PERFORMANCE MEASUREMENT OF HIGHER EDUCATIONAL INSTITUTIONS: AN EMPIRICAL STUDY USING STUDENT'S PERCEPTION

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ABSTRACT

There is need to increase the quality in the higher educational institutions. Quality is the key parameter of discussion among HEIs and essential in competitive era. Every institution has to perform its role effectively and survival of it is depending on the capability to attract and retain the stakeholders, with recognition and reputation. The present study has extracted seven factors by using exploratory factor analysis on student's perception. These factors are Digitization of Academic Awards, Campus Placement, Extracurricular Activities, Infrastructure and Resources, Seminar and Industrial Visits, Teaching Skills and Students Support System which will be useful for the educational planners and the administrators in designing a more effective system that can be valuable to improve the overall productivity of academics in higher education. Therefore, this research has emphasized that government need to concentrate on improving the enrollment of the students under NAD and a proper focus will have to be given on policies and strategies to appoint high quality faculty by the academicians.

Key words: Performance Measurement, Higher Educational Institutions (HEIs), Quality in higher Education, Digitization, National Academic Depository (NAD)

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1. INTRODUCTION

The country's development depends upon its educated people, management and government system than its natural resources. Education is the key to life to shaping the future of the nations.

Higher education plays a very important role in the development and wealth of the country. It is not only the instruments which utilize the potential and yearning of the people for technological and economic development but is a driving force for the improvement of the country. Higher educational institutions are multifaceted venture that must provide equal significance to all the quality parameters. (Maheshwari, 2018). Nowadays, private education system is growing very rapidly in India and Private sectors are investing huge amount in education in direct and indirect ways and expect high profits. Moreover, teaching- learning activities are the integral part of educational organizations. The higher education includes the graduate, post graduate, doctorate and professional degree programs. Number of persons have done the work for the development and growth of education. Therefore, various parameters have been associated with the performance measures. Actually, measurement system is the yard stick which provides us the feedback for the best efforts and tells us that whattypes of rectifications are required. This measurement system produces the variable facts of our initiatives and deeds which are directly related to learning system. A best measurement system could be a consistent through incisive feedback measurement (Storrs, 2010).

The quality of education plays a paramount role in educational institutions. The quality education is very important for the students and it can generate the brain which will be helpful for conquering the world. Moreover, knowledge, skills and expertise are the key parameters which enables to maintain our economic growth momentum, especially in scenario of technology led disruptions like industry, where skills and expertise requirements are ever changing. Higher education emphasized academic measures, rather than financial performance and these are associated with academic activities, faculty and student, research work, publications, teaching work load, financial support, student's activities etc. Most important area deserving greater attention in this process of measurement is – stakeholders i.e. the student satisfaction level, faculty and staff expectations. (Ruben, 1999)

All the stakeholders evident that funds utilization should be efficient and transparent and is on most important outcome---Learning and performance measures may provide all stakeholders some beneficial information that can be useful in future decision making; like choice of the institution. A measurement process is of great importance to enhance the institution education quality such as an institution's operational and system performance and encourage to improve weaknesses.

In retaliation to the stakeholder's growing apprehension about low or inconsistent quality, higher education institutions are constantly exploring ways for improving the educational quality (Lawrence & McCullough, 2001). Many institutions and universities have admired methods from industry (Hubbard, 1994) and implemented some type of total quality management (TQM) system to create competitiveness (Vazzana, Winter & Winter, 1997).

1.1. Changing Nature in Education Sector

Nowadays in knowledge – based economy, higher educational institutions are the centres for producing human resource play a vital part in Nation's economic growth (King.R, 1995). This study is an attempt to measure the performance of higher educational institutes in the Punjab context. Today's era, the education field loses its academic efficiency because of failures in teaching skills, infrastructure and resources, campus placement, extracurricular activities, digitization and miscellaneous such as hostel and cafeteria facilities. Therefore, strategic planning is important for such academic institutions (Kriemadis, 1997) and guide them to better future by adapting to the environment beside the academic policies (Kettunen, 2006).

India is the largest higher education system in the world and the second largest in terms of the number of universities i.e. around 634 and about 33,023 colleges for providing higher education. There are 324 state universities, , 46 central universities, 127 deemed universities,

195 private universities (Department of Higher Education, 2015) and In Punjab there are 10 State universities, 12 Private Universities, One deemed university, 2 Central universities, 104 engineering colleges, 190 management colleges/Hotel Management, 44 Pharmacy Colleges, 6 Autonomous colleges, 10 Reputed colleges(Technical /Professional), 16 other institutes of Repute (General), 10 Medical Colleges, 8 Architecture colleges, (Government of Punjab, 2015), but rising population of India, increasing disparity between rich and poor and lack of funds is still a challenge to the existing setup of higher educational institutes. We all are very well aware that the higher education is not only important for a country's competitiveness and economic growth, but also for social stability. But on the other hand, we find that public higher education loans enough funding from its competing and prioritized ends. As a consequence, India has seen a dramatic shift towards sharp increase in number of private institution as well as universities with aims to improve the quality challenges to higher education, such as rapid growth of IT, globalization, increase competition and other resource constraints. With a successful realization of these institutes play a vital role in educational service market, therefore focus and hence the performance assessment of higher education institutions has become essential. Hence, strategic planning and performance measurement tracking play a great role for such institutions.

2. LITERATURE REVIEW

A study by Misra (2002) identifies the fall behind the Indian education system is due to lack of goal of the Management and there is need to adopt a systematic approach in our institutions, such as frequent academic audits, self-determination and responsibility in all operational work, open door policy for welcoming ideas and people from all over, administrative restructuring and faculties, and relevant education to our students, because these are the primary steps in improving the Indian institutions. Wayne, Andrew & Youngs (2003) determinate the relationships among four categories of teacher characteristics such as college rating, test scores, degrees and coursework, and certification status. Ruben (2004) stressed that student's studies are affected not only by the teaching environment but also by the learning environment, which has facilities, accommodation, physical environment, policies and procedures, and more significantly, social relations and communication and knowledge. Hence the teachers, staff and administration got to set sensible examples by their deeds and acknowledge that everyone in an institution could be a teacher. Deshields, Kara & Kaynak (2005) describe that the higher educational organizations are concentrating on identifying and fulfilling the needs and expectations of their students. Such factors include student's academic awards, performance of faculty, environment of classroom, reputation of institution and learning facilities. Butt and Rehman (2010) investigates the factors for the students' satisfaction in the higher education like experience of faculty, courses offered, provided infrastructure and learning environment. They concluded from the results that all the attributes are significant and positively related with the satisfaction of students.

3. METHODOLOGY

This research paper is based upon the primary data collected from the management institutes. The sample unit of the research consists of responses from the 354 students in private and public institutions in Punjab state. A pre tested structured questionnaire was prepared after a thorough study of available literature and discussion with different faculty members and students. A total of 35 statements were taken for responses in the seven point likert scale. The data obtained was thus analyzed using SPSS 25.0. To determine the suitability of the data for Explanatory factor analysis, the Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) and Bartlett's Test of Sphericity were applied.

4. RESEARCH PROBLEM

Based on the literature reviewed, it is realized that there is need to implement the performance measurement system in the higher educational institutes and particularly with reference to institutes in Punjab. Currently, there are not many research studies addressed in this direction. So the present study is an attempt to measure the performance of higher institutes using student's perception.

5. RESULTS AND DISCUSSION

The results from Explanatory factor analysis are mentioned in Table 1 and 2. The high value of KMO is 0.921(>0.7) indicates that factor analysis is quite useful for the data being used in this study. For data, the value of KMO falls into the range of great. Similarly, the significant value of Bartlett's Test of Sphericity is 0.000 which indicates that there exist significance relationships among statements. The value 0.941 obtained on the scale of Cronbach Alpha, is also considered good.

Table 1 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.921
Bartlett's Test of Sphericity	Approx. Chi-Square	7250.110
	Df	595
	Sig.	0.000

Table 2 Reliability Statistics

Cronbach's Alpha	N of Items
0.941	35

Table 3 Respondent's characteristics

Variables	Category	No. of Respondents	Percentages
Gender	Girls	203	57.3
	Boys	151	42.7
Age in Years	Below 18	49	13.8
	18-20	178	50.3
	above 20	127	35.9
Program Name	BBA	62	17.5
	BCOM	100	28.2
	MBA	192	54.2
Type of Institution	Public	102	28.8
	Private	252	71.2
	Total	354	100.0

Source: Compiled from Primary Data

5.1. Demographic Analysis

For the characteristics of the respondents, in terms of gender, 57.3 % of respondents were girls and 42.7 % were males. 13.8 % were below 18 years and 50.3 % of the respondents were within the ages of 18-20. 35.9 % were above 20 %. In terms of program of the study, 54.2 % were offering MBA and 28.8 % data collected from public colleges and 71.2% from private institutions.

Performance Measurement of Higher Educational Institutions: An Empirical Study Using
Student's Perception

Table 4 Rotated factor loadings

Variables	Factors								
	I	II	III	IV	V	VI	VII	C	Mean
Students have link on NAD	0.855							0.76	3.31
Students may claim their awards from NAD	0.876							0.801	3.37
Digital Certificates are available on NAD	0.88							0.809	3.42
Students can take printed copy of digital certificate s from NAD	0.874							0.803	3.42
Campus placement is very high		0.644						0.605	3.08
Students pursuing job-oriented courses get placement earlier than other students		0.75						0.684	2.78
pass-out students get easy admissions in higher education courses		0.733						0.679	2.7
Career counseling sessions are conducted regularly		0.514						0.619	2.68
Students have good success rate in competitive exams		0.657						0.62	2.76
Groups of students and teachers respectively are used to the advantage of the institute		0.438						0.528	2.48
Institution pays attention to the extracurricular activities			0.712					0.633	2.53
Institute motivates the students to participate in extracurricular activities			0.726					0.713	2.49
Institution pays sufficient scholarships /grants in sports competitions to the students			0.648					0.674	2.88
Institute makes emphasis on developing sports activities			0.614					0.73	2.95
Students participate actively in placement activities			0.523					0.625	2.7
Institute provides the platform for overall personality development			0.551					0.719	2.75
Students are informed regularly about new arrival in library				0.449				0.516	3.01
All the essential material is available in labs				0.533				0.502	2.88
Number of students and equipment ratio in labs is quite satisfactory				0.626				0.662	2.72
All the lecture halls are fully equipped by latest technology				0.62				0.654	2.86
All study rooms are well maintained				0.522				0.639	2.79
Good environment for study				0.533				0.596	2.27
Students' complaints are well handled by grievance committee				0.615				0.65	2.68
Parking space is enough in the institution				0.447				0.581	2.58
Guest lectures are arranged frequently					0.748			0.688	2.61
Encourage students to take part in the seminars and conferences					0.625			0.579	2.59
Educational or industrial visits are organized regularly					0.577			0.579	3.1
The Institute pays considerable attention to student's overall development					0.506			0.628	2.58
Teachers take keen interest in their teaching						0.807		0.712	2.01
Teaches are able to inspire the students for study						0.733		0.617	2.02
Teachers has strong conceptual knowledge of subject						0.785		0.697	2.1

Proper monitoring and evaluation						0.672		0.658	2.51
Sufficient playgrounds and sports material is available							0.574	0.651	3.08
Sufficient recreation facilities are available							0.573	0.648	3.05
Fresh water and washrooms are nearby							0.515	0.552	2.72
Eigen Values	12.2	3.543	2.135	1.472	1.385	1.076	1.002		
Percentage of Variance	11.52	11.19	10.83	10.151	8.489	6.926	6.074		

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 30 iterations

The descriptive analysis of 35 variables of the questionnaire is shown in the Table 4. The variables with the loadings of 0.4 were included for the purpose of the data analysis. For extraction of factors, Principal Component Method was used. Table 4 narrate the factor loadings, communalities, Mean, Eigen values and Percentage of variance. In the factor loadings, seven factors were obtained. Each factor has 3 or more items indicate that factor can be labeled. The factor loadings equal and above 0.4 have been considered as significant for this analysis.

Factor 1: Digitization of Academic Awards

A digitization of academic awards is the initiative of Indian Government, Ministry of Human Resources Development (MHRD)&University Grants Commission (UGC)for academic changes with theuse of technology for providing the well-organized services to all stakeholders. The lifestyle is changing because of digitization. National Academic Depository(NAD) is an absolute system for issuing online certificates to well identified and registered students and it is an online reservoir of academic awards (degrees, diplomas, certificates, mark sheets etc.) lodged by the academic organizations/boards in a digital format. In Table 4, this factor comes out be an imperative factor and accounts for the highest percentage of variance equal to 11.522 and the Eigen value is more than 1 also highlights that it is an important factor for the students, which stakeholders look for, in terms of factor affecting the satisfaction of the students. This factor consists of 4 variables related to the student's satisfaction. Factor loading is ranged from 0.855 to 0.880. Overall, this factor gives the poorest rating by the stakeholders. Students responded 'Neutral' for the variables related to availability of Certificates on NAD (3.42) and Students can take printed copy of digital certificates from NAD (3.42). The responses of other statements i.e. Students have link on NAD (3.31) and Students may claim their awards from NAD (3.37) are also more minded towards 'Neutral'.

Digitization of Academic Awards is the most important factor for the students. It is at the establishment and slower stage. Therefore, this facility is not available at every region of the India.Total 484 academic institutions have been registered with NDML Database Management Limited till 5th February 2019. As per the NAD guidelines, all the students can have their all academic documents on their NAD logins. So this step of the government would be helpful for all the stakeholders such as students, Academic Institutions and verifier users.

Factor 2: Campus placement

Placement is the second important factor which accounts for 11.19 percent of variance and item loading is ranged from 0.438 to 0.750. The variables of this factor is concerned with the success of the students in the attainment of employment. The mean scores of the variables depict that students are somehow agreed with the statement regarding campus replacement is high (3.08). However, job oriented courses for earlier placements (2.78), easy future admission (2.70), good

rate in competitive exams (2.76) and students and faculty using the advantage of the institute (2.48) are lying between partial agree to agree.

Factor 3: Extracurricular Activities

The third factor named as Extracurricular activities explained 10.83 % of variance. The items are loaded from 0.551 to 0.726. Commenting on variables regarding attention to activities (2.53), motivation to the students for participation (2.49), more grants/ scholarships in sports (2.88), emphasis on developing sports activities (2.95), and platform for personality development (2.75) are more inclined to 'Agree'.

Factor 4: Infrastructure and Resources

The fourth factor is named as Infrastructure and Resources records 10.151% of variance whereas factor loadings ranged from 0.447 to 0.626. The mean score of the items reveals that students are agreed with the statements regarding updating in Library (3.01), availability of essential material in lab (2.88), equipment ratio in labs (2.72), lecture hall is equipped with latest technology (2.86). However, good environment for study (2.27), handled student's complaints (2.68) and parking space (2.58) is likely to partial agreed.

Factor 5: Seminar and Industrial Visits

Seminar and Industrial Visits is another factor found with 8.489% of variance ranging from 0.506 to 0.748. The mean score of the item analyzed that students are agreed with the statement regarding regular industrial visits (3.10) and student's responded between partial agree to agree for the statement attention to student's overall development (2.58).

Factor 6: Teaching Skills

The sixth factor named as Teaching Skills account for 6.926% of variance and items are loaded from 0.672 to 0.807. The mean score 2.01, 2.02, and 2.10 of teacher's interest in teaching, passionate behavior of faculty and strong conceptual knowledge respectively showed the partial agree of student response. The mean score (2.51) showed that students responded between partial agree to agree for proper monitoring and evaluation. The quality of faculty members and teaching in most institutions is appallingly low because mostly students or alumnus used to appoint as a lecturer and there is no cross fertilization of ideas whatsoever, depriving the institutions. Moreover, lectures were not allotted to the faculty members as per specialization.

Factor 7: Students Support System

This factor is found as least important factor which explains 6.074% of variance with item loaded from 0.515 to 0.574. Further, student's perceptions are found positive regarding sufficient playground and sports material (3.08), recreation facilities (3.05) and availability of fresh water and washrooms (2.72).

6. CONCLUSIONS

In general, strategic planning is performed as a treatment for every type of management failures. Thus, the present study has thrown the light on identifying strategic issues, and when it will be implemented, would give the better results in performance measurement. Further, results showed the positive loadings of all the variables on factors and good internal consistency of the statements within the factors. Therefore, all the seven factors are important for the management to take the decisions for the attraction and retention of the students in the future.

Moreover, emerging global trends and new economic challenges make the higher education sector gives a strong focus on academic performance, like allocation of limited resources,

quality assurance of each parameter and management. Institutes must emphasize on their strategies if they are to conquer the competitive markets. Under the conditions of competition, Management institutes need a new system and techniques to assess the performance and understand its strategy which provide balanced information from all possible contributing areas to achieve total quality through continuous improvement of its performance. It is important for top management to develop some efficacious ways to conduct performance measures to calculate overall organizational performance and link it to the objectives of corporate, i.e. a holistic evaluation model of University/institutions performance is the key to a higher educational organization's survival. Apart from this, Government should also concentrate on the process of enrollment of the students under NAD. So that every student can be cognizant about the digitization of academic awards. In addition to this, faculty capability building emerges as another key area in education scenario. This aspect would have to be very carefully designed by various levels. Therefore, a proper focus will have to be given on policies and strategies to attract and retain high quality faculty and to provide continuing in service education for such teachers.

REFERENCES

- [1] Butt, B. Z., & Rehman, K. U, A study examining the students satisfaction in higher education. *In Procedia - Social and Behavioral Sciences*, 2010, <https://doi.org/10.1016/j.sbspro.2010.03.888>,
- [2] DeShields Jr., O. J., Kara, A., &Kaynak, E, Determinants of Business Student Satisfaction and Retention in Higher Education: Applying Herzberg's Two-Factor Theory. *International Journal of Educational Management*, 19, 2005, pp 128-139.
- [3] Hubbard D, Can Higher Education learns from factors? *Quality progress* 82, 1994, pp 93-97.
- [4] Kettunen, J, "Strategies for the cooperation of educational institutions and companies in mechanical engineering", *International Journal of Educational Management*, Vol. 20 No. 1, 2006, pp. 19-28, doi: 10.1108/09513540610639567.
- [5] King, R, What is higher education for? Strategic dilemmas for the twenty-first century university, *Quality Assurance in Education*, 3(4), 1995, pp 14-20.
- [6] Kriemadis, A, "Strategic planning in higher education athletic departments", *International Journal of Educational Management*, Vol. 11 No. 6, 1997, pp. 238-247, doi: 10.1108/09513549710186803.
- [7] Lawrence J.J, McCullough, M.A, A Conceptual framework for guaranteeing higher education, *Quality Assurance in Education* 9, 2001, pp 139-152.
- [8] Misra,R.P, "Globalization and Indian Universities-Challenges and prospects", Unpublished Speech, 2002
- [9] Maheshwari, Amrita, Role of higher education in rising india, A weekly journal of Higher education, *Association of Indian Universities*. Vol.56 No.21, May 21-27, 2018. Pp12-17.
- [10] Storrs, G, 'Evaluation in development education: Crossing borders', *Policy & Practice: A Development Education Review*, Vol. 11, Autumn, 2010, pp. 7-21.
- [11] Vazzana G.S, Winter, J.K, & Winter, K.K, Can TQM fill a gap in higher education? *Journal of education for Business* 73, 1997, pp 313-316.
- [12] Wayne, Andrew J, &Youngs, Peter, Teacher characteristics and student achievement gains: A review. *Review of Educational research*, 73(1), 2003, pp 89-122.