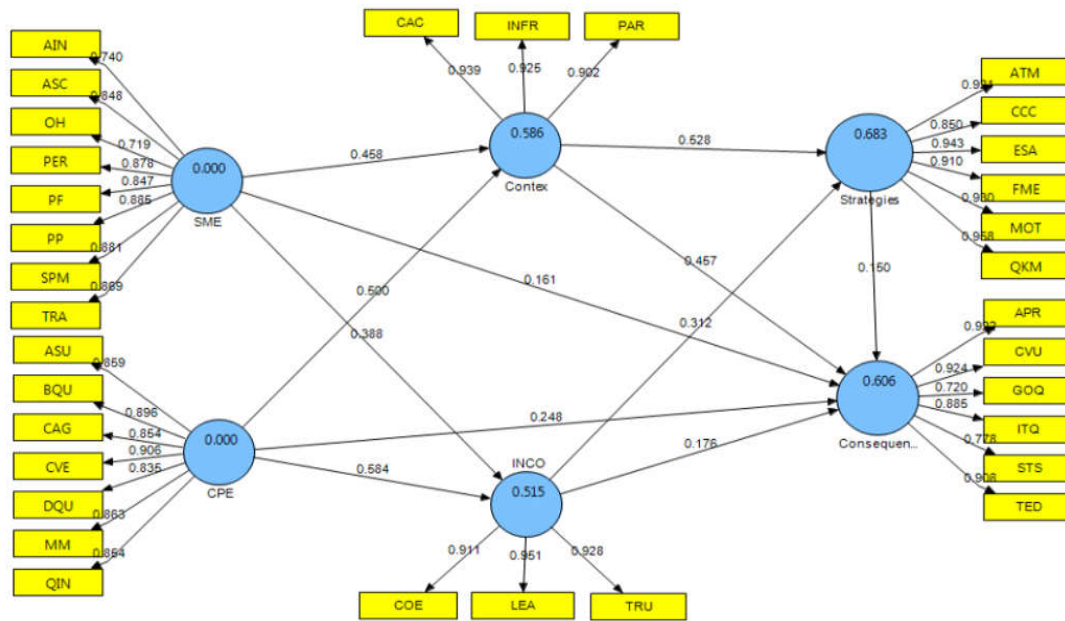


Figure 6. The final model for establishing a culture of quality in Farhangian University of the country.

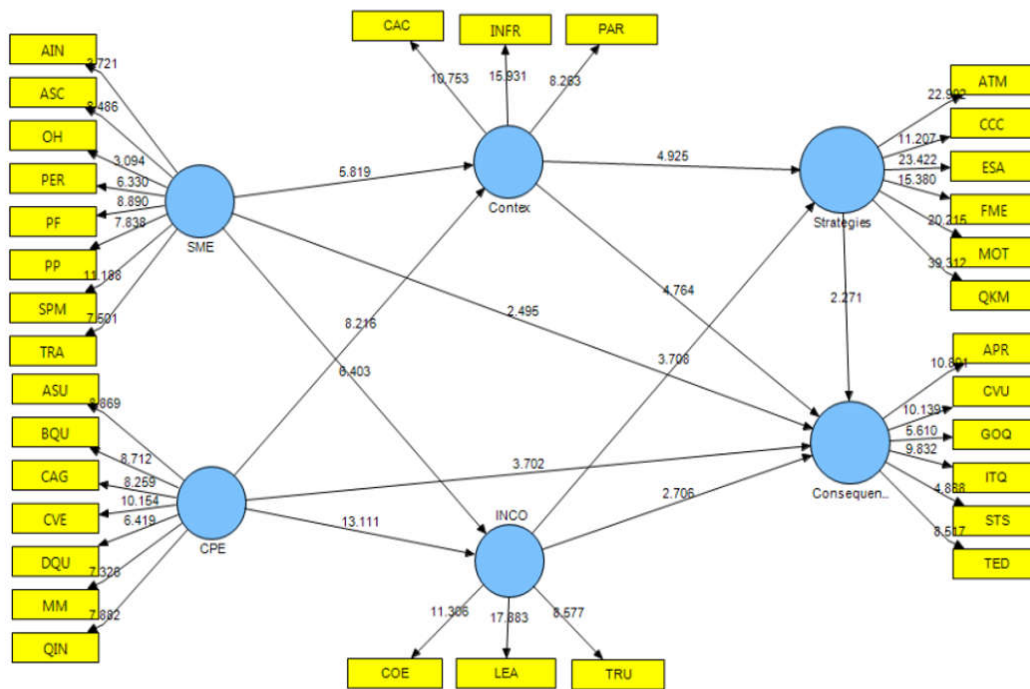


Figure 7. T- scores related to the test of the general research model

As Figure 7 shows, all straight path coefficients are significant at the 95% level. Also, all indirect effects are significant at 95% level.

**Table 2.** Path coefficients and t-scores related to the general model

<b>Direction</b>	<b>Direct Effect</b>	<b>Indirect Effect</b>	<b>Total Effects</b>	<b>T statistics</b>	<b>Result</b>
<b>CPE -&gt; Consequences Consequences ---&gt; Cultural / psychological element</b>	0.248	0.398	0.646	6.956	Confirm relationship
<b>CPE -&gt; Contex Underlying factors ---&gt; Cultural / psychological element</b>	0.500	---	0.500	8.216	Confirm relationship
<b>CPE -&gt; INCO Interfering factors ---&gt; Cultural / psychological element</b>	0.584	---	0.584	13.111	Confirm relationship
<b>Contex -&gt; Consequences Consequences ---&gt; Underlying factors</b>	0.457	0.079	0.536	7.273	Confirm relationship
<b>Contex -&gt; Strategies Strategies ---&gt; Underlying factors</b>	0.528	---	0.528	4.925	Confirm relationship
<b>INCO -&gt; Consequences Consequences ---&gt; Interfering factors</b>	0.176				Confirm relationship
<b>INCO -&gt; Strategies Strategies ---&gt; Interfering factors</b>	0.312	---	0.312	3.708	Confirm relationship
<b>SME -&gt; Consequences Consequences ---&gt; Structural / managerial element</b>	0.161	0.154	0.315	4.852	Confirm relationship
<b>SME -&gt; Contex Underlying factors ---&gt; Structural / managerial element</b>	0.458	---	0.458	5.819	Confirm relationship
<b>SME -&gt; INCO Interfering factors ---&gt; Structural / managerial element</b>	0.388	---	0.388	6.403	Confirm relationship
<b>Strategies -&gt; Consequences Consequences ---&gt; Strategies</b>	0.150	---	0.150	2.271	Confirm relationship

The basic criterion for evaluating endogenous latent variables in the path model is the coefficient of determination. This index shows what percentage of changes in endogenous variables are made by exogenous variables. The values of 0.19, 0.33 and 0.67 for the latent variables of endogenous (dependent) in the structural path model (internal) are described as weak, moderate and significant, respectively. However, if the endogenous latent variable is subject to a small number (one or two) of the exogenous variable, the mean values of the coefficient of determination are also acceptable. Table 3 presents the endogenous, exogenous variables and the corresponding coefficient values.

**Table 3.** Exogenous, endogenous and  $R^2$  variables

Endogenous variable	Relevant exogenous variables	$R^2$	Assessment
Underlying factors	Structural / managerial element, cultural / psychological element	0.586	medium
Interfering factors	Structural / managerial element, cultural / psychological element	0.515	medium
Strategies	Underlying factors, intervening factors	0.686	significant
consequences	Structural / managerial element, cultural / psychological element, contextual factors, intervening factors, strategies	0.606	medium

The quality of the structural model is calculated by the redundancy or cross-validity index (CV Red). The purpose of this index is to evaluate the ability of the structural model to predict by ignoring. The most famous and well-known measure of this ability  $Q^2$  is the Stone-Gaiser index, according to which the model should predict the indicators of the latent endogenous variables of reflection.  $Q^2$  Values above zero indicate that the observed values are well reconstructed and the model has the ability to predict. In other words, if all the values obtained for the CV Red index are positively reflective considering the endogenous latent variable, it can be said that the structural model is of good quality (Hensler et al., 2009). Regarding the intensity of predictive power about endogenous latent variables, three values of 0.02, 0.15 and 0.35 were introduced as weak, medium and strong values for this index, respectively.

**Table 4.** Predictive correlation index ( $Q^2$  Stone-Gaiser) for endogenous variables

Predictor exogenous variables	Predictable endogenous variable	Acetone-Gaiser rate $Q^2$	Ability to predict models
Structural / managerial element, cultural / psychological element	Underlying factors	0.457	Strong
Structural / managerial element, cultural / psychological element	Interfering factors	0.516	Strong
Underlying factors, intervening factors	Strategies	0.467	Strong
Structural / managerial element, cultural / psychological element, contextual factors, intervening factors, strategies	consequences	0.399	Strong

According to Table 4, the rate of  $Q^2$  is evaluated strongly for all endogenous variables. Therefore, it can be said that the studied structural model is of good quality and the observed values are well reconstructed and the studied model has a good predictive ability and can predict the endogenous latent variable.

## **Discussion**

In order to achieve the objectives of this research, the culture of quality as the main phenomenon (according to Figure 5) in the form of a logical (systematic) model and relying on its understanding with the conditions (causal, mediating and contextual), interactions / Actions and consequences were designed. That is, given this, what factors have influenced the culture of quality? Besides, what factors do they interact with? And what were the consequences of these interactions? Finally, each of these paths is evaluated, which is explained in the following model:

### **Causal conditions**

Causal conditions are those that lead directly to the focal category of quality culture and the source of university activity among the factors within the university and its stakeholders that is realized in the background of quality culture, namely; With structural / managerial elements and cultural / psychological elements and their connection with each other through leadership, communication and trust as intervening or mediating conditions and comprehensive participation and commitment and responsibility The staff of the university creates the conditions for synergy, the categories of which will be explained below.

### **The context**

The causal causes of the quality culture phenomenon are formed not in a vacuum, but in specific environmental conditions (substrates) and, as a result, explain the process of quality culture that requires knowledgeable, capable, committed staff and members with a sense of responsibility and shared ownership. The commitment and responsibility of the university stakeholders, as well as the reform of the university infrastructure (university budget and structural reforms), makes sense in the context of creating a platform for full participation.

### **Interfering conditions**

Interfering conditions are also conditions that affect how interactions and strategies are proposed. Based on the interviews and their analysis, the conditions of the intervention in this study include; the quality of leadership, communication and trust in the university is, if, these categories in the university are not of the required quality will propose the proposed strategies. Because, leadership commitment as the main drivers of quality culture development by influencing resource allocation, specifying and clarifying plans and responsibilities, creating participation and empowering people and managing processes, especially academic leaders at the level of The group or department influences the development of quality culture by creating an atmosphere of mutual trust and understanding, and it should be said that in order to improve and develop the quality culture, appropriate communication channels should be created through leadership The same quality improvement in higher education is the end.

### **Agency and action (strategies)**

As can be seen in Figure 4, from the point of view of the interviewees, although the phenomenon of quality culture in the university is caused by causal factors and under the influence of contextual and intervening conditions, but in the meantime the role of human agency and actors should not be ignored. They can facilitate this process with their interventions and strategies (Faraskhah, 2008). Phenomena for the present study Strategies such as; Establishment of evaluation, monitoring and quality assurance structure, attracting faculty members (with professional, scientific and ethical competency characteristics); Continuous curriculum and educational modification; Attention to meritocracy; Motivation (internal and external); Knowledge management considers quality important and fundamental. In the context of these strategies, it should be said that the quality assessment, monitoring and assurance body as a supportive, not formal institution can have the highest impact on the formation of quality culture in the long run, because the internal quality assurance system as part of the culture Quality is considered in higher education institutions and external quality assurance (with the aim of accountability) is considered

as an external factor affecting the development of quality culture. In general, external quality assurance in order to balance the two areas of accountability and the obligation to comply with standards and create a sense of responsibility of members' professions and also strengthen the university culture through the role of empowerment as a controlling factor.

#### Outcomes, Consequences and Results

Actions (actions) and reactions (reactions) that take place in the face or to manage and control the phenomenon, will have consequences. According to Figure 4, the implications for achieving a quality culture of value creation for the university, improving the quality of education, satisfaction of all stakeholders, quality graduates, promoting teacher status, and ultimately the status of the university system. According to the coded codes, if the culture of quality is disseminated and institutionalized, quality improvement in general and value creation of the university in the society will be achieved.

Quantitative results of the study also showed that all direct and indirect path coefficients were significant at 95% level. Based on the coefficient of determination, which is the basic criterion for evaluating endogenous latent variables in the path model, underlying factors (participatory atmosphere, individual and collective responsibility and commitment, structural reform) and interventionist (leadership, communication and trust) have had a significant impact on strategies and in other directions this effect has been moderate, which are in line with the findings of (Saepudin & et.al, 2021, Bendermacher & et.al, 2016, Chong, 2014, Veiga & et.al, 2014, European University Association, 2003). Each of these studies in their model has recognized the importance of leadership in providing communication based on individual and organizational trust, which have been more involved as intervening conditions. In this model, causal conditions have directly affected the focal category of quality culture and the source of university activity has been among the causal factors that are realized in the antecedent of quality culture; that's mean; Structural / managerial elements and cultural / psychological elements and their connection with each other through leadership, communication and trust as intervening or mediating conditions and comprehensive participation and commitment and responsibility of employees. The university finds meaning as the contextual context of quality culture. This finding is most consistent with the results of studies and reports of the European University Association (2006; 2010; 2012).

#### Conclusion

In promoting the establishment of quality culture, respectively; Motivation, quality knowledge management, attention to meritocracy, faculty members, evaluation, monitoring and quality assurance, and continuous curriculum improvement have played the highest role. It can be concluded that there are three factors of quality culture mechanisms; Creating and developing internal and external motivation in the university, quality knowledge management, paying attention to meritocracy in attracting students and faculty and non-faculty staff, respectively, should be considered as the process role of establishing quality culture in Farhangian University. This finding is consistent with the results of studies and reports by the European University Association (2006; 2010; 2012) and research by (Veiga & et.al, 2014, Cardoso & et.al, 2013) is consistent. These strategies have also led to the results of quality culture which are the same consequences (academic reputation and quality graduates, etc.).

In reviewing and explaining the details of the final model (validated), it should be said that the final model of the research shows that among the causal factors (structural / managerial elements), the policies and procedures of the university (0.885) have the most organizational role and vitality. (0.719) has had the least role as a precondition for the establishment of quality culture in Farhangian University. Among the causal factors (cultural / psychological elements), the most important role was played by common values and expectations (0.906) and the lowest role was played by quality discourse (0.835). Due to the influence of causal factors, among the strategies

(quality culture mechanisms), attention to meritocracy (0.991) had the most impact and curriculum modification (0.850) had the least role? In order to implement the establishment of quality culture in the university, which required basic strategies, among the background conditions for the crystallization of quality culture, commitment and responsibility (0.939) had the highest level of attention from the respondents and participation (0.902) had the lowest role. . In addition to the contextual conditions, interventionist conditions have also been effective in the implementation of strategies that among the intervention factors, the highest role was played by the element of academic leadership (0.951) and the lowest role was played by the element of communication (0.911). Finally, since the culture of quality leads to certain results, based on the findings and the final model among the results and outcomes extracted, the academic reputation (0.992) in the first place and quality graduates (0.720) in the last degree has been considered by the respondents.

Also, in examining the quality of the structural model by the redundancy or cross-validity index (CV Red), the results showed that the structural model was of good (strong) quality. On this basis, it can be said that the studied structural model based on the underlying theory is of good quality in the qualitative part and the observed values are well reconstructed and the studied model has a good predictive ability and can – can predict endogenous latent variable. In general, it can be concluded that improving quality and guiding it from the beginning to the stage of quality realization requires the dissemination and establishment of quality culture mechanisms in Farhangian University. Therefore, in order to understand the culture of quality and identify the factors affecting this phenomenon, the three basic categories of quality culture in the university, including; Prerequisites (for the dissemination and development of quality culture), processes (through enablers) and outcomes (for solving the problem of continuous quality improvement) should be considered. It should be acknowledged that Farhangian University, by moving towards this model, can witness a fundamental change to improve quality, which requires the establishment of a culture of quality based on the factors affecting this structure. In terms of findings, suggestions can be made on two basic bases, which are mentioned below.

In order to infer more in order to implement this model, it is possible to make more comparative studies and implement modeling from the experiences of other countries, especially European universities, to further reform this model in order to establish a culture of quality. Studying the results of this research by policy makers and decision makers of Farhangian University can provide a framework for them to be able to take basic steps to establish a culture of quality in the university.

Policymakers and decision makers of Farhangian University (Board of Trustees and University Board) can play their legal role in amending or developing new guidelines for the findings of this study to pave the way for the establishment of a culture of quality.

University administrators in the central organization and university campuses and affiliated centers to put quality policies and procedures in the university (quality charter) with the existing strategic plan to establish a culture of quality in the university.

In order to establish, spread and consistency of quality culture, university administrators with re-engineering can provide quality context and practical context for quality culture in the reconstruction of old university structures in order to pay attention to the inspiring elements in this research by collective agreement and belief in quality.

Reviewing and formulating the policies and procedures of Farhangian University in accordance with the idea of quality culture in improving the quality of the administrative-managerial structure.

Re - engineering the perspectives, strategic plan, appropriate university rules and regulations in order to establish a quality assurance system; that the result of this re-engineering will lead to the establishment and consistency of quality culture.

Paying attention to the meritocracy system in selecting faculty and non-faculty staff, university

students and teachers.

Adopt policies to reform structures (hardware and software) to solve university problems;

Implementation of various programs and actions by the responsible persons and the main managers of establishing a quality culture in order to raise awareness of the university's human resources, especially faculty members.

Establishment of a mechanism to identify diligent (contributing) people for the design of quality; discourse in the university.

Laying the groundwork for creating appropriate strategies to institutionalize quality discourse;

Review the structure of university quality assurance (Office of Supervision, Evaluation and Quality Assurance) and create competition between university campuses in different provinces with the aim of building a common understanding in understanding the continuous improvement of quality.

Because structural / managerial elements and cultural / psychological elements in contextual conditions (participation, commitment and responsibility and infrastructure reform) and facilitator (leadership quality, appropriate communication channels and organizational trust) lead to appropriate strategies (mechanisms) neglecting one of the elements may cause quality culture executive problems.

In addition to suggestions for policy and action, a number of reasons hindering the establishment of a quality culture in Farhangian University from the perspective of the interviewees have been obtained, some of which are mentioned here:

Non-alignment of the Vice Chancellor for Supervision, Evaluation and Quality Assurance of the University with the Vice Chancellors of the University in such a way that the policies of this Vice Chancellor are typically opposed or at least ignored; that is, a kind of conservative coexistence is formed between the other deputies in relation to this deputy.

Lack of appropriate facilities and infrastructure in the university, routine (daily) activities and superficial involvement of monitoring and evaluation experts instead of deep and thoughtful activities in order to continuously improve the quality by presenting quality plans and programs to different areas of the university.

The psychological impact of the structure (facing the limitations of decision-making in correct evaluation) Monitoring and evaluation Instead of supportive supervision among university staff, it is considered a symbol of inspection and scrutiny.

## References

- [1] Abbasi, M. Shirepaz Arani, Ali. (2011). "Quality Policy Higher Education: Challenges and Prospects", the fifth conference "Quality Assessment in the University System", Venue: University of Tehran (Campus of Technical Colleges). [In Persian].
- [2] Amin Allah-Tojjar, H. (2014). "Study of the findings of an international study and provide a solution to create and maintain a quality culture", *Quality Control Monthly (Special Organizational Culture)*, Vol. 67, pp. 27-22. (Available: [www.qcmagazine.ir](http://www.qcmagazine.ir)). [In Persian].
- [3] Amiri, A, Zarei Matin, H, Zolfagharzadeh, M. (2010). "Complexities of culture and typology of its studies in higher education (transtheoretical and conceptual framework)", *Culture Strategy*, No. 10 and 11, Summer and Autumn, 7 -40. [In Persian].
- [4] Arani, A, Sharifi Bidgoli, H. (2012). "Quality Policy Instruments for Higher Education in the World and Iran", *Bi-Quarterly Journal of Management at Islamic University*, No. 1, Volume 4, pp. 687-709. [In Persian].
- [5] Barbulescu, A. (2015). « Quality Culture in the Romanian Higher Education», *Procedia - Social and Behavioral Sciences*, 191,1923 – 1927. (Available online at [www.sciencedirect.com](http://www.sciencedirect.com))
- [6] Bazargan, A. (2011). "Quality culture and its role in achieving the desired performance of universities", *Iranian Journal of Engineering Education*, 13th year, No. 50, Summer, pp. 72-



- 63.
- [7] Bazargan, A, Ishaghi, F. (2008). "Analysis of the goal setting process in the internal evaluation of the quality of academic departments: a case study", *Educational and Psychological Studies of Ferdowsi University*, Volume 9, Issue 1, pp. 57-72. [In Persian].
- [8] Bendermacher, G. W. G.; oude Egbrink, M. G. A.; Wolfhagen, I. H. A. P.; & Dolmans, D. H. J. M. (2016) « Unravelling quality culture in higher education: a realist review», *High Educ.* published with open access at Springerlink.com (DOI 10.1007/s10734-015-9979-2).
- [9] Berings, D. (2010) « Quality culture in higher education: from theory to practice», *Proceedings of the Fifth European Quality Assurance Forum (EQUAF) of the European University, Lyon, France.*
- [10] Cardoso, S.; Rosa, M. J. & Santos, C.S. (2013) « Different academics' characteristics, different perceptions on quality assessment? », *Quality Assurance in Education*, Vol. 21 Iss: 1, pp.96 – 117.(<http://dx.doi.org/10.1108/09684881311293089>)
- [11] Charmaz, K. (2007) « Reconstructing grounded theory. In L. Bickman, P. Alasuutari, & J. Brannen», (Eds.), *Handbook of social research*, (pp. 461–478). London:Sage.
- [12] Chindler, L., Puls-Elvidge, S., Welzant, H., & Crawford, L. (2015) « Definitions of quality in higher education: A synthesis of the literature», *Higher Learning Research Communications*, 5(3), 3-13.
- [13] Chong, S. (2014). « Academic quality management in teacher education: a Singapore perspective», *Quality Assurance in Education*, 22 (1), 53 – 64.
- [14] Dellanaa, Scott A. & Hausera, Richard D.(1999). *Toward Defining the Quality Culture*, *Engineering Management Journal*, 11(2), 11-15.
- [15] Ebrahimi, R, Adli, F, Mehran, G. (2015). "The role of university culture on knowledge creation from the perspective of experts in higher education", *Quarterly Journal of Research and Planning in Higher Education*, Volume 21, Number 1, pp. 151-127. [In Persian].
- [16] Ehlers, U.-D, Schneckenberg, D. (2010) *Changing Cultures in Higher Education*. Springer. Heidelberg, New York.
- [17] Ehlers, Ulf. D. (2009) « Understanding quality culture», *Quality Assurance in Education*, 17 (4), 343 – 363.( <http://dx.doi.org/10.1108/09684880910992322>)
- [18] Ehlers, Ulf-Daniel (2011) « Discovering the Unknown Territory—How to Move from Control to Culture in Higher Education Quality», *Baden-Wurttemberg Corporative State University, Germany* [Online [www.qualityresources.pbworks.com](http://www.qualityresources.pbworks.com). 17th June 2015].
- [19] EUA. (2006) « Quality Culture in European Universities: a Bottom-up approach », ([http://www.eua.be/eua/jsp/en/upload/Quality\\_Culture\\_2002\\_2003.1150459570109.pdf](http://www.eua.be/eua/jsp/en/upload/Quality_Culture_2002_2003.1150459570109.pdf))
- [20] EUA. (2007) « embedding edding Quality Culture in higher education », *A S E LECT ION OF PAPERS FROM THE 1ST EUROPEAN FORUM FOR QUALITY ASSURANCE*, A free electronic version of this report is available through [www.eua.be](http://www.eua.be).
- [21] European University Association (2003) *Graz Declaration — Strengthening the Role of Institutions*, (Brussels, EUA).
- [22] Faraskhah, M. (2015). "In Invisible Manual Search for the Quality of Higher Education", Paper presented at the Second National Conference and the Ninth National Conference on Quality Assessment of University Systems, Tehran: Farhangian University, 23 May. [In Persian].
- [23] Farastkhah, M. (2006). "Scientific ethics is the key to promoting higher education", *Quarterly Journal of Ethics in Science and Technology*, No. 1, winter, 13-27. [In Persian].
- [24] Farastkhah, M. (2008). "Future thinking about the quality of higher education in Iran; A Model Based on Basic Theory (GT)", *Quarterly Journal of Research and Planning in Higher Education*, Vol. 50, pp. 67-95. [In Persian].
- [25] Farastkhah, M. (2009). "Study of the current and favorable situation of evaluation of the scientific system in Iran with emphasis on higher education", *Quarterly Journal of Science*

- and Technology Policy, First Year, Vol. 2, pp. 43-58. [In Persian].
- [26] Fazeli, N. (2003). "Comparative study of Iranian and British university culture (an anthropological study on the causes of inefficiency of university education in Iran)", *Anthropology Letter*, Volume I, Issue 3, spring and summer, pp. 93 – 132. [In Persian].
- [27] Ghaffari, F, Jafari, P. Amir Mohammadi, A. (2011). "Comparison of the study of the relationship between service quality and customer satisfaction in the banking industry: a comparative model of traditional and electronic services", *Iranian Journal of Management Sciences*, 6 (24), 41-66. [In Persian].
- [28] Ghoorchian, N, Shahrakipour, H. (2010). "Study of higher education evaluation systems in the world in order to provide a suitable model for higher education in the country", *Journal of Management Research*, No. 85, pp. 1-19. [In Persian].
- [29] Gu, P., & Tang, G. (2022, January). Research on the Influencing Factors of Enterprise Quality Culture System Construction. In 4th International Seminar on Education Research and Social Science (ISERSS 2021) (pp. 263-267). Atlantis Press.
- [30] Harvey, L. & Green, D. (1993). "Defining Quality », *Assessment & Evaluation in Higher Education*", 18, 3–94.
- [31] Harvey, L. & Stensaker, B. (2008). "Quality Culture: understandings, boundaries and linkages", *European Journal of Education*, 43(4), 427–442.
- [32] Hayrinen Alestalo, M & U. Peltola. (2006) « The Problem of a Market-oriented University», *Higher Education*, 52, 251-281.
- [33] Khoshdaman, S, Ayati, M. (2013). "Comparison of teaching and learning culture in two generations of faculty members of Birjand University from the perspective of the role of professor", *Quarterly Journal of Khorasan Socio-Cultural Studies*, Winter, Vol. 26, pp. 108-85. [In Persian].
- [34] Kottmann, A.; Huisman J.; Brockerhoff, L.; Cremonini, L. & Mampaey, J. (2016) How Can One Create a Culture for Quality Enhancement? , Final Report, Center for Higher Education Policy Studies.(<http://www.nokut.no>)
- [35] Mardukh Rouhani, E. (2015). "Higher Education Policy in Iran after the 1979 Revolution", *Third National Conference on Sociology and Social Sciences*, Tehran, Narkish Information Institute, [https://www.civilica.com/Paper-SOCIOCONF03 -SOCIOCONF03\\_007.html](https://www.civilica.com/Paper-SOCIOCONF03 -SOCIOCONF03_007.html). [In Persian].
- [36] Mohammadi, M; Nazem Nezhad, N; Oji, A and Ismaili, A. (2013) "Presenting an Explanatory Model of Students' Perception of the Prevalence of University Culture by Assessing Their Elements and Knowledge Management Processes of Shiraz University Faculty Members", *Journal of Humanities Research*, Vol. 14, No. 33, spring and summer, pp. 68-43. [In Persian].
- [37] Mosadegh Rad, A. M. (2006) « The impact of organizational culture on the successful implementation of total quality management », *The TQM Magazine*, 10; 18(6):606-625. (DOI: 10.1108/09544780610707101)
- [38] Ntim, S. (2014) « Embedding quality culture in higher education in Ghana: quality control and assessment in emerging private universities », *Higher Education*, 68(6), 837-849.
- [39] Pavel, A.P. (2014) « Quality Culture - A Key Issue for Romanian Higher Education», *Procedia - Social and Behavioral Sciences*, 116, 3805 – 3810. (Available online at [www.sciencedirect.com](http://www.sciencedirect.com))
- [40] Saepudin, D., Sa'ud, U. S., Lutfia, A., & Sabban, I. (2021, February). Quality Culture of Education: Commitment of Leaders in Building a Quality Culture of Education in Higher Tourism Education. In 4th International Conference on Research of Educational Administration and Management (ICREAM 2020) (pp. 212-215). Atlantis Press.
- [41] SeyyedKalene, Seyyed M; Ayari, L; Ahmadi, H. (2015). "Quality Assessment of University Unit Components (Case Study: University Units in Deprived Areas of Ardabil Province)",

- Paper presented at the Second National Conference and the Ninth National Conference on Quality Assessment of University Systems, Tehran: Farhangian University, 23 May. [In Persian].
- [42] Stoyka, A., & Dragomirova, I. (2019). The Establishment of Quality Culture in Higher Education.
- [43] Sumaedi, S.; Yuda Bakti, G.M. & Metasari, N. (2012) « An empirical study of state university students' perceived service quality », *Quality Assurance in Education*, Vol. 20 Iss: 2, pp.164 – 183. ( <http://dx.doi.org/10.1108/09684881211219424>)
- [44] Tabresa, Gholam Ali; Hassanvand Mofrad, Mehdi and Arefnezhad, Mohsen (2012) "Analysis and ranking of factors affecting the improvement of educational quality (Case study: University of Isfahan)", *Quarterly Journal of Interdisciplinary Studies in Humanities*, Volume 4, Number 4 , Fall, pp. 74-51.
- [45] Valimaa, J. (2008) « Cultural Studies in Higher Education Research », In J. Välimaa & O.-H. Ylijoki (Eds.), *Cultural Perspectives on Higher Education*, 9-25. Netherlands: Springer.
- [46] Veiga, A., Rosa J.M. , Cardoso, S. & Amaral, A. (2014) « Ascribing meaning to quality cultures in the Portuguese context », *Quality Assurance in Education*, 22 (3), 255 – 272.( <http://dx.doi.org/10.1108/QAE-05-2013-0020>)
- [47] Venkatraman, S. (2007) « A framework for implementing TQM in higher education programs », *Quality Assurance in Education*, Vol. 15 Iss: 1, pp.92 – 112.( <http://dx.doi.org/10.1108/09684880710723052>)
- [48] Vilcea, M.A.(2014) « Quality Culture In Universities And Influences On Formal And Non-Formal Education », *Procedia - Social and Behavioral Sciences*, 163, 148 – 152. ( Available online at [www.sciencedirect.com](http://www.sciencedirect.com))
- [49] Vlasceanu, L.; Grunberg, L. & Parlea, D. (2004) « Quality Assurance and Accreditation:A Glossary of Basic Terms and Definitions », (Bucharest, UNESCOPEPES) *Papers on Higher Education*.
- [50] Yazdkhasti, A, Rajaeipour, S. (2009). *Organizational culture and total quality management in higher education*, Isfahan: Kankash Publications, first edition.

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