

Quality Assurance in Academic Institutions: A Factor Analytical Approach

Manju Singh¹, Dr. Vidya Dayinee Sharan²

¹Research Scholar, School of Business Management, Noida International University, Gautam Budh Nagar, Uttar Pradesh 201312, India, Email: mailtomanju9999@gmail.com

ORCID ID: 01-10-01-10

²Associate Professor, School of Business Management, Noida International University, Gautam Budh Nagar, Uttar Pradesh 201312, Email- er.vidyadayinee@gmail.com, ORCID ID-01-10-01-10

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ABSTRACT:

The number of students anticipated to seek higher education globally may reach 263 million by 2025, up from less than 100 million in 2000. (Ryan, 2015). The increased demand for excellent education has led to a growing desire for universities to provide assurance of excellence because of the greater flexibility of learners, instructors, initiatives, and educational institutions. To meet this growing need, a standard structure for the quality assessment method would provide consistent evaluation of instructional design, content, and methodology. (Puzziferro & Shelton, 2008). Despite the fact that educational assessments stated goal is to raise the caliber of the products and amenities offered by universities, some academicians think they are being used to support government funding cuts for education. The present investigation looked at impressions of the motivations underlying the assessments through a structured survey that was provided to more than 389 academicians from 10 universities focusing on quality education in India by using factor analytical approach. Our research' findings demonstrate that faculty engagement in the evaluation process considerably lowers the likelihood that faculty think quality assessments are done for practical purposes. People who believe that evaluations are conducted to raise the caliber of the programme they are reviewing are also more likely to believe that the assessments are real and to identify more with the academic programme that is being assessed.

Keywords: University Teachers' perception, Quality Assurance, (HEIs) Higher Education Institutions, Factor Analytical Approach.

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Introduction

One of any nation, state, or society's major obligations is to provide citizens with proper learning and development opportunities and resources, in compliance to the Universal Declaration of Human Rights' Article 6. It is

believed that everyone has the fundamental right to an education.

Like other businesses, the education sector is overseen and controlled by a collection of policies, guidelines, and procedures that specify the minimal standards of performance and quality

for parents, instructors, supervisors, students, and people in general. Numerous organizations oversee the sector, and quality assurance is upheld and monitored through the practice of various accrediting standards and norms. Higher education certification is a substantial operation requiring lengthy document preparation and submission, rigorous deadlines, and careful resource management. The high-quality control system defines the following as the main duties of academic institutions: administration, curriculum, learning outcome, faculty effectiveness, and resource allocation. (Westerheijden Stensaker, & Rosa, 2007).

The literature provides multiple explanations of quality assurance in higher educational institutions. Crawford, Schindler, Puls-Elvidge and Welzant (2015), identified two primary approaches to developing definitions in the literature when analyzing definitions of quality. With this regard "address one central purpose or consequence," some authors "build a broad definition" (Schindler et al., 2015; Bogue, 1998; Harvey & Green, 1993). Other definitions, however, "identify specific indicators that reflect desired inputs responsive faculty and staff and outputs employment of graduates" (Schindler et al., 2015; Barker, 2002; Cheng & Tam, 1997; Lagrosen, Seyyed-Hashemi, & Leitner, 2004; Oldfield & Baron, 2000; Scott, 2008; Tam, 2010; Vlasceanu et al, 2015).

Prior research reveals a large disconnect between teacher opinions on quality and institutional management viewpoints. (Barandiaran-Galdos, ' Barrenetxea Ayesta, Cardona-Rodríguez, Jos'e Mijangos del Campo, & Olaskoaga-Larrauri, 2012; Karakhanyan & Stensaker, 2020; Stensaker, Langfeldt, Harvey, Huisman, & Westerheijden, 2011).

According to Cartwright (2007), management views quality management processes more positively than faculty members at an institution. Previous research investigations have proven that some faculty members encourage high-quality initiatives (Hall, 2015), while others actively oppose them and consider them a burden

(Anderson, 2006). More specifically, few educators find quality-related activities problematic and meaningless as they are mandatory rather than voluntary (Ezer & Horin, 2013). (Brennan & Shah, 2000), In addition, some instructors consider that quality management operations are politicized since they are determined by a certain political affiliation.

Reviews of the excellence management process provide outside, objective, and unbiased insights. These evaluations include observations and suggestions for improvement of partner institutions, goods, programmes, services, and operations. However, "the perspective of quality assurance is very multi-dimensional and contextual, and a gap in the views of experts in quality assurance and academic staff and students persists" (Smidt, 2015). Maintaining standards and requirements, preserving reliability, excellence, and integrity are all important components of quality in higher education. Decisions are made regarding which quality-related areas are examined because no particular inspection framework can possibly cover every component of quality. (Harvey, 2014; Wilger, 1997).

A consistent outline for a excellence assurance framework will be utilized to consistently analyze educational design, material, and methodology (Puzziferro & Shelton, 2008). There are, however, a variety of inconsistent ways to describe educational quality. According to Barnett (1992), in academic institutions there are two conceptions of quality. Academic institutions' implicit views on worth and intellectual property are the first. The character and caliber of contributions provided by persons involved in academic institutions are more important than any results. A standard outline for a quality assurance method will be used to conduct an organized assessment of educational layout, content, and methodology. Although quality assurance techniques are applied in educational institutions, there is dispute surrounding the part of teachers in resolving major issues such as administration, educational

program, educational services, and basic financial well-being (Eaton, 2011). Consequently, the study intended to investigate the university teachers' perceptions towards excellence assurance in higher education. Teachers are crucial to the progress of any organization. In today's fiercely competitive world, having a loyal and dedicated workforce is an advantage for any institution and is essential to attaining the organization's goals. They are regarded as an internal source of improving the quality of institutions. It is difficult to understand the concept of quality without thoroughly investigating teachers' perceptions. Consequently, the present investigation endeavored to ascertain the standards that university instructors deemed significant in ascertaining quality control.

Research Methods

The primary data used in the study was gathered through a standardized questionnaire. The sample comprised of 400 teachers working in Top 10 Universities of Punjab. Purposive sampling was used for choosing 40 educators at each university. There were 389 responders in the final sample. Questionnaires were given face to face and some questionnaires were also mailed. The filled-in questionnaires were scrutinized and incomplete questionnaires were rejected. Out of 400 questionnaires, 389 were considered to be usable. The statistical test used for the analysis was Exploratory Factor Analysis.

Research Analysis

Scale purification

Following the pilot study, resulting scales are assessed for their validity and reliability. In the end, scales are discovered to be trustworthy, also known as honed scales. Resulting an analysis of past studies, a list of 50 statements is created to evaluate the perceptions of university teachers towards quality assurance. The scales are further refined using factor analysis. This approach removes 10 items, creating a pool of 40 for further examination. "The factors were from earlier research both in India and overseas, such as Schindler et al., 2015; Barker, 2002; Cheng &

Tam, 1997; Lagrosen, Seyyed-Hashemi, & Leitner, 2004; Oldfield & Baron, 2000; Scott, 2008; Tam, 2010;

Eaton, 2011; Vlasceanu et al., 2015".

Analysis of Exploratory Factor

Through the application of exploratory factor analysis (EFA), the large number of variables has been reduced to manageable components. This multivariate data analysis technique summarizes and reduces an extensive number of factors to uncover key shared characteristics, or components. Only in cases where the variables have a substantial degree of variance has EFA been used (Hair et al., 2005).

The current study used the exploratory factor analysis method to determine the components that correlated with the quality assurance viewpoints of the teachers. The sample's appropriateness was assessed using the Bartlett test of sphericity and the Kaiser-Meyer-Olkin test before factor analysis was performed.

Sample Adequacy Metrics: KMO and Bartlett's Test

The KMO test and the Bartlett test of sphericity are used to assess the appropriateness of the sample and the correlation between variables. Kaiser (1974) proposed that "the value of KMO should be greater than 0.5. Table 1 displays the outcomes of the Bartlett test for sphericity and the KMO.

Table 1. KMO and Bartlett's Test

Sampling Adequacy Measure		0.855
	Sig.	0

Source: SPSS

According to Table 1, the KMO is 0.855, which is higher than the 0.5 suggested level. This proves that factor analysis can be performed on the data. Additionally, the results of the Bartlett's Test of Sphericity indicate a substantial correlation (P

<0.05) between the variables.

Data Reliability test

In addition, the Cronbach's Alpha has been calculated to evaluate the reliability of the data. Values of Cronbach's Alpha greater than 0.5 are generally thought to be optimal.

Table 2. Reliability Statistics

Cronbach's Alpha	N of Items
0.865	40

Table 2 demonstrates that the Cronbach's Alpha value is .865, which is more than 0.5 and meets the requirements for the sample data's reliability.

Total Variance Explained

Use the Principal Component Method to reduce the variables to a set number of factors. In order to calculate the number of factors, the most popular criterion uses eigen values. Consideration is given to variables whose eigen values exceed one. An Eigen value is a representation of the degree of variance in the data. It whittled down 40 statements (Table 4) to six components.

Table 4. Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	29.723	67.553	67.553	29.723	67.553	67.553	7.744	17.599	17.599
2	1.870	4.250	71.803	1.870	4.250	71.803	6.631	15.071	32.670
3	1.456	3.309	75.112	1.456	3.309	75.112	6.293	14.302	46.972
4	1.223	2.781	77.892	1.223	2.781	77.892	6.066	13.786	60.758
5	1.123	2.552	80.444	1.123	2.552	80.444	5.275	11.988	72.747
6	1.030	2.341	82.786	1.030	2.341	82.786	4.417	10.039	82.786
Principal Component Analysis: Extraction Method									

This extract the six components whose eigen values exceed unity, as Table 4 demonstrates, and the total variance of all six factors is 82.786. Malhotra (2002) suggested that in order to explain the fluctuation of components, at least 50% of the variance should be reported for. It is quite acceptable that six factors in the recent study explained 82% (Table 4) of the overall variance.

Component Matrix Rotation

The factors are rotated using Varimax rotation since an unrotated factor solution might or might not yield insightful results. The factors loadings between 0.50 and 0.57 are kept. As a result, six factors each have 40 variables loaded. The Rotated Component matrix constitutes one of the significant statistics in the analysis, which is displayed in Table 5.

Table 5. Component Matrix Rotation

	Components					
	1	2	3	4	5	6
V1	0.752					
V2	0.718					
V3	0.699					
V4	0.669					
V5	0.622					
V6	0.616					
V7	0.576					
V8	0.555					
V9	0.552					
V10		0.731				
V11		0.592				
V12		0.59				
V13		0.582				
V14		0.579				
V15		0.577				
V16		0.577				
V17		0.564				
V18		0.56				
V19			0.834			
V20			0.722			
V21			0.638			
V22			0.601			
V23			0.58			
V24			0.555			
V25				0.669		
V26				0.638		
V27				0.63		
V28				0.626		
V29				0.601		
V30					0.725	
V31					0.629	
V32					0.609	
V33					0.598	
V34					0.539	
V35					0.525	
V36					0.51	
V37						0.636
V38						0.615
V39						0.566
V40						0.535

Source: use SPSS for calculation

Labeling of Factors

Factor loadings are used to determine the factors' names. A factor with a high factor loading has the highest probability of being called after those variables. Table 6 displays a summary of the factor analysis results.

Table 6. Factors Labeling

Rank	Factor Name	Eigen Value	Alpha	Loading
1	Student Success	29.723	0.961	0.752
				0.718
				0.699
				0.669
				0.622
				0.616
				0.576
				0.555
				0.552
2	Admissions and Enrollments	1.87	0.971	0.731
				0.592
				0.59
				0.582
				0.579
				0.577
				0.577
				0.564
				0.56
3	Faculty and Staff	1.456	0.929	0.834
				0.722
				0.638
				0.601
				0.58
				0.555
4	Facilities and Resources	1.123	0.924	0.669

				0.638
				0.63
				0.626
				0.601
5	Organization and Management support	1.03	0.941	0.725
				0.629
				0.609
				0.598
				0.539
				0.525
				0.51
6	Technological Factors		0.933	0.636
				0.615
				0.566
				0.535

Source: Compiled results by using SPSS

Average Weighted Scores

The factor-wise average scores are computed and ordered in order to determine the significant level of each factor. Table 7 displays the ranking of the criteria based on the average scores. Table

7. Factors: Ranking and Average Weighted Scores

Factors	Average Weighted Scores (AWS)	Rank
Faculty and Staff	4.004	1
Admissions and Enrollment	3.991	2
Student Success	3.846	3
Technological factors	3.783	4
Facilities and Resources	3.78	5
Organization and Management Support	3.508	6

Based on Table 7, it can be shown that the most significant element influencing the service quality of HEIs is the faculty and staff (AWS = 4.004).

Stated differently, the analysis of quality assurance in higher education heavily relies on the contributions of teachers and staff. University

teachers presented their viewpoints that faculty workload and productivity, student to faculty ratio, faculty and staff tenure, faculty turnover, stability of faculty and weekly student interaction hours are most crucial factors that contribute to improving the caliber of higher education establishments. These variables set out the parameters on the basis of which service quality is assured. Harvey, Huisman, & Westerheijden, 2011 exhibited the importance of academic employees in determining the quality of HEIs.

According to university teachers, enrollment and admissions are the second most significant element (AWS=3.991). Academicians believed that in order to improve the caliber of higher education institutions, it was essential to compare the transfer, acceptance, retention, recruitment, marketing, placement, and promotion rates of students with those of other institutions.

Student success is ranked third, with a AWS of 3.846. In order to determine the student success rate, exposure and engagement levels are taken into consideration. Universities' quality is evaluated based on how successful their students are deemed to be by their faculty. Research exposure, course success rates, persistence rates, student engagement, student outcomes, passing rates, and graduation rates are all indicators of success.

Technological elements including speech and language tools, adaptive assessment tools, individualized learning platforms, and autonomous grading are significant contributors to the development of HEIs. It is necessary to consider these issues. Digitalization has become increasingly important in higher education after the corona pandemic. Educators who can adjust to shifting circumstances view it as a crucial element in raising the standard of Higher Education Institutions.

Facilities and Resources came in fifth place with a AWS of 3.780 and are critical components of any educational organization. Comprehensive curriculum, scholarly resources, exceptional and motivated students, modern, appealing, well-equipped buildings and grounds, and so on. A

college or university's physical environment reflects its goals and values. The condition of the buildings and grounds has a direct impact on academic outcomes. Facilities must be available to support the learning process. The environment should be secure, safe, and comfortable (Organization for Economic Cooperation and Development, 2019)

The university teachers ranked Organization and Management Support sixth (AWS=3.508). In the views of students, it alludes to the costs that the management and organization must bear in order to make a distinction. Academicians perceived that the management's costs, whether instructional, administrative, or tuition, create a significant image of the institution. Every organisation must conduct a cost-benefit analysis, in which the costs must be justified by the benefits provided to students. An intermediary between the organization and the students is the teacher. We have to keep that connection going at all times. Then and only then will higher education institutions' quality be raised. Higher perceived levels of effectiveness in quality assurance necessitate higher degrees of management support and engagement with other educational institutions (Seyfried, 2018).

Conclusion

In the field of education, transformative quality has a huge impact. Its objective is to produce students that are well-rounded, self-aware, impartial, and skilled as well as confident and competent thinkers and problem solvers. To accomplish these objectives, faculty involvement is essential. The COVID-19 pandemic has brought attention to the value of professors and the need for them to continuously adjust their curricula and methods of instruction. Therefore, defining transformative quality may not be an impossible or utopian task. Instead, it can be a chance for the weak education system to reinvent itself and deal with persistent problems. The study showed how teachers felt, which contributes to enhancing higher education standards and improving higher education. The study found six crucial components which

significantly affect the caliber of higher education institutions. According to the study's findings, faculty and staff, admissions and enrollments, student success, technological factors, facilities

and resources, and organizational and management support are all important to university teachers in order to reach the transformation level.

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