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Validating An Evaluation Model for Quality Assurance Of High Schools Education

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ABSTRACT

The main objective of this study was to design and validate an evaluation model to ensure the quality of education in Iranian secondary schools. This research is applied in nature, and its statistical population included all teachers, principals, and vice-principals of lower and upper secondary schools across the country, totaling approximately 13,500 individuals. Using Cochran's formula, the sample size was determined to be 447 participants, selected through simple random sampling. Data were collected using a researcher-made questionnaire consisting of 66 items, designed based on a five-point Likert scale. Quantitative data were analyzed through structural equation modeling (SEM) using Smart-PLS software. The analysis results indicated that the proposed model demonstrated acceptable convergent validity, discriminant validity, and reliability. Furthermore, twelve key factors were identified in the final model, including educational quality assurance, facilities and equipment, secondary education objectives, curriculum, educational productivity, academic satisfaction, teaching methods, teachers' behavioral and instructional competencies, organizational factors, instructional content, financial issues, and the needs and expectations of stakeholders. The final findings suggest that the proposed model can serve as a localized framework for evaluating and improving the quality of education in Iranian secondary schools.

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Introduction

In recent years, there has been a rise in public awareness about the management of education from the many difficulties of global sustainability, and the majority of individuals have a thorough comprehension of it but do not apply it. According to Zimkund, "management research is a methodical and objective procedure for gathering, classifying, and evaluating data to assist in the formulation of corporate objectives." According to VP, "management research is a methodical investigation into managerial or commercial challenges that might develop management tools for problem resolution and decision making." Michael (Kunwar Santosh 2021).

Participation in large-scale international evaluations allows education systems to compare and learn from one another; the findings are used to enhance the quality of education. However, to understand the findings, it is necessary to account for the diverse and perhaps unique combinations of contextual and explanatory aspects of antecedents that also play a role. (Koršňáková and Daniels 2022) Product quality education can be seen from the acquisition of values or numbers achieved, as shown in the results of tests and exams. Schools are considered quality if the students mostly obtain high scores or numbers to continue to a higher level (Gustini and Mauly 2019).

The quality of primary and secondary education is the degree to which the implementation of primary and secondary education in schools conforms to the National Standards for Education. Unless supported by quality assurance education by schools, the quality of education in schools is unlikely to increase. Primary and secondary education quality assurance is a systematic, comprehensive, and ongoing procedure that ensures the whole process of delivering education adheres to set quality standards and regulations (Alina 2019). The primary and secondary education quality assurance system is established so that quality assurance may operate effectively at all primary and secondary school administration levels. Primary and secondary education's quality assurance system consists of the Internal Quality Assurance System and the External Quality Assurance System. The External Quality Assurance System is a quality assurance system established by the federal government, state and municipal governments, accrediting bodies, and education standardizing organizations (Hall Guarantee Quality Education (BPMP) DKI Jakarta 2017).

Internal quality assurance is done in accordance with national education standards to further national education goals. Internal quality is being used not just in universities but also in elementary and secondary education. To provide and drive greater quality assurance and fulfil educational quality requirements in elementary and secondary education institutions (Gustini and Mauly 2019). Internal quality assurance is done in accordance with national education standards to advance national education goals. Internal quality is increasingly implemented not just in colleges and universities but also in elementary and secondary education. To better ensure and direct the assurance of quality and achievement of educational quality standards in primary and secondary schools (Hall Guarantee Quality Education (BPMP) DKI Jakarta 2017)

The quality assurance system is based on several measurements of activities connected to creating outputs in the form of services in the field of education. Continuous focus on each phase of the work process is required to decrease the variety of service outcomes and fix their deficiencies. The primary objective of a quality assurance system is a dependable process in the sense that it can offer the intended service without deviation at any moment. In addition, as an organic system, the quality assurance process in educational institutions must include all aspects, including administrators, instructors, students, and their parents. Institutions of higher education are at the forefront of enhancing the quality of education. The community is expected to participate in understanding education better, and students' parents are partners in enhancing quality. At the same time, the central government determines the fundamental framework of education policy to increase the quality of educational institutions (Rosadi 2020).

Even though the design of quality assurance mechanisms (tools, procedures, and actors) differs across national settings, their overarching objective is to enhance teaching and learning to support schools and teaching-learning processes. Internal and external vertical and horizontal responsibility are supported

and balanced by the processes of a well-functioning system. Adapting to the evolving requirements of students is facilitated through quality assurance that emphasizes growth. To promote quality, equality, and efficiency, the emphasis is not just on improvement but also on innovation –the invention or experimental testing of techniques in various situations. In order to better accommodate system-wide input and decision-making requirements, quality assurance strategies may need to be modified over time.

Development-focused quality assurance enables schools to adapt to the changing requirements of students. The emphasis is not just on improvement but also on innovation, which is the invention or experimental testing of techniques to enhance quality, equality, and efficiency in varied situations. Over time, the quality assurance strategy may need to be modified to suit better the requirements of system-wide decision-making (European Commission 2020). Internal and external assessments are necessary for schools to sustain and enhance student performance, leadership, and development. By pursuing the highest assurance standards, the school will guarantee that all workers and students support inclusive training and education of the best quality. Numerous nations are involved in current or recent changes, such as the widespread implementation of quality assurance procedures, the introduction of special measures, the adoption of national frameworks, and the legal inclusion of PISA outcomes. To increase their technical skills in numerous disciplines, guaranteeing the quality of education is deemed essential (European Commission 2020).

Furthermore, as a key part of communication and information technology, education plays a vital role. Consequently, managers have a greater need to monitor the situation in order to boost production. The Internet of Things is regarded as an excellent infrastructure technology and is a component of one of their new initiatives. Every institution of education has rules. Education administrators who do not follow the regulations are accountable for many administrative issues (Mohammadian 2019).

Iran's education has faced many challenges and issues in the last two decades. Quantitative expansion of schools, multiplicity of diverse educational institutions, increase in the number of students, and sometimes the existence of a large number of unemployed educated people are among the challenges that Iran's education system has faced with many problems. Quantitative expansion of the education system, considering the existing capacities and the economic, social and cultural context of the society, will lead to a decrease in the quality of the education system. In fact, the quantitative expansion and increase in the number of students and graduates cannot be considered as a proof of the existence of the desired quality. These challenges have necessarily led to responsibility and accountability in Iran's education system and forced the school system to rethink its structure, mission, goals, functions and processes. Since schools are among the most important institutions that communities need for growth and development; Transparency of accountability, quality improvement in them is mandatory. Performance management, as a new management attitude, plays an essential role in directing and combining quality components in the organization and plays a favorable and effective way on the quality management process. It is clear that the existence of a good performance management process in Iran's educational institutions will lead to their quality improvement. Performance management in educational institutions pays attention to the performance of students, graduates, teachers, managers, and factors affecting their quality, and evaluates the quality components of organizations in a favorable manner and uses its results to improve weaknesses and strengthen strengths. Just as performance management plays an essential role in directing and combining quality components in the organization, qualitative evaluation of organizations can also provide useful guidelines for improving the performance management process in the organization.

Quality improvement requires quality assessment, and this is completely objective and evident in all organizations, including industrial, commercial and educational organizations. Industrial and commercial organizations are forced to improve quality due to various competitive commercial reasons and consumer satisfaction. It is obligatory and necessary to implement continuous quality improvement strategies in such organizations; But these organizations have many differences with educational organizations, especially educational institutions, on the one hand, in

educational institutions, unlike industrial and commercial organizations, production is not tangible, and there is no specific consumer in such organizations. These cases have faced problems in the definition of evaluation and quality assurance. In any case, qualitative assessment is one of the most important requirements of organizations, and educational institutions are no exception to this (Shaabani et al., 2016).

Nowadays, efforts to improve education have become necessary, and during the last two decades, attention has been paid to schools that have failed to achieve successful performance in consecutive years and their students have left a low performance in terms of education and training (Biokland et al., 2022; Meyer et al., 2021); But on the surface, the reasons for the ineffectiveness of schools are only related to education and its quality, while there are many problems at the student, class and school level, problems of society and the government have been factors that have severely affected the quality of education, more specifically, problems Student behavior, high student turnover, low levels of teacher qualifications (Ovidwanger, 2020), low degree of academic cooperation between teachers (Podgronik and Ogorink, 2017), inadequate facilities, lack of school management and leadership, government policies (Lewi, 2019) and lack of funding. Education (Molyani and Yanto, 2020) all indicate that ensuring the quality of education in schools is a multifaceted category that depends on various factors and can be checked from various aspects.

Mishra and Sandilla (2009: 141) define quality assurance as "all planned and systematic actions required to provide adequate assurance about the quality of the service provided". When we transfer the concept of quality assurance from business management to the field of education, it is almost impossible to find a complete and comprehensive definition, because the educational process is very complex and multidimensional. Irudik (2015) provides a comprehensive definition of quality assurance from an educational perspective as follows: "Quality assurance in education is a set of policies, procedures and actions that are designed to achieve, maintain or increase quality in specific educational areas and rely on the evaluation process. " Our understanding of "evaluation" is the general process and systematic and critical analysis of a specific issue that includes a collection of interrelated data and leads to judgments or suggestions for quality improvement. Evaluation can focus on different subjects: schools, school principals, teachers and other educational staff, programs, local authorities or the functioning of the entire education system. In practice, quality assurance measures are part of the school's operational processes, which are interconnected and continuous; Such as accountability, school development planning, school improvement, school self-evaluation and external evaluation (Polis, 2018). The process of quality assurance involves the ability of teachers and other internal stakeholders to interact and participate in the development of quality, a wide range of educational programs and causes a change in participation in the improvement of educational quality (Lukander and Christerson, 2020). Ensuring the quality of education and the continuous development of educational systems in order to develop the learning of learners according to quality standards can lead to the improvement of the curriculum and meeting the expectations of the society from the knowledge, ability, skills, attitude and characteristics of students (Pomfunkhochasorn, 2020).

Many countries have localized the quality assurance model according to their conditions and some have borrowed the models of other leading countries. The experience of Turkey shows that borrowing the model of quality assurance, regardless of the institutional, political, cultural and economic differences between different societies, will not always lead to success (Bling, 2004). According to these experiences, it can be said that the localization and development of the quality assurance model according to the conditions of each country is a suitable solution for the structuring of quality assurance.

Pahang et al. (2016) in research titled "Investigating the quality of schools and identifying the factors affecting it: with the aim of identifying the factors affecting the quality of schools from the point of view of education experts, investigated the status of the quality of schools from the point of view of students. and the results of 10 main categories and 25

subcategories were calculated, which are: 1- environmental factors, 2- teacher characteristics, 3- facilities and equipment, 4- school principal, 5- student characteristics, 6 - human relations, 7- family, 8- educational goals and teaching content, 9- resources, 10- teaching method; And he found the following results that the current average of the quality of schools is significantly higher than the average of the society and is in a favorable condition. The two factors of facilities and equipment and the factor of educational goals and teaching content were lower than the community average and unfavorable.

Farahini Farahani et al. (2012) in research titled "Design and Validation of Quality Evaluation Criteria and Indicators for Secondary School Students (Case Study: Schools in Kohgiluyeh and Boyer Ahmad Provinces)" with the aim of designing criteria and indicators. Quality evaluations of secondary school students (case study: schools in Kohgiluyeh and Boyer Ahmad provinces) have been carried out. The results show that among the student evaluation criteria, the criterion of "students' interaction with teachers" has the highest score with a score of (4.3) and the criterion of "students' interest and awareness of the field of study" Self" with a score of (3.91) has the lowest scoring rate; And in general, the average score of all students' criteria is (4.2), so it has a level of "high" desirability.

Javadi (2008) in research "necessities and how to create a quality assurance system in education" defined the terms related to quality assurance in education. Then, after examining the objectives of quality assurance in education, the history of the subject, how to create a quality assurance system, major approaches to quality assurance, and finally, considering the problems at the beginning of the work, he has recommended that the quality assurance system is primarily based on policy It should be focused and then in the next stages it will be "learning" and "quality improvement" and accreditation should be voluntary and applied to private schools, and in the next stage, after its benefits are determined, it can be extended to public schools. gave

Mohzna, Arefin, Pranavokir, Janor Mahardani and Hariyadi (2024) conducted a research entitled "Quality assurance system in improving the quality of education in schools". This research aims to describe a quality assurance system in improving the quality of education. The method used is field description. The approach is a qualitative approach. Data collection methods are observation, interview and documentation. The steps of data analysis techniques are: data collection, data reduction, data presentation and research design. The results of this research are as follows: 1. The quality assurance system has not been implemented well in improving the quality of education in schools, one of which is the participation of education stakeholders in supporting the development of quality and lack of budget allocation. Several factors prevent the quality assurance system from improving the quality of education in schools, that self-evaluation tools used in self-evaluation activities in schools have not been used optimally, and also all teachers and parents have not been able to. Optimizing school self-evaluation 3. The efforts made to overcome the inhibiting factors of the quality assurance system in improving the quality of education in schools, improving the realization of quality, increasing the quality priorities that have not been achieved, improving the quality and improving Aspects of quality improvement.

Mikhalisin, Olfatin and Miasaro (2024) conducted research entitled "Implementation of an internal quality assurance system in improving the quality of high school education: a systematic literature review." tooth Internal quality assurance is implemented by referring to national education standards to achieve national education goals. Currently, internal quality is applied not only in universities, but also in primary and secondary education. So that quality assurance and compliance with quality standards of education in primary and secondary education units are more guaranteed and concentrated. This article is the result of the analysis and review of the literature related to the topic under discussion. The purpose of this research is to determine and describe the implementation of the internal quality assurance system cycle. The model used is literature study or literature review. The results of this research show that the quality improvement activities implemented in accordance with the steps of the SPMI cycle carried out by second secondary schools are: one, school self-evaluation based on education quality report cards, second, quality improvement planning by creating

quality. Committee for assurance and reanalysis of evaluation results. The school itself, third, implementation of quality improvement, fourth, monitoring, evaluation and quality improvement results after the quality improvement has been done, and fifth, quality re-planning for the next year. The results of implementation of internal quality assurance have an impact on more innovative learning process, student progress and academic achievement, internal and external customer satisfaction, as well as the realization of eight national educational standards.

Fomba, Tala and Ningay, (2023) conducted research entitled Institutional quality and quality of education in developing countries: effects and transmission channels. The main purpose of this study is to analyze the impact of institutional quality on the quality of education in developing countries. The literature review examines the channels through which organizational quality is transmitted to influence educational quality. Empirical analyzes cover a sample of 82 developing countries. The results show that institutional quality has a positive effect on student progress and school completion and a negative effect on academic failure. Regarding the role of transmission channels, the results show that the deterioration of institutional quality, especially in the presence of corruption, political instability, or deteriorating government effectiveness, reduces the effectiveness of public spending on education and the quality of teaching. Unethical behavior of teachers and hiring untrained or less trained people to perform teaching duties.

Merrill et al. (2020) investigated the quality assurance features of children's education in government institutions in the United States of America. This research was done by modeling the government's three common features of quality assurance, namely learning standards, kindergarten entry assessments, and the quality rating and quality improvement system; And it was found that quality rating and quality improvement systems are the most important among other attributes

The study of Yodala and Ekidiyogo (2020) was conducted in order to determine the internal quality assurance processes of public and private secondary schools in Anambra State, Nigeria. The statistical population of this study is 739 respondents. The sample size for this study was 370 respondents; and included 129 principals in public secondary schools and 241 principals in private secondary schools. The data collection tool was prepared by the researchers. The reliability of the tool was confirmed using Cronbach's alpha method. The results showed that both public and private high school administrators confidently relate the internal quality of education to the teaching method and learning process.

Lukander and Kristerson (2020) conducted research titled "Participation in the Development of Education Quality: A Process for Ensuring the Quality of Evaluation". This article deals with the design, development and evaluation of a new process to ensure the quality of evaluation of educational programs. This process consists of five stages: inventory, analysis, evaluation, change planning and change implementation. In this research, the process of quality assurance was evaluated in three different programs. The results showed that the process is an important principle for deciding on short-term and long-term improvements. Also, the development of quality culture, curriculum design, internal quality improvement and supporting documentation is dependent on external quality assurance, and it was found that the process involves the ability of teachers and other internal stakeholders to develop the quality of a wide range of educational programs, and It causes a change in participation in improving the quality of education.

In their research, Khaled and Al-Serhan (2020) examined the extent of self-evaluation of leaders in private schools in accordance with the standards of the Arab Organization for Quality Assurance in Education. To achieve the objectives of the study, a sixty-two items questionnaire was prepared. Validity and reliability of the questionnaire were measured. Questionnaires were completed by 256 principals from private schools in Amman, Jordan. It was found that the amount of self-evaluation methods performed by leaders in Amman private schools is high. In addition, it was found that statistically there is a significant difference between the attitudes of the respondents based on gender in performing self-evaluation methods and the attitude of women is more favorable. On the other hand, there is no statistical

difference between respondents' attitudes based on experience.

Molyani and Yanto (2020) presented the quality assurance management model of the education budget based on the national education standard process. In this research, it has been pointed out that the problem of financing the school is considered a big educational obstacle and it is a problem that needs immediate attention and depends on the ability of schools to properly manage the budget. This research is based on experimental and conceptual results about budget management in schools. The purpose of this model is to improve the financial management of schools. According to the results of this study, it can be expected that the financial management based on the integration of the internal and external quality assurance system of schools will be more effective and efficient.

Chasorn (2020) conducted research entitled quality assurance and improvement of Thailand's education system based on global standards in this study.

It has been mentioned that the quality of education is necessary for the development of quality people. Therefore, guaranteeing the quality of education and developing and continuously improving educational systems in order to develop the learning of learners according to quality standards can lead to the improvement of the curriculum and meeting the expectations of the society regarding the knowledge, ability, skills, attitudes and characteristics of students. Also, guaranteeing the quality of education in order to continuously improve the quality of students can facilitate the management of activities in accordance with the goals of the school and prevents the provision of low-quality education.

Yong Gang and Zhen Chen (2020) built a teaching quality assurance system and evaluated the effect of quality improvement. In this research, it is pointed out that the assurance and improvement of teaching quality can guarantee the effectiveness of teaching and improve the teaching ability of teachers. This article systematically describes the creation of the teaching quality standard, the performance of the teaching quality assurance method, the construction of the teaching quality management team and mechanism, the improvement of the teaching quality monitoring method, the creation of the educational information database and the information education from four aspects: 1- Building the assurance system teaching quality, 2-supervising the quality of teaching, 3-publicity and use of information with the quality of education, and 4-improving the quality of teaching, the mechanism of information analysis and feedback. Based on this, the method and evaluation of the effect of teaching quality improvement provides an effective reference for the performance of the teaching quality assurance system and teaching quality improvement.

The study of Elsafari and Yursin (2019) was conducted with the aim of investigating the implementation of quality assurance standards in European higher education from a comparative perspective. A questionnaire based on standards and guidelines related to quality assurance in European higher education was prepared to compare countries. The results showed that higher education institutions mainly develop their quality assurance systems in accordance with national standards or based on their own needs, but the main emphasis in quality assurance is on teaching and learning activities and curriculum development.

The study by Gristin van Lonkamp et al. (2019) was conducted with the aim of providing more insight into students' understanding of assessment quality with their learning approaches and learning outcomes. In this study, six variables related to students' understanding of assessment quality are mentioned: 1) Impact assessment on learning, 2) assessment fairness, 3) assessment conditions, 4) interpretation of test scores, 5) assessment accuracy and 6) assessment validity. 204 higher education students completed the questionnaire on students' understanding of quality assessment and learning approaches and learning outcomes. In the first stage, the results show that students' understanding of the effects of assessment on students' deep learning approach and strategic learning approach is positive and has a negative relationship with superficial learning approach. has Secondly, students' understanding of assessment conditions has a positive relationship with learning outcomes.

Cardoso et al. (2019) addressed the perception of teaching and non-teaching staff regarding the implementation of internal quality assurance practices

in Portuguese higher education institutions. Data from the survey showed that, to some extent, the quality perspective is perceived as culture and quality. It is close to each other by teaching and non-teaching lecturers. These factors are considered to be the main essential features of the implementation of internal quality assurance practices. Since this study provides a better understanding of how internal quality assurance methods are understood by teaching and non-teaching staff, it can help in promoting institutions' critical reflection about internal quality assurance and how it affects and harmonizes with academic needs and expectations.

Research Methodology

The research method in this study is descriptive-analytical. Confirmatory factor analysis was employed to describe the model within the research community and to examine the relationships between the concepts and components of the proposed model. For this purpose, confirmatory factor analysis techniques and structural equation modeling were utilized.

Statistical Population: The statistical population includes all teachers, principals, and vice-principals working in first and second cycle secondary schools in the cities of West Azerbaijan Province, totaling over 13,500 individuals. In this section of the research, to select a sample from the statistical population of teachers, principals, and vice-principals in first and second cycle secondary schools in the cities of West Azerbaijan Province, the Krejcie and Morgan table was used. According to the population of 13,500, the sample size was estimated to be 374 individuals, and considering a 25 percent dropout rate, the sample size was increased to 467 individuals. It is noteworthy that 20 questionnaires were found to be invalid and incomplete, which were excluded from the analysis, and ultimately, data from 447 individuals were analyzed. A simple random sampling method was used to select an appropriate sample for the research. Due to the lack of direct access to respondents (because of their employment in the relevant units and the concurrent conditions of the COVID-19 pandemic, which made access to samples difficult), the distribution of questionnaires was carried out by the researcher through administrative automation. In the end, all questionnaires were returned to the researcher, and after the conducted reviews, a total of 20 incomplete questionnaires were excluded from the analysis. The analysis of findings in the quantitative section was conducted based on the sample of 447 individuals.

Data Collection Tools: For the implementation of the plan, a researcher-developed questionnaire was used in the previous stage (extracted from interviews). To this end, components and sub-components were identified using the results of the qualitative method, and then the questionnaire was developed based on the indicators mentioned by experts. The process of designing the questionnaire was such that after confirming the relevance of the concepts extracted from the qualitative section of the research, the open codes were presented in the form of questions or combined with subsequent coding stages (axial and selective coding) to shape the research questions. Accordingly, a 66-item questionnaire was developed with the consultation and guidance of the esteemed supervisor and distributed among teachers, principals, and vice-principals of first and second secondary schools.

Validity and Reliability: In the present study, to ensure the validity of the questionnaire, both face and content validity were utilized, and for assessing the validity of the model and tools, construct validity, which includes factor validity, convergent validity, and discriminant (divergent) validity, was employed. Additionally, in this research, to examine the reliability of the measurement model, factor loadings, Cronbach's alpha, and composite reliability were used. The reliability of the data was achieved through the collection of consistent findings and similar observations or conclusions drawn by other researchers. All these aspects are presented in Chapter Four, and the findings indicate the satisfactory validity and reliability of the research questionnaire.

Data Analysis: To validate the model, structural equation modeling has been utilized. There are various methods for implementing structural equation modeling, one of the newest approaches being Partial Least Squares (PLS), which is applicable for both normal and non-normal populations. The variance-based structural equation modeling method is

particularly suitable when there are a large number of variables or a substantial sample size within each construct, yielding significant results for model estimation. This is especially true when the research model is derived from qualitative research. This method is more efficient compared to the LISREL approach. In this study, Smart-PLS 3.2.9 has been used for data analysis. The data collected through the questionnaire has been examined in two parts: exploratory factor analysis and confirmatory factor analysis. The purpose of this section is to determine which factors influence the assurance of quality in secondary education and what consequences may arise from it.

Exploratory Factor Analysis: The questionnaire consisted of 66 items. More specifically, these items were extracted with the help of analyzing the extracted open codes and structured interviews with experts, and were validated using exploratory factor analysis. Before applying the factor analysis method, it was necessary to examine the correlation coefficients of the scores between the questionnaire items and ensure that they were sufficiently high. The results of the Kaiser-Meyer-Olkin test and Bartlett's test indicated that conducting exploratory factor analysis on this questionnaire was justified. After confirming the aforementioned assumptions, the factor analysis was performed on the responses of the participants regarding the 66 questionnaire items. Based on the initial information obtained from the analysis of the questionnaire items, 14 primary factors were provided to the software as a "prior criterion" for extracting and discovering the factors. Then, the possibility of using the orthogonal rotation method, either Varimax or oblique rotation, was examined to determine which one was more suitable. The results showed that Varimax rotation was more appropriate. Additionally, by examining the communalities of each question, it was found that all questions had high communalities (greater than 0.5). Therefore, at this stage, none of the questions were removed. By examining the factor loadings of the rotated variables, it was determined that:

- Some items simultaneously had factor loadings on two factors;

- Some had weak factor loadings with coefficients less than 0.4;

- And some variables were placed alongside unrelated items.

Considering the mentioned points, a total of 7 items or questions were set aside. After removing these questions, factor analysis (second-order factor analysis) was again conducted on the remaining 59 questions using the principal component analysis method with Varimax rotation. Based on the information in the table below, which shows the results of the KMO and Bartlett tests, the KMO value is 0.867, and the result of the Bartlett test is also significant, indicating that the data are suitable for factor analysis.

The scree plot extracted from the factor analysis in SPSS software also shows that 12 factors or components can be selected for the final analysis, as these factors have an eigenvalue greater than 2. Table (2) also presents the extracted factors along with their eigenvalues, the percentage of variance explained, and the cumulative variance explained by each of these factors. The examination of the results indicates that each of these factors has an eigenvalue greater than 2, which is an appropriate figure. Based on the results of exploratory factor analysis, it can be said that the identified factors are well capable of measuring the main construct of the research.

Confirmatory Factor Analysis

In this stage, based on the identification of the factors mentioned in the exploratory factor analysis section, the relationships between the factors have been explained. The basis for the mentioned relationships includes previous studies, the qualitative model, and the opinions of specialists and experts. For data analysis at this stage, structural equation modeling (SEM) has been used. Structural equation modeling has two types: one is parametric and the other is non-parametric. The parametric type is covariance-based and is referred to as CB-SEM, while the non-parametric type is variance-based and is referred to as PLS-SEM. Each of these structural equation methods is used depending on the research

contexts, and it is essential for a researcher to understand the differences between these two methods well and to choose one based on their research. The structural equation model consists of two components: one specifies the causal structure between latent variables, and the other defines the relationships between latent and observed variables. To determine which type of structural equation model to use based on variance or covariance, data analysis has been conducted regarding the distribution and dispersion of the data. Therefore, as a first step, the results of the Kolmogorov-Smirnov test and the results of skewness and kurtosis of the data have been presented.

Analysis of Data Dispersion

Table 4-12: Initial Eigenvalues and Extracted Values After Varimax Rotation

Extracted Values After Varimax Rotation			Initial Eigenvalues			مؤلفها
Cumulative Percentage	Variance Percentage	Total	Cumulative Percentage	Variance Percentage	Total	
11.990	11.990	7.074	36.951	36.951	21.801	1
21.408	9.418	5.557	43.472	6.521	3.847	2
30.789	9.381	5.535	49.278	5.806	3.425	3
40.092	9.303	5.489	53.635	4.357	2.571	4
46.190	6.098	3.598	57.364	3.729	2.200	5
52.042	5.852	3.452	60.829	3.465	2.044	6
57.067	5.025	2.965	63.558	2.729	1.610	7
61.907	4.840	2.856	66.199	2.641	1.558	8
66.465	4.558	2.689	68.597	2.398	1.415	9
69.776	3.312	1.954	70.811	2.213	1.306	10
72.217	2.440	1.440	72.723	1.913	1.129	11
74.478	2.261	1.334	74.478	1.754	1.035	12

Table 4.13: Factor loadings of identified indicators after rotation using the Varimax method, naming, and source.

Table 4-13: Factor Loadings of Identified Indicators After Varimax Rotation, Naming, and Source

Final Identified Factors												
12	11	10	9	8	7	6	5	4	3	2	1	
											.544	Q1
											.601	Q2
											.802	Q3
											.709	Q4
											.541	Q5

				.834	Q6
				.569	Q7
				.724	Q8
			.763		Q9
			.792		Q10
			.633		Q11
			.602		Q12
			.758		Q13
		.870			Q14
		.802			Q15
		.785			Q16
		.795			Q17
	.698				Q18
	.649				Q19
	.801				Q20
	.765				Q21
.564					Q22
.685					Q23
.845					Q24
.795					Q25
.633					Q26
.728					Q27
.607					Q28
.781					Q29

				.605					Q30
				.73					Q31
				.76					Q32
				.765					Q33
				.590					Q34
			.789						Q35
			.817						Q36
			.785						Q37
			.769						Q38
			.602						Q39
			.769						Q40
		.749							Q41
		.692							Q42
		.724							Q43
		.643							Q44
	.512								Q45
	.806								Q46
	.759								Q47
	.786								Q48
	.682								Q49
	.502								Q50
.734									Q51
.757									Q52
.867									Q53

	.786	Q54
	.757	Q55
	.667	Q56
	.759	Q57
.876		Q58
.736		Q59

Correlation Matrix Between Research Variables

To better understand the relationship between the research variables, the results related to the correlation among the variables are presented in Table (21-4). The correlation between the variables indicates that a change in one variable leads to changes in other variables. Correlational research is essentially a preliminary approach to studying causal relationships.

The correlation matrix of structural equations is conducted with the aim of testing a specific model of the relationship between variables, where the data are represented as correlation (covariance) matrices, ultimately creating a set of regression equations among the variables. Additionally, in the structural equation model, both direct and indirect effects of the variables are calculated to identify causal relationships.

Table 4.11: Results of the KMO test and Bartlett's sphericity test for determining the validity of the questionnaire.

	KMO	
.867		
12395.370	25751.099	
903	1711	Bartlett's Sphericity Test
.000	.000	

Table (4) shows the extracted factors, the related items, and the Cronbach's alpha coefficients used to assess the reliability of the scores of the sub-tests. Based on the information in this table, there are 59 elements or indicators and 12 factors or components. Quality assurance in education has 7 items, facilities and equipment (hardware and software) has 4 items, secondary education objectives have 4 items, curriculum has 5 items, educational productivity has 8 items, academic satisfaction has 6 items, teaching methods have 2 items, teacher educational-behavioral competence has 4 items, organizational factors have 6 items, educational content has 4 items, financial problems have 6 items, and the needs and expectations of stakeholders.

Table 4-14: Extracted Factors, Corresponding Items, and Cronbach's Alpha Coefficients

Cronbach's Alpha	Number of Items	
.893	7	Evaluation of Quality Assurance in Education
.865	4	Facilities and Equipment (Hardware and Software)
.798	4	Secondary Education Objectives
.911	5	Curriculum
.855	8	Educational Productivity
.806	6	Academic Satisfaction
.826	2	Teaching Methods
.858	4	Teacher's Educational-Behavioral Competence
.810	6	Organizational Factors
.770	3	Educational Content
.762	6	Financial Issues
.856	4	Needs and Expectations of Stakeholders

Table 4-15: Descriptive Results, Skewness, and Kurtosis of the Data

Skewness	Excess Kurtosis	Standard Deviation	Max	Min	Mean	
-0.021	-0.474	1.081	5	1	3.085	Bahr1
-0.056	-0.668	1.145	5	1	2.937	Bahr2
0.034	-2.599	0.957	5	1	2.96	Bahr3
0.467	-0.326	1.093	5	1	2.615	Bahr4
0.172	-0.737	1.106	5	1	2.725	Bahr5
-0.391	-0.256	1.056	5	1	3.204	Bahr6
-0.05	-0.873	1.065	5	1	2.81	Bahr7
0.353	-0.624	1.124	5	1	2.745	Bahr8
-1.164	1.266	0.949	5	1	4.038	Bar1
-0.931	0.086	1.095	5	1	3.906	Bar2
-1.537	3.221	0.853	5	1	4.266	Bar3
-1.241	1.02	1.007	5	1	4.143	Bar4
-1.104	0.591	1.052	5	1	4.02	Bar5
-0.727	-0.117	1.088	5	1	3.425	Emk1
-0.029	-4.269	1.063	5	1	3.031	Emk2
-0.208	-0.55	0.908	5	1	2.81	Emk3
0.043	-0.499	0.932	5	1	2.839	Emk4
0.28	-0.217	1.005	5	1	2.823	Hdf1
0.374	-0.579	1.098	5	1	2.691	Hdf2
-0.083	-3.321	1.155	5	1	3.168	Hdf3
0.184	-2.579	1.189	5	1	3.295	Hdf4
1.174	-0.113	1.117	5	1	3.904	Mal1
1.307	1.336	0.986	5	1	3.881	Mal2
1.028	0.245	1.072	5	1	3.978	Mal3
1.278	1.623	0.97	5	1	3.937	Mal4
-0.364	-0.309	0.881	5	1	2.837	Mal5
-0.156	-0.429	0.882	5	1	2.767	Mal6
-0.286	-0.365	1.015	5	1	3.148	Moh1
-0.085	-0.403	0.997	5	1	3.043	Moh2
-0.2	0.008	0.943	5	1	3.266	Moh3

Skewness	Excess Kurtosis	Standard Deviation	Max	Min	Mean	
-1.779	3.867	0.891	5	1	4.246	Nyz1
2.112	1.048	0.833	5	1	4.291	Nyz2
-0.196	0.993	0.964	5	1	3.257	Nyz3
-3.156	1.003	1.116	5	1	2.727	Nyz4
-3.327	1.001	1.106	5	1	2.975	Rez1
-0.369	0.989	1.086	5	1	3.264	Rez2
2.03	0.938	0.981	5	1	3.282	Rez3
-0.306	-0.823	1.165	5	1	3.345	Rez4
-0.359	-0.56	1.108	5	1	3.255	Rez5
-0.402	-0.58	0.993	5	1	3.548	Rez6
-0.028	-0.64	1.1	5	1	3.065	Sala1
-0.012	0.292	0.87	5	1	3.161	Sala2
0.266	-0.489	0.976	5	1	3.105	Sala3
0.199	-0.306	0.912	5	1	3.166	Sala4
-0.138	-0.132	0.972	5	1	3.251	Saz1
-0.193	-0.16	0.887	5	1	3	Saz2
0.061	-0.631	0.973	5	1	2.785	Saz3
-0.051	-0.389	1.017	5	1	2.917	Saz4
-0.264	-0.313	0.992	5	1	2.973	Saz5
0.103	-0.859	1.056	5	1	2.765	Saz6
-0.131	-0.707	1.083	5	1	3.018	Tazm1
-0.334	-0.714	1.119	5	1	3.336	Tazm2
-0.764	-0.092	1.117	5	1	3.591	Tazm3
-0.105	-0.787	1.131	5	1	3.166	Tazm4
-0.055	-0.729	1.053	5	1	2.964	Tazm5
0.399	-0.639	1.165	5	1	2.602	Tazm6
0.055	-0.586	1.006	5	1	2.673	Tazm7
0.336	-0.563	0.94	5	1	3.23	Tdr1
0.341	-0.043	0.835	5	1	3.309	Tdr2
-0.085	-0.259	0.837	5	1	3.655	Tdr3

Through these factors, a more comprehensive model can be achieved for analyzing and explaining the phenomenon in question.

Table 4-16: Correlation Matrix Between Research Variables

Needs and Expectations of Stakeholders	Financial Issues	Educational Content	Organizational Factors	Teacher's Educational-Behavioral Competence	Teaching Methods	Academic Satisfaction	Educational Productivity	Curriculum	Secondary Education Objectives	Facilities and Equipment	Education Quality Assurance	
											1.00	Evaluation of Education Quality Assurance
										1.00	0.68	Facilities and Equipment
									1.00	0.750	0.70	Secondary Education Objectives
								1.00	0.59	0.50	0.49	Curriculum
							1.00	0.56	0.84	0.82	0.75	Educational Productivity
						1.00	0.72	0.41	0.66	0.69	0.70	Academic Satisfaction
					1.00	0.22	0.33	0.26	0.40	0.24	0.46	Teaching Methods
				1.00	0.58	0.40	0.58	0.45	0.55	0.45	0.60	Teacher's Educational-Behavioral Competence
			1.00	0.47	0.30	0.68	0.87	0.51	0.80	0.82	0.68	Organizational Factors
		1.00	0.71	0.48	0.34	0.60	0.73	0.42	0.76	0.71	0.67	Educational Content
	1.00	-0.47	-0.64	-0.64	-0.43	-0.45	-0.66	-0.75	-0.67	-0.60	-0.52	Financial Issues
1.000	-0.64	0.54	0.59	0.56	0.41	0.43	0.67	0.67	0.62	0.55	0.63	Needs and Expectations

The results of this matrix indicate that the relationships among the research variables, except for the correlation of financial problems with each other, are positive; however, the relationship of this factor with other variables is found to be negative. In confirmatory factor analysis, the researcher seeks to create a model that describes, explains, and justifies empirical data based on relatively few indicators. This model is based on pre-experimental information about the data structure, which theoretically aligns with a specific hypothesis and a classified design for the items that correspond to the objective characteristics of form and content, specific empirical conditions, or knowledge gained from previous studies on extensive data. Whether the data align with a specific factor structure is determined through confirmatory methods.

There are two stages in data analysis using PLS:

The first stage examines the fit of the proposed model and potential modifications.

The second stage assesses the significance of the paths between the variables and consequently evaluates their acceptance or rejection.

Here, the model executed in the software is initially presented in two forms: standardized coefficients and significant coefficients, namely the t-value. Then, all processes related to its fit are conducted and analyzed. If some fit indices are not in an acceptable state, the specified questions and paths will be reassessed, and potential modifications will be made.

Analysis of the Proposed Model Fit

The analysis of the proposed model fit is conducted in three stages:

In the first stage, the external model (measurement model) is examined; in the second stage, the internal model (structural model) is assessed; and in the final stage, the overall research model is reviewed. These stages are detailed in the tables below.

Table 4.17: Fit of the External Model

Acceptable Value	Index			
Greater than 0.7	Composite Reliability (CR)	Internal Consistency Reliability	Reliability	Outer Model
Greater than 0.7	Cronbach's Alpha			
Greater than 0.5	Average Variance Extracted (AVE)	Convergent Validity	Validity	
Greater than 0.5	Factor Loadings			
The values of the main diagonal should be greater than those in the corresponding row and column.	Fornell and Larcker Criterion	Discriminant Validity		

Table 4-18: Inner Model Fit and Overall Model Fit

Description	Index		
This number represents the beta coefficients in regression, and the estimated values for the path coefficients in the structural model are evaluated based on their sign, magnitude, and significance.	Standardized Impact Coefficient	Magnitude and Significance of Path Coefficients	Inner Model
At a 95% confidence level, if the t-statistic between two variables is greater than 1.96, it indicates a significant effect of the independent variable on the dependent variable.	T-statistic		
R^2 values of 0.19, 0.33, and 0.67 correspond to weak, moderate, and strong values, respectively. Based on these values, the desired R^2 for a research topic is related to both the number of exogenous and endogenous latent variables associated with that variable. The more exogenous variables linked to an endogenous variable, the higher the expected R^2 value.	R^2	Coefficient of Determination	
$f^2 = \frac{R^2_{included} - R^2_{excluded}}{1 - R^2_{included}}$ Values of 0.02, 0.15, and 0.35 correspond to small, moderate, and large effect sizes, respectively, indicating the impact of one construct on another.	f^2	Effect Size	
If this index has values greater than zero, it is considered acceptable	Q^2	Predictive Relevance	

Based on the information provided in the above table, the analysis of each index will be conducted:The results of the findings regarding the reliability of the questionnaire indicate that the composite reliability index has a desirable value, as all calculated values are greater than 0.7. Overall, it can be said that the reliability of the questionnaire is confirmed based on the examined index.

Table 4-19: Results of Composite Reliability Coefficient

Composite Reliability	
0.891	Evaluation of Education Quality Assurance
0.858	Facilities and Equipment (Hardware and Software (
0.829	Secondary Education Objectives
0.870	Curriculum
0.908	Educational Productivity
0.862	Academic Satisfaction
0.827	Teaching Methods
0.880	Teacher's Educational-Behavioral Competence
0.891	Organizational Factors
0.902	Educational Content
0.851	Financial Issues
0.779	Needs and Expectations of Stakeholders

Validity

In examining validity in the structural equation modeling with a variance-based approach, two indices of convergent validity and discriminant validity have been used. To assess convergent validity, there are two essential conditions: if these two conditions are met, convergent validity is confirmed.

1. The first condition is that the factor loadings of the questions must be greater than 0.5 or ideally greater than 0.7. The results related to the factor loadings are presented both in the main data analysis chart and in the table below:

Table 4.20: Results related to factor loadings in the final executed model.

Needs and Expectations of Stakeholders	Financial Issues	Educational Content	Organizational Factors	Teacher's Educational-Behavioral Competence	Teaching Methods	Academic Satisfaction	Educational Productivity	Curriculum	Secondary Education Objectives	Facilities and Equipment)Hardware and Software(	Evaluation of Education Quality Assurance	
							0.799					Bahr1
							0.651					Bahr2
							0.753					Bahr3
							0.770					Bahr4
							0.829					Bahr5
							0.742					Bahr6
							0.725					Bahr7
							0.667					Bahr8
								0.809				Bar1
								0.743				Bar2
								0.697				Bar3
								0.666				Bar4
								0.856				Bar5
										0.731		Emk1
										0.854		Emk2

Needs and Expectations of Stakeholders	Financial Issues	Educational Content	Organizational Factors	Teacher's Educational-Behavioral Competence	Teaching Methods	Academic Satisfaction	Educational Productivity	Curriculum	Secondary Education Objectives	Facilities and Equipment)Hardware and Software(	Evaluation of Education Quality Assurance	
										0.718		Emk3
										0.797		Emk4
									0.836			Hdf1
									0.849			Hdf2
									0.736			Hdf3
									0.512			Hdf4
	0.816											Mal1
	0.750											Mal2
	0.741											Mal3
	0.822											Mal4
	0.512											Mal5
	0.513											Mal6
		0.876										Moh1
		0.902										Moh2
		0.827										Moh3
0.648												Nyz1
0.713												Nyz2
0.629												Nyz3
0.746												Nyz4
						0.723						Rez1
						0.645						Rez2
						0.510						Rez3
						0.844						Rez4
						0.781						Rez5
						0.758						Rez6
				0.868								Sala1
				0.772								Sala2
				0.845								Sala3
				0.730								Sala4
			0.714									Saz1
			0.706									Saz2
			0.784									Saz3
			0.773									Saz4
			0.762									Saz5
			0.810									Saz6
											0.661	Tazm1
											0.543	Tazm2
											0.683	Tazm3
											0.802	Tazm4

Needs and Expectations of Stakeholders	Financial Issues	Educational Content	Organizational Factors	Teacher's Educational-Behavioral Competence	Teaching Methods	Academic Satisfaction	Educational Productivity	Curriculum	Secondary Education Objectives	Facilities and Equipment)Hardware and Software(	Evaluation of Education Quality Assurance	
											0.795	Tazm5
											0.808	Tazm6
											0.822	Tazm7
					0.938							Tdr2
					0.733							Tdr3

A careful examination of these results shows that the factor loading for all items is greater than 0.5; therefore, it can be said that the first condition of convergent validity has been met.

The second condition is that the average variance extracted (AVE) for each component must also be greater than 0.5. The average variance extracted is derived from the square of the mean of the items of a factor.

Table 4-21: Results of Average Variance Extracted (AVE)

Average Variance Extracted (AVE)	
0.543	Evaluation of Education Quality Assurance
0.604	Facilities and Equipment(Hardware and Software)
0.556	Secondary Education Objectives
0.574	Curriculum
0.554	Educational Productivity
0.516	Academic Satisfaction
0.708	Teaching Methods
0.649	Teacher's Educational-Behavioral Competence
0.576	Organizational Factors
0.754	Educational Content
0.504	Financial Issues
0.501	Needs and Expectations of Stakeholders

As the table shows, all values of the main diameter are greater than the corresponding row and column, thus confirming this validity condition, and ultimately the adequacy of the external model fit has been confirmed. Now, we will also examine the fit of the internal model of the research.

Needs and Expectations of Stakeholders Financial Issues	Educational Content	Organizational Factors	Teacher's Educational-Behavioral Teaching Methods	Academic Satisfaction	Educational Productivity	Curriculum	Secondary Education Objectives	Facilities and Equipment	Education Quality Assurance	
									0.837	Education Quality Assurance
								0.777	0.680	Facilities and Equipment
							0.846	0.550	0.408	Secondary Education Objectives

							0.758	0.594	0.506	0.497	Curriculum
						0.744	0.564	0.848	0.623	0.584	Educational Productivity
					0.718	0.723	0.415	0.664	0.698	0.303	Academic Satisfaction
				0.841	0.225	0.335	0.266	0.401	0.246	0.468	Teaching Methods
			0.806	0.584	0.408	0.585	0.457	0.556	0.456	0.606	Teacher's Educational-Behavioral Competence
		0.759	0.477	0.301	0.585	0.875	0.514	0.350	0.642	0.682	Organizational Factors
	0.869	0.614	0.488	0.346	0.602	0.730	0.421	0.463	0.515	0.675	Educational Content
0.704	-0.47	-0.64	-0.64	-0.43	-0.45	-0.66	-0.55	-0.67	-0.60	-0.52	Financial Issues
0.685	-0.64	0.547	0.592	0.562	0.416	0.439	0.671	0.672	0.628	0.552	0.637	Needs and Expectations of Stakeholders

To assess the internal model fit, path coefficients, R2, F2, and Q2 are used, where we initially consider the coefficient of determination to be equivalent to 0.19, 0.33, and 0.67, representing weak, moderate, and strong values, respectively. However, the desired value of the coefficient of determination depends on the research topic and the number of exogenous latent variables related to that endogenous variable. This means that the more exogenous variables an endogenous variable has, the greater the expected adequacy. The table below shows the values related to the coefficient of determination and the adjusted coefficient of determination, which are significantly higher than the desired standard values.

Table 4.23: Values of Coefficient of Determination and Adjusted Coefficient of Determination

Adjusted Coefficient of Determination	Coefficient of Determination	
0.667	0.673	Evaluation of Education Quality Assurance
0.574	0.575	Educational Productivity
0.494	0.495	Academic Satisfaction

The explanatory power of the model is determined using F2 or effect size, which specifies the relationship between the constructs of the model, with values of 0.02, 0.15, and 0.35 indicating small, medium, and large effect sizes, respectively. As the table below shows, all obtained values are higher than the average determined values.

Table 4-24: Effect Size (F^2) Values

Academic Satisfaction	Educational Productivity	Evaluation of Education Quality Assurance	
0.979	1.354		Evaluation of Education Quality Assurance
		0.246	Facilities and Equipment(Hardware and Software)
		0.214	Secondary Education Objectives
		0.253	Curriculum
		0.209	Teaching Methods
		0.171	Teacher's Educational-Behavioral Competence

0.166	Organizational Factors
0.298	Educational Content
0.157	Financial Issues
0.186	Needs and Expectations of Stakeholders

The predictive relevance index Q2 of the model is another indicator examined at this stage, which shows the percentage of variance of the indicators among the other indicators. If Q2 is high, the predictive power of the model is strong. If this index is above zero, it is acceptable, and the closer it is to one, the higher its predictive power.

Table 4-25: Q2 Predictive Relevance Index Criterion

Q^2 (=1-SSE/SSO)	
0.351	Evaluation of Education Quality Assurance
0.312	Educational Productivity
0.237	Academic Satisfaction

Based on the obtained results, it can be stated that the impact of variables such as facilities and equipment (hardware and software), secondary education objectives, curriculum, teaching methods, teachers' educational-behavioral competencies, organizational factors, educational content, financial issues, and the needs and expectations of stakeholders are considered as antecedents for evaluating the quality assurance of education. Meanwhile, the variables of educational productivity and academic satisfaction are regarded as the outcome or consequential variables of the research. The results indicate that the impact of facilities and equipment (hardware and software) on the evaluation of quality assurance in education has a path coefficient of 0.235 and a significance level of 0.001. Therefore, since the observed significance level is less than 0.05, it can be confidently stated at a 95% confidence level that the impact of facilities and equipment (hardware and software) on the evaluation of quality assurance in education is positive and significant. Additionally, the impact of secondary education objectives on the evaluation of quality assurance in education (r=0.14; P value=0.017), the impact of the curriculum on the evaluation of quality assurance in education (r=0.11; P value=0.021), the impact of teaching methods on the evaluation of quality assurance in education (r=0.148; P value=0.001), the impact of teachers' educational-behavioral competencies on the evaluation of quality assurance in education (r=0.23; P value=0.001), the impact of organizational factors on the evaluation of quality assurance in education (r=0.155; P value=0.004), the impact of educational content on the evaluation of quality assurance in education (r=0.112; P value=0.020), and the impact of the needs and expectations of stakeholders on the evaluation of quality assurance in education (r=0.174; P value=0.001) are all positive and significant. Conversely, the impact of financial issues on the evaluation of quality assurance in education (r=−0.268; P value=0.001) is negative and significant. On the other hand, the impact of the evaluation of quality assurance in education on educational productivity (r=0.758; P value=0.001) and the impact of the evaluation of quality assurance in education on academic satisfaction (r=0.703; P value=0.001) are also positive and significant.

To assess the overall fit of the model, four indices are used: GOF, rms Theta, NFI, and SRMR (the mean difference criterion between the data). The SRMR index indicates how well the conceptual model aligns with the empirical data. SRMR helps determine whether the available data supports the set of hypotheses mentioned, specifically the impact of latent variables on each other. The SRMR value ranges from zero to one. The weaker and less significant the factor loadings are, the larger this index will be. A

value of 0.08 is the red line for this index. The larger this index is beyond this value, the more fundamental issues the model has, necessitating a revision of the overall model. In this study, the SRMR index is approximately 0.070, which is considered a desirable value, indicating that the overall model has a good fit. Additionally, the rms Theta index represents the effective covariance matrix of the residuals from the outer model. This fit measurement is only useful for evaluating reflective models, as the residuals of the outer model are not meaningful for the structural (composite) measurement model, which considers a value less than 0.12 as acceptable for the model. In this study, this index is equal to 0.095. Furthermore, the NFI index should be greater than 0.90, and the calculations yield a value of 0.927, which is also a desirable figure. The GOF criterion was also used to examine the overall model fit. The calculated GOF value is as follows:

GOF = $\sqrt{((\text{COMMUNALITY})^{-}*(R\text{^}2)^{-})} = \sqrt{(0.587*0.581)} = 0.584$

Considering the values 0.01, 0.25, and 0.36 as weak, moderate, and strong for GOF, a result of 0.584 indicates a good fit for the model.

Table 4.26: Overall Model Fit Indices

Table 4-26: Overall Model Fit Indices

Desired Value	Quantity	Fit Indices
Less than 0.08	0.07	SRMR Index
Less than 0.12	0.095	RMS Theta Index
Values of 0.01, 0.25, and 0.36 as weak, moderate, and strong values, respectively	0.584	GOF Index
Greater than 0.9	0.927	Index NFI

As indicated in the table, all obtained values for the fit indices are at an acceptable level; thus, the overall fit of the model has been confirmed.

Discussion and Conclusion:

A total of 66 questions were designed, of which 7 questions were removed, resulting in a final model of 59 questions for the research. Based on the results, the model demonstrated that the evaluation of quality assurance in education is influenced by facilities and equipment, secondary education objectives, curriculum, teaching methods, the educational and behavioral qualifications of teachers, organizational factors, educational content, the needs and expectations of stakeholders, and financial issues. Additionally, it can lead to educational productivity and academic satisfaction. Ultimately, the model fit indicated that the designed framework has a desirable validity. It is recommended that processes such as enhancing academic knowledge and increasing practical knowledge and scientific research skills of educational evaluators, improving general skills, setting goals for students and motivating them, enhancing students' practical knowledge, and advancing teachers' academic knowledge be addressed through methods such as teaching skills, continuous performance assessment with a diagnostic and corrective approach

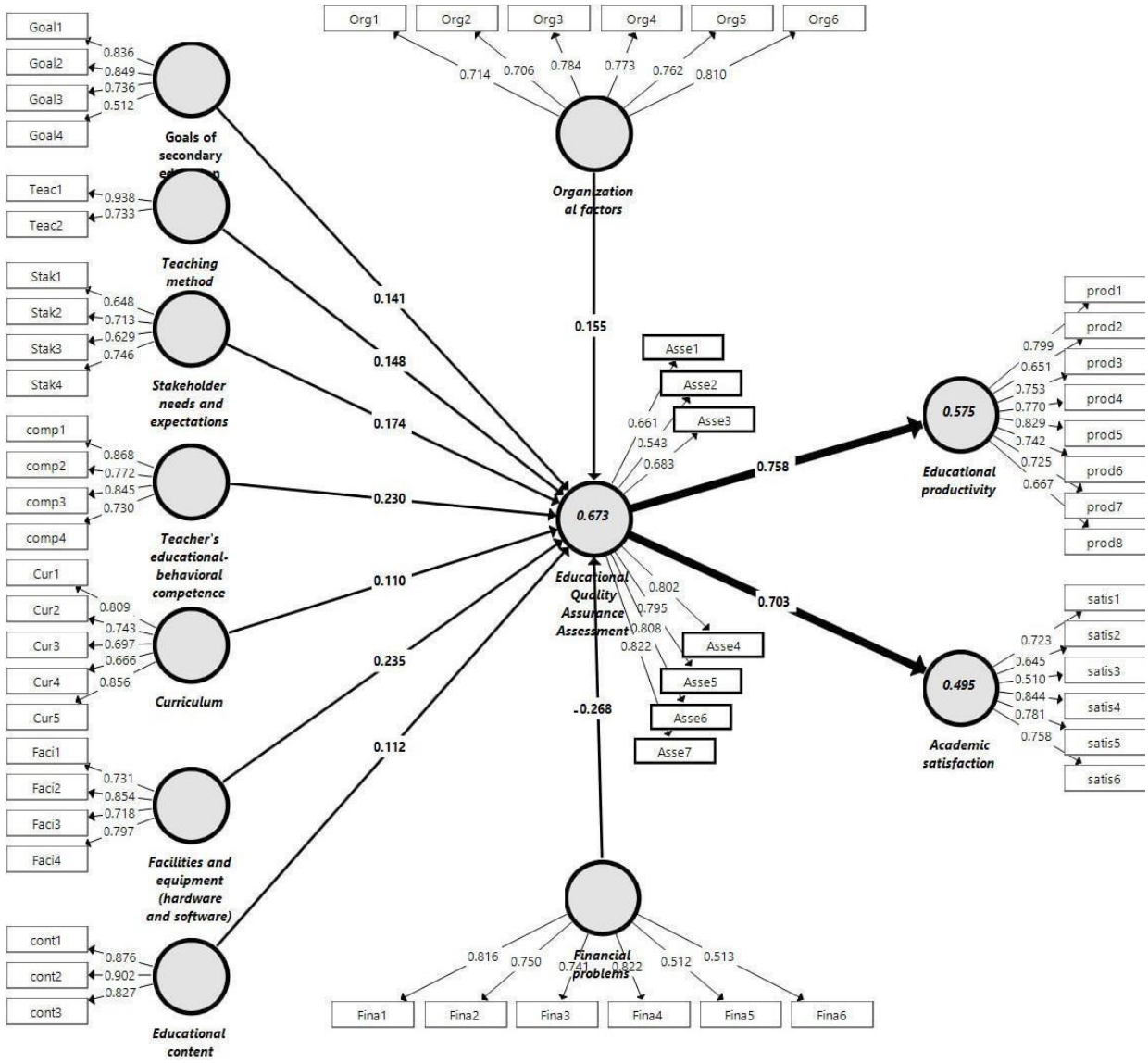

Figure 1: The Implemented Model with Significance Coefficients

Now, the significance of the designed paths will be discussed based on the provided results, including path coefficients, t-values, and significance levels.

structure and organization of education can improve the response to students' educational needs, including educational regulations, educational objectives and missions, implementation of government policy in education field, appropriate planning and policy-making and re-engineering of processes and school development. Without improving quality of books and educational materials and variety of educational facilities (films, photos, etc.), we cannot expect a school with high level of education to develop education. Therefore, focus on infrastructure issues and equipment and supplies are needed for students' education. School atmosphere and educational culture are other categories identified in environmental and contextual dimension.

It can be said that school reputation can lead any educational staff or even students to be proud of the fact that they teach or are taught in such an atmosphere through constructive interaction and participatory atmosphere. Certainly, a positive and favorable work atmosphere leads to commitment of teachers, order and adherence to principles of school. On the other hand, social values reflection in academic open codes

and respect for family values will lead to more educational responsibility. Since any society's health depends on its educational system quality, if students don't learn the necessary social values, norms and skills to be good citizens and don't learn the skills and expertise necessary to perform their individual and social duties effectively and efficiently, educational units will not fulfill their mission. Achieving this mission requires pay attention to educational system quality.

Lack of executive assurance for internal evaluation, financial conditions, interaction and communication, composition and distribution of students and teachers, grouping, development of learning teaching process, curriculum, educational design, appropriateness of educational content, teaching method and design and selection of evaluation methods among intervention variables are considered to be effective in quality assurance process. Results related to identified categories are in line with results of research by Lucander and Christersson (2020), Mahdiuon et al., (2017), Yong-Gang and Xian-Cen (2020), Gerritsen-van Leeuwenkamp et al., (2019).

It is clear that issues such as grouping, composition and distribution of students are not considered and somewhat are neglected based on researchers' perspective. Regarding the findings, it must be mentioned that one of reasons for not paying enough attention to implementation of internal evaluation process is lack of guarantees for its implementation. Therefore, passing a specific law that makes internal evaluation process mandatory or optional is a useful solution to this challenge.

Also, if internal evaluation is considered as a point in ranking of teachers, the motivation of members will be increased to do evaluation. Also, the most appropriate way is to empower teachers themselves and involve them in internal evaluation. The main emphasis of this approach is on group empowerment and their maximum participation. Holding workshops for volunteer groups on internal evaluation, preparing and providing packages for teaching and promoting how to conduct internal evaluation, providing guidance and a framework for developing internal evaluation report, and designing internal software all can increase awareness and motivate teachers.

Strategies to achieve education quality assurance include factors of attracting and developing human capital, creating a support system, innovation and creativity in education, specialized evaluation of teachers, standardization of evaluation and a comprehensive internal evaluation process. The results related to categories are in line with research findings of Shirbagi et al. (2022), Van der Bij et al., (2016) Cardoso et al., (2019) and Pulis (2018).

Regarding the finding's interpretation, it can be noted that quality evaluation model provides an effective basis for measuring attention level of education centers to compliance with necessary standards; it will ensure the organization that programs meet pre-determined criteria through clarifying matters. As the world is changing and its uncertainty is increasing, the position of education centers is very complex in terms of quality and all of them are under pressure to provide optimal response to needs of organization. Unfortunately, it is sometimes forgotten that internal evaluation is not only a tool for analyzing departmental problems, but also, its results can be a basis for planning how to solve problems and implement solutions.

The internal evaluation results will be applied realistically and practically when the results lead to a change in existing situation in order to achieve the desired situation. Therefore, publishing accurate reports and planning for following up results is very important in assurance process. If report of results has a persuasive logic for all stakeholders in evaluation group, then teachers will show necessary sense of responsibility and commitment to respond and will try to comply with quality requirements and standards of scientific community, national-level requirements and continuous improvement of group performance. On the other hand, the application of internal evaluation results is necessarily accompanied by change to improve the quality of education. People are usually resistant to change. Therefore, the concern of change resulting from applying evaluation results makes the internal evaluation process not run smoothly.

The coding results for consequences of evaluating education quality assurance include unproductive teacher-student behavior, stakeholder dissatisfaction, academic satisfaction, academic motivation, educational productivity, and development of communication with school. It must be mentioned that outcomes have both negative and positive dimensions. It can be expected that development of satisfaction, passion, productivity and better communication with school will occur in positive dimension. But in negative dimension and due to lack of education quality evaluation, it must be expected that dissatisfaction and non-productive behavior will increase.

Every process certainly has consequences. One can expect academic satisfaction, academic motivation, educational productivity and development of communication with school in process of evaluating education quality. We will observe unproductive teacher-student behavior and stakeholder dissatisfaction, if quality assurance is not properly formed. In this regard, some consequences have been mentioned in Lucander and Christersson (2020) and Sugiyanta and Soenarto (2016), Shirbagi, et al (2021) findings.

According to results, solutions are suggested for education quality in schools. The factors affecting education quality in schools must be considered systematically so that none of factors are ignored. The education quality in schools will be realized based on effective factors. Processes must be considered including scientific advancement and increased applied knowledge and scientific and research skills of educational evaluators, promotion of general skills, objective setting for students and their motivation, promotion of students' applied knowledge and scientific advancement of teachers using methods such as teaching skills, continuous performance evaluation with diagnosis and correction approach. It is suggested that the movement towards quality improvement facilitated through promoting administrative and structural processes, revising educational laws and facilitating knowledge transfer.

Also, it is proposed that needs and expectations of educational stakeholders such as teachers and students are met through continuous and final evaluations. Factors that have not fully met the needs and expectations are emphasized in subsequent planning. The executive package including factors, components, criteria and requirements with all details examined in this research must be considered as basis for any activity and decision-making at policy- making and executive levels regarding quality assurance evaluation in Ministry of Education and consequently in secondary education.

Adequate and sufficient financial resources must be provided for internal evaluation, and in this regard, financial deficiencies must not hinder the development and continuous improvement of quality assurance evaluation. Scientific update and cooperation with other schools and educational institutions and sharing educational materials between them will greatly increase education quality assurance of secondary schools. In this regard, facilitating the affairs of collaborations is necessary. It is suggested that each of identified components for validation and quality assurance be examined separately and in case study form. Also, educational quality status must be evaluated using indicators identified in this study.

In this study, a holistic model was obtained in recognizing the concept of educational quality assurance evaluation through studying the components and elements of education quality in schools, which can help those involved in educational issues of country. However, like other studies, there are some limitations in present study.

The limitations of this research include sampling effects and measurement error, problems related to logic of qualitative research, breadth of education in education system, high cost of research, lack of studies conducted in high school and lack of cooperation or inappropriate cooperation of educational administrators and teachers and education departments. Finally, it is suggested that other researches identify the most important evaluation methods and the most important sources of internal evaluation for education quality such as students, teachers, principals and deputies in secondary schools so that other uncertain aspects of developing educational quality assurance to be identified.

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