Impact of Accreditation on Quality and Excellence of Higher Education Institutions

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ABSTRACT

Higher education plays a crucial role in the growth and nation development in social, economic, cultural, scientific and political respects. Education empowers people to transform from a human being to having human resources. In present context of globalization, quality higher education is needed to uplift creativity, talent, adaptability and research mindset. In order to fully utilize the outcomes of education, it is important to ensure that education is meeting the minimal prescribed standards to fulfill ever-changing requirements worldwide. Accreditation, a powerful tool of quality assurance, is used to assess the national system of higher education. Accreditation is considered as a quality stamp, which ensures that an accredited institution/programme has undergone a rigorous process of external peer evaluation based on predefined standards/principles and complies with the minimum requirements. This paper focuses on the outcomes of accreditation to enhance excellence in higher education institutions (HEIs) based on a literature review and empirical research. Previous studies in various national contexts are reviewed here, based on which, the question of whether accreditation can really enhance the excellence of HEIs is answered and factors behind it are explored.

Keywords: Accreditation, Higher Education Institutions, Impact Studies, Quality Assurance

1. INTRODUCTION

The academy founded by Plato in 387BC is considered one of the oldest institutions of higher education (HE), also referred to as the University of Athens (Harris [1981]). But Ancient India was the educational capital of the world. Sacredness was associated with teaching-learning. In the 6th Century, Ashrama and Matha were the institutional units. Students had academic flexibility to choose courses of their interest; a variety of courses were available, e.g. Vedas, Logic & Reasoning, Grammar, Mathematics, Science & Technology, Zoology, Physical Sciences, Business Studies, Judiciary, Construction, Civil Engineering & Architecture, Astronomy, Medicine, Politics, Music, Dance & Drama, Art of War, etc. HEIs were well established in Ancient India during the 6th Century, e.g. Taxila, Nalanda, Vikramsheela, Kanchipuram, Ujjaini, Udantapura and Vallabhi, and a number of important concepts and theories were given by Ancient India to the world, such as Zero, Decimal System, Fibonacci numbers, etc. (Altekar [1994], Singh[2017]). Although the quality of HE was remarkable in ancient time, yet the standardization of H.E. through quality assurance (QA) started in 18th century. In India the first QA body for H.E. was establish in 1929 (Indian Council for Agricultural Research) for regulating the programmes related to agricultural discipline.

Pursuit of excellence is one of the main goals of almost all HEIs. This study provides an evaluation of quality & excellence in higher education through accreditation process and find outs its impact on various factors. During the course of our investigations, we sought to answer the following questions:

- How to describe the 'excellence in higher education'?
- Which models/frameworks are being used globally to assess the quality and excellence in higher education?
- What is accreditation and how it is beneficial to the HEIs?
- Identify the major areas where accreditation is impactful to the HEIs?

The current study is significant to HEIs planning for accreditation or re-accreditation of their institution / programme. This paper explains the linkage between the meaning of excellence and how accreditation may help to achieve the same via briefing its benefits and impact on business growth (enrollments/admissions, reputation, stakeholders' satisfaction), strategic planning (internationalization, employment), academic excellence (quality of faculty/curriculum and learning outcomes) and research & innovation.

1.1 Emergence of Modern Higher Education and Quality Assurance

The quality assurance system in higher education has emerged by engaging External Examiners. The University of Durham, UK engaged Oxford examiners in the year 1832 to assure the public that the standard of its degree programmes were equivalent to Oxford (Mike [2003]). Since then, the role of independent external examiners, has been used by HEIs globally. An accreditation process involves internal and external examiners to assure the public about the compliance of prescribed criteria/standards. ISO 9000 series of standards are being used over last four decades for the unification of industry process. However, accreditation is a quality assurance process based on self- and peer-assessment having specific standards/criteria for higher education. The purpose of accreditation is to improve academic quality and public accountability of HEIs. In the late 1800s, accrediting agencies were established focusing on educational standards and admissions procedures: RICS, UK (1868); IET, UK (1871); NEASC, USA (1885); MSACS, USA (1887), to name a few. Later, several accrediting bodies, international accords and agreements, and regulatory/statutory bodies came in existence. The establishment details of 52 such accrediting bodies for higher education are shown in Figure 1.

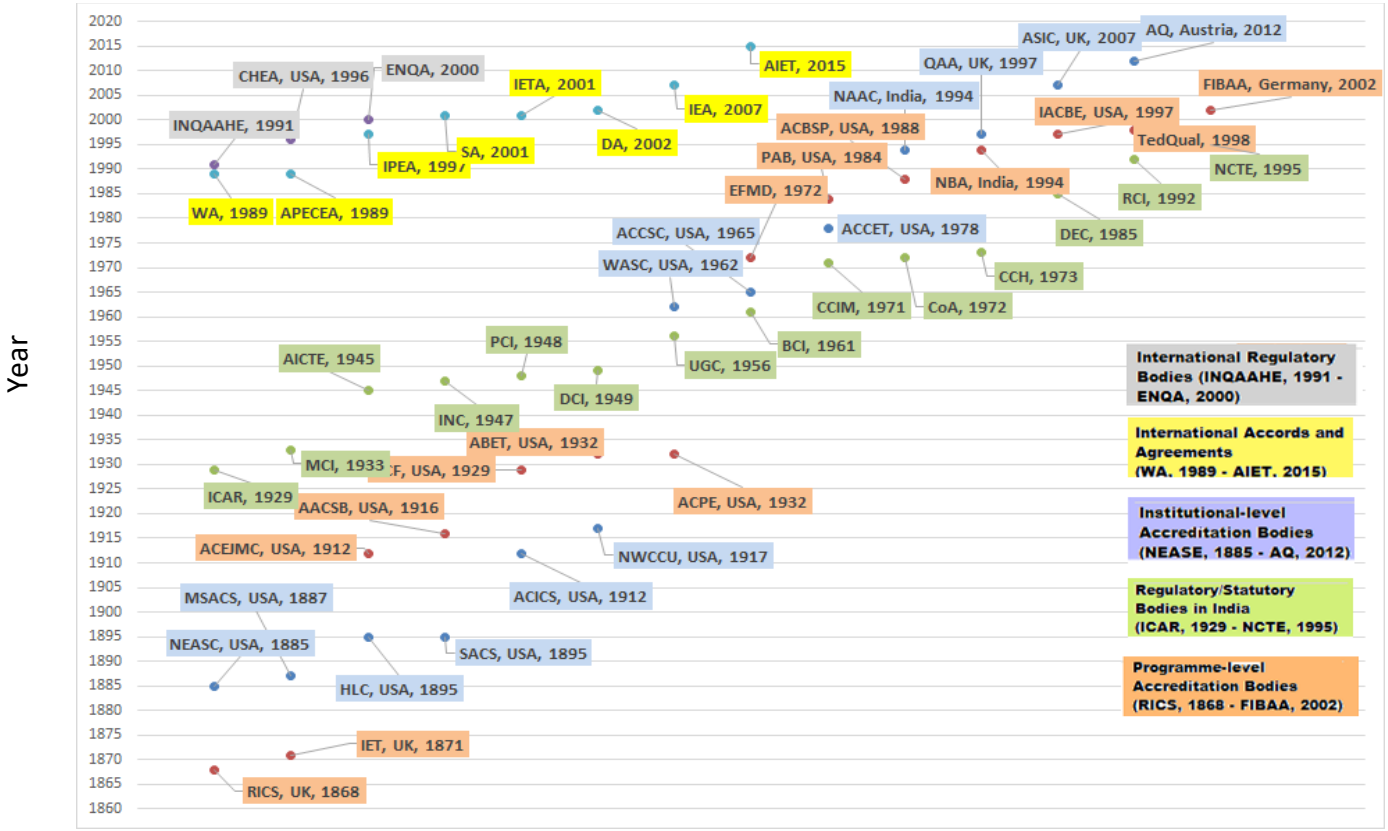

Figure 1 – Establishment of accrediting bodies, accords and agreements, and regulatory/statutory bodies

Figure 1 shows that programme-level accreditation started in 1868 with the establishment of the Royal Institution of Chartered Surveyors (RICS) in the UK, whereas institutional-level accreditation started in 1885 (with NEASC, USA). In India, standardization of higher education started before independence (with ICAR, 1929), later many other statutory, regulatory and accrediting bodies have been established such as MCI (1933), AICTE (1945), INC (1947), PCI (1948), DCI (1949), UGC (1956), BCI (1961), CCIM (1971), CoA (1972), CCH (1973), NAAC (1994), NBA (1994), and others.

1.2 Meaning of Excellence in Higher Education

Excellence in higher education may be equated differently in different contexts. As per a students' perspective, it may be defined as indicating standing and academic reputation of an institution. However, this depends on students' experiences and institutional missions. The term "Excellence" has been used extensively by accreditors to define the level of quality processes and services offered by institutions for the stakeholders' satisfaction and success of students. Many accrediting bodies have defined Excellence as a tangible reality; a combination of inputs using quantitative and qualitative indicators and continual progress of improved outputs. Some researchers like Brusoni et al. [2014] have considered Quality of curriculum, teaching-learning, availability of resources, level of research, skill enhancement of students, and level of students' learning outcomes and achievements as measures of excellence (Brusoni [2014]). Globally, the following two models are applied to define excellence in HE:

a) EFQM Excellence Model
b) Baldrige Model
c) Other Models

a) The European Foundation for Quality Management **(EFQM)** Excellence Model is a tool widely-used for continuous improvement of all types of organizations. This model evaluates current performance to identify strengths and areas of improvement. The model has nine criteria, categorized as enablers and results (Calvo et al. [2006]):

Enablers:

i. Leadership
ii. People

iii. Strategy
iv. Partnerships & Resources
v. Processes, Products & Services

Results of:

vi. People
vii. Customer
viii. Society
ix. Business

Above nine criteria are evaluated based on RADAR (determining the **R**esults – to review for making future plans, **A**pproach – methodology for desired results, **D**eploy – systematic way of implementation the plans/strategy, **A**ssess and **R**efine - for result analysis and continuous improvements based on monitoring and analysis of achieved results). The earlier methodology for assessing the quality improvement was a Plan-Do-Check-Action (PDCA) cycle. However, RADAR is an integral part of the EFQM Excellence Model, which is a strategic, systematic, fact-based framework and provides a tool for the evaluation of organizational results, approaches, deployment, assessment and review (Sokovic et al. [2010]).

b) **The Baldrige Model** works for all types and size of organizations, yet, it is directly applicable to higher education institutions. It focuses on self-assessment and training with consideration of the varying missions, roles, and services/programmes offered by an institution. As per the Baldrige criteria view, students and parents are the key customers. The Baldrige concept of excellence has the following three elements:

i. A well-defined assessment strategy;
ii. Continual improvements on a period basis (year-to-year basis) with measurable key indicators of student learning and success;
iii. Demonstrated leadership in performance benchmarked with its peer group.

In order to drive and manage changes, 'innovation' is considered as an effective tool in the Baldrige Model. The impact of various criteria in an "Organization's Excellence Framework" shown as figure 2.The Baldrige Model for Excellence criteria has following 7 categories (NIST [2017]):

i. Leadership;
ii. Strategy Development;
iii. Focus on Customer: Student, Stakeholder and Market;
iv. Measurement, Analysis and Knowledge Management;
v. Focus on Workforce : Faculty and Staff;
vi. Focus on Operations : Process Management, and
vii. Organizational Performance Results.

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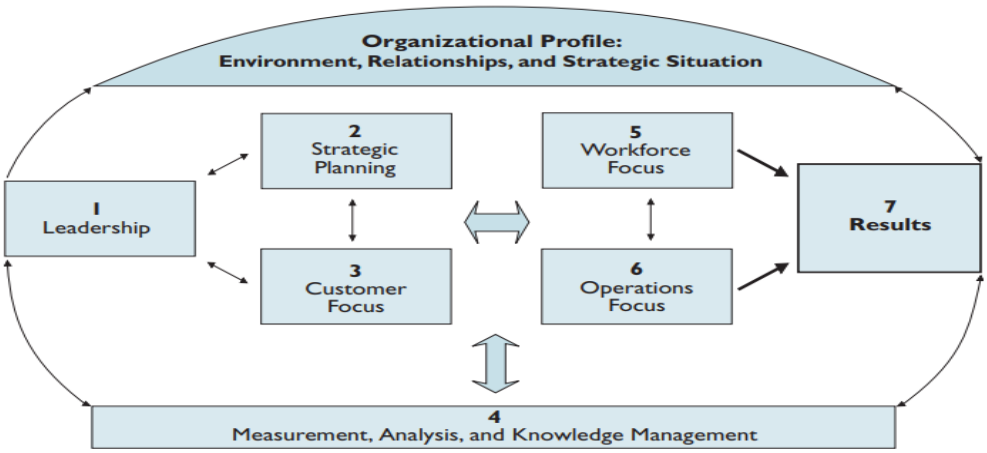

Figure 2: The Baldrige criteria for a performance excellence framework (*Source: NIST [2017]).*

In context of the Baldrige Model, Brent Ruben has emphasized seven essential elements in his book on "Excellence in Higher Education" (Ruben [2007]):

i. Leadership
ii. Objectives & plans
iii. Beneficiaries & constituencies
iv. Programmes & services
v. Faculty/staff & workplace environment
vi. Assessment & usage of information
vii. Outcomes & achievements

c) Other Models

Based on the EFQM model and the Baldrige Model, many other models have also emerged, such as "Kanji's Model for Higher Education (1999)" and the "Curtin Planning and Quality Framework (2013)". Rosa et al. [2003] proposed another Excellence Model for Portuguese HEIs and suggested excellence of HEI depends on the processes of teaching-learning, research, student support services and results/achievements through the established processes. Ruben [2007] places an emphasis on elements from management audits, disciplinary reviews and strategic planning to provide a generic model broadly applicable across all functions and levels of an institution. Garg et.al. [2015] suggested an alternate model for operational excellence in higher education and proposed an IT-enabled Strategic Operational Excellence Model (ISOEM) for HEIs based on the following 7 major components for operational excellence as shown in figure 3:

i. External Environment: Government regulations and policies, Industry growth and employment opportunities, Market demand, level of competition, various factors related with Politics, Economics, Socio-cultural, Technology, legal, and Environment.
ii. Catalysts: Factors that give HEI a competitive edge.
    - Internal Catalysts (Alumni Network, Technology Adoption, Entrepreneurship Orientation, Social Orientation and Human Values, etc.)
    - External Catalysts (Accreditations, Rankings and Benchmarking, Internationalization, etc.)
iii. Drivers: Key drivers for the institutional effectiveness and excellence, such as Leadership and Governance, Institutional Vision, Mission, Objectives, Core Values, Organizational culture, Academic Programmes and Services, etc.
iv. Enablers: Parameters for the existence and functioning of the HEIs, such as Inputs (students' quality, faculty quality, staff, planning, infrastructure and resources, etc.), Core and Support Departments and Processes.
v. Outcomes: Results of the academic and support activities and processes.
vi. Organizational learning, innovation and creativity for strategic change and improvement through Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis and benchmarking.
vii. IT-enabled/Automation.

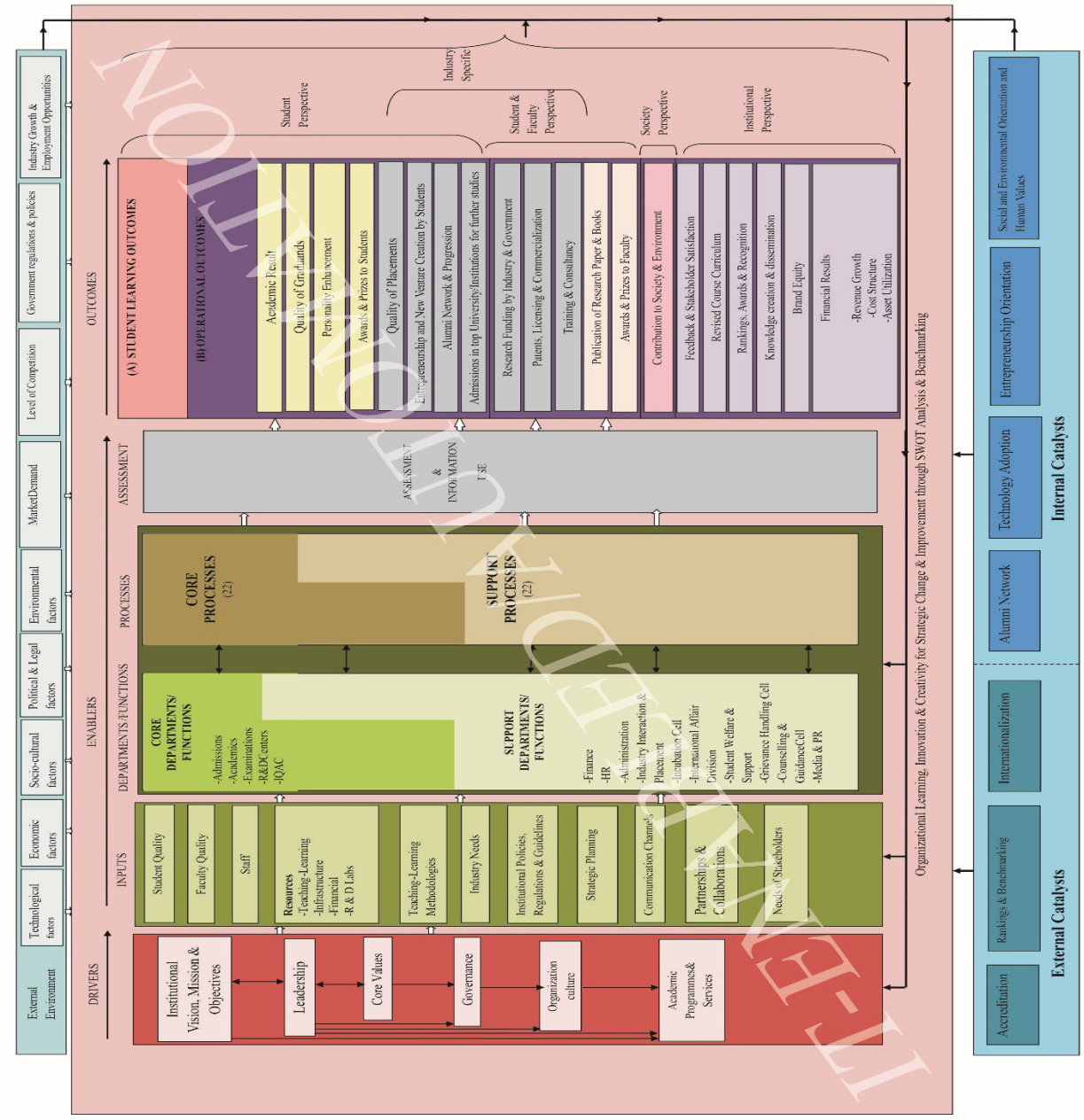

Figure 3. IT-enabled Strategic Operational Excellence Model for HEIs. *Source: Garg et al. [2015]*.

In India, institutional level assessment and accreditation are carried out by the National Assessment & Accreditation Council (NAAC). NAAC has revised its framework in for quality & excellence in H.E. in July 2017 and introduced a Quality Indicator Framework (QIF) having both quantitative (72% weightage) and qualitative (28% weightage) metrics (NAAC [2019]). A comparative analysis of previous approach v/s new approach of NAAC is shown in Table 1.

Table 1: Comparison of old methodology v/s new methodology of NAAC accreditation criteria and processes

Old Methodology (year 2007)		**New Methodology (year 2019)**	
1. Criteria and Weightage of Marks			
Criteria	Weightage	Criteria	Weightage
1.1 Curricular Aspects	150	1.1 Curricular Aspects	150
1.2 Teaching-Learning and Evaluation	250	1.2 Teaching-Learning and Evaluation	**200**
1.3 Research, Consultancy and Extension	200	1.3 Research, Consultancy and Extension	**250**
1.4 Infrastructure and Learning Resources	100	1.4 Infrastructure and Learning Resources	100
1.5 Student Support and Progression	100	1.5 Student Support and Progression	100
1.6 Governance and Leadership	150	1.6 Governance, Leadership and Management	**100**
1.7 Innovative Practices	50	1.7 Institutional Values and Best Practices	**100**
2. Type of Metrics			
100% Qualitative Metrics (Responses were required in descriptive nature)		More weightage is given to Quantitative (numeric) metrics, i.e. (72% weightage and Qualitative (descriptive) metrics are with 28% weightage. A component of Student Satisfaction Survey (SSS) is also added for assessment.	
3. Method of data entry, final submission and further communication method with NAAC			
Manual system of preparing documents for Self-Study Report (SSR). Converting into PDF files and submission through CDs along with 10 hard copies to be sent through courier to NAAC office.		Online data entry in SSR through NAAC portal. All communication with NAAC in between and after submitting the SSR is online through NAAC Helpdesk available on portal.	
4. Data Validation and Verification (DVV) Process			
DVV process was done by NAAC Team.		Third party(s) are involved into the process of data validation and verification (DVV).	
5. Grading System			
Letter Grade and Performance Descriptor	Cumulative Grade Point Average (CGPA)	Letter Grade and Performance Descriptor	Cumulative Grade Point Average (CGPA)
'A' Grade Very Good (Accredited)	3.01 - 4.00	'A++' Grade (Accredited)	3.51 - 4.00
'B' Grade Good (Accredited)	2.01 - 3.00	'A+' Grade (Accredited)	3.26 - 3.50
'C' Grade Satisfactory (Accredited)	1.51 - 2.00	'A' Grade (Accredited)	3.01 - 3.25
'D' Grade Unsatisfactory (Not Accredited)	≤1.50	'B++' Grade (Accredited)	2.76 - 3.00
		'B+' Grade (Accredited)	2.51 - 2.75
		'B' Grade (Accredited)	2.01 - 2.50
		'C' Grade (Accredited)	1.51 - 2.00
		'D' Grade (Not Accredited)	≤1.50

Source: NAAC Institutional Manual for Self-Study Report Universities and *NAAC Website*

Various approaches have been conceptualized to illustrate the Excellence in Higher Education. These approaches apply to management and services provided as well as the experience of stakeholders and outcomes from study and research. Excellence in higher education may be understood as an expectation and a goal. Arab Network for Quality Assurance in Higher Education (ANQAHE) conducted a broad survey of QA and Accreditation of HE in Arab Region in year 2012, financed by the World Bank. The survey findings showed the importance of international and external quality audits and site visits of peer teams to improve the quality of HEIs in Arab Region (ANQAHE [2012]). In above context of globalization of HE, Accreditation plays an important role for setting minimum standards for academic processes, curriculum, teaching-learning, infrastructure and resources, support services, governance, leadership and management, and benchmarking of best practices in order to prompt the culture of continuous improvement towards achieving excellence (Middle State Commission [2002]).

So far we have elaborated the concept of H.E. in ancient time (387 BC) and the emergence of QA in modern higher education system through involvement of various statutory, regulatory and accrediting bodies globally. We also have discussed that Excellence in HE has been defined by numerous researchers. In section 2 of this paper we have discussed the meaning of accreditation, its benefits. Section 3 describes the methodology specifying the purpose for selecting particular accreditation and ranking processes/framework for this study. Section 4 elaborates the impact of accreditation on various aspects, such as: enrollments; academic reputation; internationalization; research & innovation; stakeholders' satisfaction and employability; quality of faculty, curriculum & learning outcomes; and academia-industry relationship/connect. In section 5 we have concluded the overall findings of our research work. In this paper at many places abbreviated forms have been used, those are described at the end of his paper.

2. ACCREDITATION AND ITS BENEFITS

The term 'Accreditation' is used as a quality indicator. Lee [2004] has demarcated Accreditation as a status of an institution or programme that meets specified minimum standards. CHEA [2010] has defined accreditation as a process and a status of both. In this context, the process is to review HEIs and programmes by assessing their educational quality based on predefined standards; and status is the outcome of that process. As per National Board of Accreditation, India (NBA), accreditation is a process of QA and improvement where an institution or programme is evaluated based on certain standards. The purpose of accreditation is to promote and recognize excellence in higher education (NBA [2019]). Bittick [2003] analyzed that an accreditation process gives an opportunity to look into all processes in depth and to solve problems which were unnoticed over a long period**.** In view of various literature review, we may define accreditation as a process whereby an institution or programme undergo through an assessment process to determine the compliance of set standards/criteria, defined, reviewed and critically evaluated by experts / peer group to ensure the quality of higher education institution / programme. Walters et al. [2007] argue that because the accreditation audits are impartial and specific, and criteria are reviewed/revised by experts, accreditation may be marketed as a Mark of Excellence. Some of the benefits of accreditation are given below (NBA [2019], NAAC [2019], Aithal [2016]):

i. It is an assurance of basic level of quality standards to relevant stakeholders;
ii. Credits are most likely to be transferred to other accredited institutions;
iii. A recognized degree certificate;
iv. Coherence of the research plan;
v. Initiate HEIs developing necessary infrastructure and pedagogical support;
vi. Helps to develop content of training programs to the needs of the relevant sector;
vii. Demonstrates commitment to excellence;
viii. Facilitates continuous improvements;
ix. Recognizes achievements/innovations;
x. Helps in fund raising;
xi. Gives a new sense of directions to build strength and overcome weaknesses;
xii. Helps in systematic ways of planning, development and review of processes, etc.

3. Methodology

The Objective of this section is to explain techniques used for data collection, analysis and interpretation of data related to the topic of this study. Data of 3000+ students from the HEIs of National Capital Tertiary Region (Delhi/NCR) was collected to find out the impact of accreditation on enrollments/admissions.

Sample Size: 3219 students

Tool(s) for data collection and analysis: A survey questionnaire was prepared with 13 factors influencing the decision making of parents/students to take admission in a particular institution. MS-Excel and SPSS software are used for data analysis.

The literature and references of various accrediting, ranking and regulatory/signatory bodies have been taken to explain the impact on HEIs. Since NAAC and NBA are the only two accrediting bodies in India to assess and accredit institution and programme respectively, therefore; the impact of few other reputed accrediting and ranking bodies also have been taken.

Accrediting bodies:

Institutional-level: (i) NAAC, India (ii) WSCUC, USA

Programme-level: (i) NBA, India (ii) ABET, USA (iii) AACSB, USA (iv) TedQual, Andorra

Ranking bodies:

(i) NIRF, India (ii) ARII, India (iii) QS, UK (iv) THE, USA

World over, Wester Association of Schools and Colleges (WASC), a regional accrediting body of United States which is also named as WSCUC for assessing HEIs is considered as a benchmark to evaluate quality standards. ABET is one of the oldest accrediting body for engineering & technology programmes, established in 1932 in Baltimore. Similarly, AACSB is the world's renewed accrediting body for business management and accounting, synonymous with the highest standards of excellence since 1916. TedQual is an international assessment and certification process for certifying the tourism education by the UNWTO Themis Foundation. Outcomes of various accreditation processes comes out through the results of rankings. Therefore the above ranking bodies have been considered in this paper. There are many other accrediting and ranking bodies in the world. However, in this study only above bodies have been reviewed along with few others, e.g. CHEA, ANQAHE, ENQA etc.

The next section describes the findings through the impact of various accreditation and rankings using empirical studies and literature review.

4. IMPACT OF ACCREDITATION

Accreditation may be categorized as – institution-level and programme-level. Institution-level accreditation reviews overall processes and quality of an institution, whereas programme-level accreditation reviews specific programmes within institutions and attainment of results & student success in depth. Outcomes of accreditation status have significant impact on many aspects of HEIs. First of all, it helps for improving the quality of H.E. through improving its policies, processes and core functional areas, such as research, academics, teaching-learning etc.

4.1 Enrollments/Admissions

Strengths and weaknesses of HEIs are observed for initiating appropriate actions. Stakeholders gain benefited from the analysis and information of HEIs **(**Sinha and Subramanian [2013]). The International Accreditation Organization (IAO) quoted that the accreditation status of an institution can influence an admission aspirant's decision to join educational institution as it reflects the authenticity of their degree programme and acceptability. NBA emphasized that the impact of accreditation goes far beyond the QA of an HEI. Impact of accreditation is clearly evident on the improvements in enrollment of prospective students (NBA [2019]). In June 2018, a survey of 3,500 students was conducted in HEIs across Delhi/National Capital Region (NCR) to find the most influential factor for admission aspirants to join a higher education institution; 3,219 students responded. The questionnaire had 13 factors which were identified through a pilot survey of Dean, Faculty of Study, Head of Institutions and Faculty staff of 55 HEIs. Students were asked to rank from highest level to lowest level of factor

which influenced them to decision to join a programme/institution. The empirical study shows that 84% of students ranked "Accreditation Status" as the most important factor. "Rankings" was chosen as next important factor by 83% aspirants. Whereas "Education Fairs", "Advance from school counselor or teacher", Contact and recommendation from faculty staff" and "Visit by a representative to school" were the least four factors found, as shown in Figure 4 and Table 2.

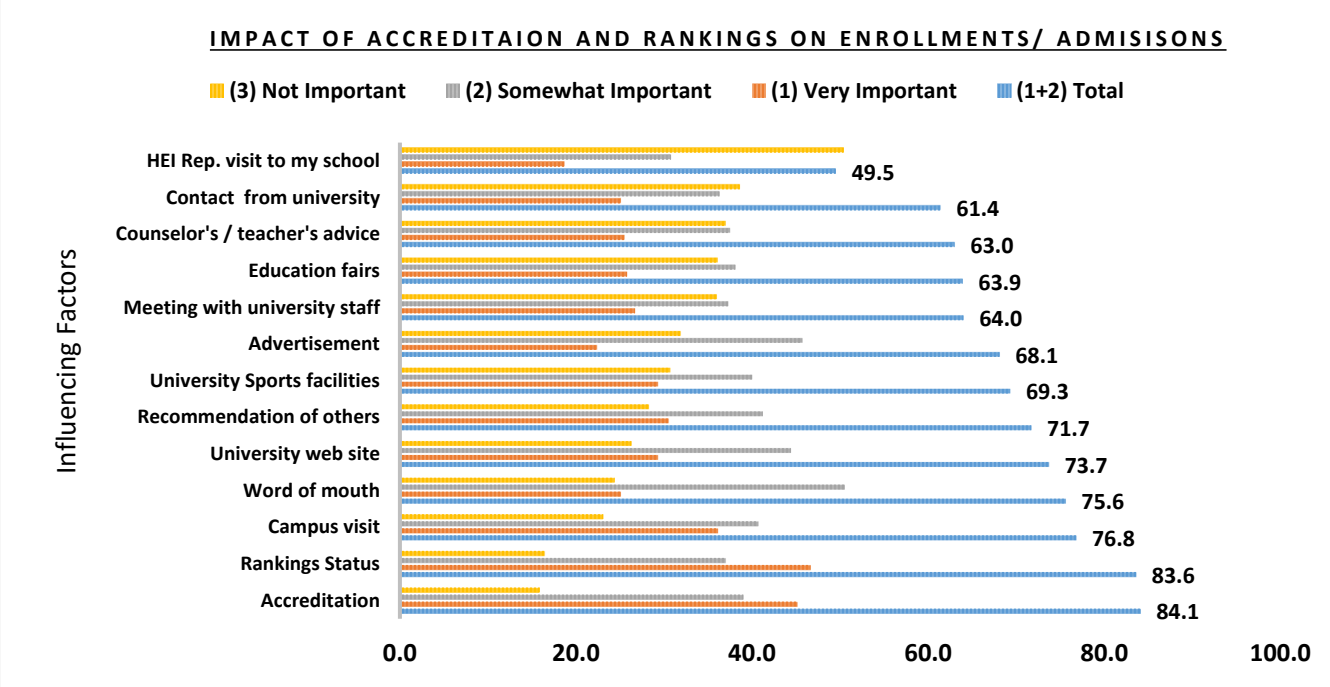

Figure 4. The Impact of Accreditation and Rankings on Enrollments/Admission. (Number given in percentage)

Table 2: Factors influence admission aspirants for selecting a programme / institution.

Influencing Factors	(1+2) Total	(1) Very Important	(2) Somewhat Important	(3) Not Important	Ranked by students
Accreditation	84.1	45.1	39.0	15.9	**1**
Rankings Status	83.6	46.6	37.0	16.5	**2**
Campus visit	76.8	36.1	40.7	23.1	**3**
Word of mouth	75.6	25.1	50.5	24.4	**4**
University web site	73.7	29.3	44.4	26.3	**5**
Recommendation of others	71.7	30.5	41.2	28.3	**6**
University Sports facilities	69.3	29.3	40.0	30.7	**7**
Advertisements	68.1	22.4	45.7	31.9	**8**
Meeting with university staff	64.0	26.7	37.3	36.0	**9**
Education fairs	63.9	25.8	38.1	36.1	**10**
Counselor's / teacher's advice	63.0	25.5	37.5	37.0	**11**
Contact from university	61.4	25.1	36.3	38.6	**12**
HEI Rep. visit to my school	49.5	18.7	30.8	50.4	**13**

* To arrive at rank total of 'Somewhat Important' and 'Very Important' was considered.
(Numbers mentioned above are in percentage.)

However, McFarlane [2010] investigated and found that earning a degree from an unaccredited institution does not mean that the HEI lacks quality and standards. Yet, students who have completed degree from an unaccredited institution face problems when they wish to pursue further higher education.

4.2 Academic Reputation and Internationalisation

Expansion, privatization, and globalization of HEIs have generated a growing need to assure quality of higher education. Brennan and Shah [2000] conducted case studies in 14 nations and found that accreditation leads to many advantages through an enhanced academic reputation, increased funding, improvements in academic processes, and internationalization of higher education (McFarlane [2010]). Patil and Codner [2007] conducted a study on global accreditations and its impact. Apart from other impacts, they found following are some of the important purposes of accreditation:

a) Quality assurance,
b) Enhanced academic reputation at national and international level,
c) International mobility of grandaunts,
d) Improvements in academic processes,
e) Educational marketing and competitiveness,
f) Public accountability.

The impact of accreditation process results into measureable outcomes. The Outcomes/results are further evaluated by various international ranking agencies. A ranking survey is conducted by National Institutional Ranking Framework (NIRF, under Ministry of HRD, Govt. of India) each year. Over 3950 higher education institutions and 199 Centrally Funded Technical Institutes from 37 states in India participated in 2018 NIRF ranking survey. The survey is based on following five parameters:

a) Teaching-Learning and Resources
b) Research and Professional Practice
c) Graduation Outcome
d) Outreach and Inclusivity
e) Peer Perception

The result revealed that there is a correlation between the overall rank and Peer Perception based on calculated score for individual parameter for each HEI. Figure 5 shows that institutions ranked top in overall ranking have also score high in Peer Perception.

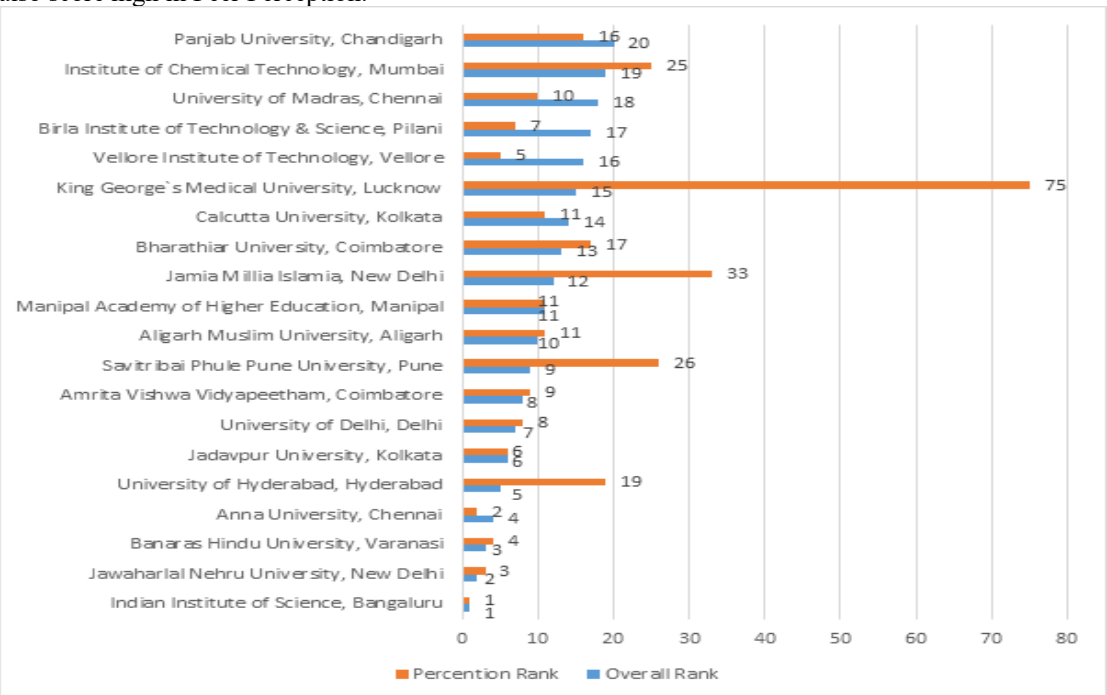

Figure 5: Academic Reputation: Comparison of overall rank v/s public/society perception rank of India top 20 HEIs in 2018 (*Source: NIRF Ranking [2018]*).

Figure 5 illustrates 80% institutions of top 20 are common in both ranks (i.e. overall and perception). Further, a statistical analysis of was also done based on the NIRF survey result of top 100 HEIs of India. Positive correlation between the Overall Ranking Score and Peer Perception Score is illustrated in Table 3.

Table 3. Positive Correlation between Overall Ranking & Peer Perception (NIRF [2018]).

		Overall Score	Perception Score
Overall Score	Pearson Correlation	1	.821**
	Sig. (2-tailed)		.000
	N	100	100
Perception Score	Pearson Correlation	.821**	1
	Sig. (2-tailed)	.000	
	N	100	100

**. Correlation is significant at the 0.01 level (2-tailed).

Table 2 shows correlation coefficient for Overall Score and Perception Score is 0.821, which is statistically significant. Further, QS WUR gives 50% weightage for reputation (40% to academic reputation and 10% to employer reputation), whereas THE WUR has 15% weightage for Academic Reputation survey. Meeting internationally-benchmarked standards is one of the priorities of HEIs today. Internationalization is firmly connected with the improvement of the quality of H.E. Internationalization, as such, has elements of concern in almost all institutional and academic programme accreditation criteria and standards (Ruben et al. [2015]). The importance of internationalization has been increased during the last one decade. Most international ranking bodies are giving considerable weightage in their ranking methodologies as it provides students and faculty staff a cross cultural environment, facilitate joint research, exchange programmes and advantages of best practices and beliefs. Weightage given to internationalization factor by QS, UK and THE, USA is shown in Table 4

Table 4. Weightage given to internalization factor

Internationalisation Factors	QS World University Ranking (WUR)	THE World University Ranking (WUR)
Ratio of International Faculty	5%	2.5%
Ratio of International Student	5%	2.5%
International Collaborations	-	2.5%
Total	10%	7.5%

Source: QS, UK and THE, USA (QS [2019], THE [2019]).

4.3 Promotion of Research and Innovation

The accreditation and rankings help HEIs to focus on promoting research and innovation culture, to publish research findings in referred journals, and to contribute research papers in conferences and workshops. Periodic evaluation of various processes and results by external experts brings measurable output of such activities (Dattey et al. [2014]). Table 5 shows the % of weightage given by accrediting and ranking bodies to Research and Innovation.

Table 5. Percentage of weightage given by accrediting and ranking bodies to Research and Innovation

NAAC, India	25.0%
AACSB, USA	48.0%
QS, UK	20%
THE, USA	65.0%
NIRF, India	20.0%
ARIIA, India	71.0%

Source: QS[2019], THE[2019], NAAC[2019], AACSB[2019], NIRF[2018], ARIIA[2019].

The importance of research and innovation is clearly evident from the weightage given by various accrediting and ranking bodies. Atal Ranking of Institutions on Innovation Achievements (ARIIA) that is conducted by the

Ministry of HR Development, Govt. of India is highest (71%), next THE, USA (65%), AACSB, USA (48%) and so on. Aithal et al. [2016] found that the direct accreditation process has a positive impact on teaching-learning, research, community engagement and the holistic development of students.

4.4 Stakeholders' Satisfaction and Employability

CHEA [2010] emphasized the value of accreditation and its benefits to stakeholders. "Accreditation Status" means that an institution or programme has satisfied the standards/minimum requirements. In other words, students and parents gain confidence that the degree has some value or recognition. This results in improvement of student success, i.e. attainment of learning outcomes, graduation rates, and better career progression through transfer of credits, and enhancing employability. Industry-academia tie-ups are enriching the curriculum to fill the gap between jobs available in the market and skills earned by the students. This model helps HEIs to develop employer-approved courses, thereby boosting chances of employability (Burke and Butler [2012]). As such, accreditation status of an HEI helps immensely in an organization's decision-making, improvements in infrastructure, attitudes and responsibilities, which might indirectly improve teaching-learning (Liu et al. [2015])**.** Shearman and Seddon [2010] noted that advantages of accreditation are being recognised throughout the world. HEIs are collaborating with industries for developing work-based learning programmes to develop industry-ready talent.

4.5 Quality of Faculty, Curriculum and Learning Outcomes

An accreditation process impacts quality of faculty, curriculum and assessment of learning outcomes. In fact these have been incorporated as mandatory criteria in almost every accreditation process (NBA [2019], ABET [2019], AACSB [2019], WSCUC [2019], TedQual [2019]). Learning Outcomes are often used as crucial sign of quality of academic programmes; therefore accreditors have focused on improvement in curriculum and learning outcomes. Faculty members are engaged in development of curriculum and assessment of learning outcomes. Therefore, the development and implementation of curriculum and attainment of learning outcomes depend a lot on quality faculty. Volkwein et al. [2006] found that accreditation is a significant driving force in a set of convergent factors (including initiatives taken by faculty staff, external funding for research projects which lead to improve teaching-learning & recruiters' feedback) that influences academic activities and learning.

4.6 Industry Connect

Fairweather [1989] studied the industrial connection of HEIs and found it is relatively important in research-driven colleges and universities. May and Strong [2006] studied the Canadian University System for engineering education. The survey revealed the fact that industry has found graduates weak in the field of engineering design, innovation, communication and relevant professional skills. That raises the requirement of redesigning the curricula as per industry requirements. Table 6 shows the weightage of industry connect given by NAAC in the assessment and accreditation process of HEI

Table 6. Industry-Academic Parameters in India

Metric id	Description	Marks out of 1000
3.2.1	Grants for research projects sponsored by the non-government sources such as **industry, corporate houses, international bodies, endowments, Chairs in the institution** during the last five years	3
3.3.2	Number of workshops/seminars conducted on Intellectual Property Rights (IPR) and **Industry-Academia Innovative practices** during the last five years	7
3.6.3	Number of extension and outreach Programmes conducted in collaboration with **industry, community and Non- Government Organisations through NSS/NCC/Red cross/YRC** etc., during the last five years	10
3.7.2	Number of linkages with **institutions/industries for internship, on-the-job training, project work, sharing of research facilities** etc. during the last five years	5
3.7.3	Number of functional MoUs with **institutions of national, international importance, other universities, industries, corporate houses etc.** during the last five years (only functional MoUs with ongoing activities to be considered)	10
	TOTAL Marks	**35**

*Source: NAAC [2019]***.**

Approximately 3.5% weightage of Industry Connect has been given in direct assessment by NAAC. Also the industry connect has been well emphasized in the development of curriculum and continuous academic processes. Haag [2006] researched the involvement of industry in academia and suggested that students' performances may be best assessed by gathering feedback from industry during the internship period, so that whatever they lack can be improved before the completion of their enrolled programme.

5. CONCLUSION

The concept of quality has been migrated from manufacturing strategy to the service section. Interestingly, in service sector, demand of quality and excellence is being increased substantially. The term 'excellence' has been defined by various researchers through different models. Common factors in all models are stakeholders' satisfaction, achievement of learning outcomes and student success. Accreditation is perceived as a tool in facilitating quality education; an instrument of improving academic/non-academic services, transparency in system and making accountability at appropriate levels. Importance of globally accepted standards/criteria have been emphasized by various reputed international agencies such as ISO, ANQAHE, ENQA, CHEA and INQAAHE etc. A number of international alliances and agreements have been made around the world for establishing common best practices and standards like accords (WA, SA, DA) and agreements (IPEA, IETA, AIET, APECEA). Today, hundreds of nations are member of these accords and agreements. An accreditation process involves professionalization of quality assurance, teaching-learning, quality research and innovation, reallocation of resources, development of several policy guidelines and its deployment, etc.

Benefits of Accreditation are clearly visible in credit transfer of students from one accredited institution to other, higher acceptance of degree qualification to pursue further education across the world, benchmarking with other institutions and adoption of best practices, continuous improvements in overall processes and availing funds etc. The impacts on these dimensions are inter-related and may result in restructuring the functioning of HEIs. The impact of Accreditation on quality and excellence of higher education institutions has been seen globally through its results, based on established processes (enablers) that are reviewed and revised at regular intervals by professionals of relevant areas e.g. curriculum / academics, teaching-learning and research etc. The academic reputation is influenced by the position in top ranked HEIs; in fact QS World University Ranking has 50% weightage for reputation (academic and employer). In India, by NIRF Ranking has given 20% weightage to perception based survey. Statistically also it has been proved that high perception rank of institutions helps to improve the overall ranking. The impact of accreditation and rankings is clearly evident in enrollments/admission. Survey result shows that more than 80% admission aspirants choose the institution/programme of their interest based on the accreditation and ranking status. The empirical study conducted on the NIRF Ranking results of 100 HEIs in India using the Pearson Correlation method shows a significant correlation in perception score and overall score in rankings.

Research and innovation are continually promoted in accrediting institutions as scholarly activities are considerably weighted by all accrediting and ranking bodies such as ARIIA, India (71%); THE, USA (65%); AACSB, USA (48%); NAAC, India (25%) and NIRF, India (20%) etc. The status of accreditation and ranking is available in public domain, it helps admission aspirants to make a decision for joining the HEI with high grades. We cannot say that unaccredited HEIs are providing low standard education. Yet it has been proven that the status of accreditation and rankings helps for attracting more number of national/international students, exchange programmes; MoUs with international universities, research labs, organizations; joint collaborations for research, seminars, conferences, workshops and student success & progression etc. Accreditation criteria/standards clearly define the minimum qualification of faculty staff, workload, scholarly activities of faculty and students, curriculum updates, learning outcomes, industry connect etc. Because of accreditation many policy guidelines are formulated and implemented for academic and administrative functioning of HEIs. However, since there are many accrediting bodies are available at institutional and programme levels and each have different standards/criteria and hundreds of formats to compliance with; there is a need to have a common holistic excellence framework for HEIs. That one common model/framework will serve the requirement of various criteria and critical parameters for achieving excellence in higher education institutions. This will be the future scope of research.

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ABBREVIATIONS

Abbreviation	Full Name
AACSB	Association to Advance Collegiate Schools of Business, USA
ABET	Accreditation Board for Engineering and Technology, USA
ACBSP	Accreditation Council for Business Schools and Programs, USA
ACCET	Accrediting Council for Continuing Education and Training, USA - for Vocational and English Language training institutions
ACCSC	Accrediting Commission of Career Schools and Colleges, USA
ACEJMC	Accrediting Council on Education in Journalism and Mass Communications, USA
ACF	American Culinary Federation, USA
ACICS	Accrediting Council for Independent Colleges and Schools, USA
ACPE	Accreditation Council for Pharmacy Education, USA
AICTE	All India Council for Technical Education, India
AIET	Agreement for International Engineering Technicians
ANQAHE	Arab Network for Quality Assurance in Higher Education
APECEA	Asia Pacific Economic Corporation Engineers Agreement
AQ	Agency for Quality Assurance and Accreditation, Austria
ARIIA	Atal Ranking of Institutions on Innovation Achievements, India - Ranking body
ASIC	Accreditation Service for International Colleges, UK
BCI	Bar Council of India, India
CCH	Central Council of Homeopathy, India
CCIM	Central Council of Indian Medicine, India
CHEA	Council for Higher Education Accreditation, USA
CoA	Council of Architecture, India
DA	Dublin Accord - International Agreement for Standards of Engineering Programmes
DCI	Dental Council of India, India
DEC	Distance Education Council, India
EFMD	European Foundation for Management Development, Belgium
EFQM	European Foundation for Quality Management
ENQA	European Association for Quality Assurance in Higher Education, Belgium
FIBAA	Foundation for International Business Administration Accreditation, Germany
H.E.	Higher Education
HEIs	Higher Education Institutions
HLC	Higher Learning Commission, USA
IACBE	International Accreditation Council for Business Education, USA
ICAR	Indian Council of Agricultural Research, India
IEA	International Engineering Alliance
IET	The Institute of Engineering and Technology, UK
IETA	International Engineering Technologies Agreement
INC	Indian Nursing Council, India
INQAAHE	International Network for Quality Assurance Agencies in Higher Education
IPEA	International Professional Engineers Agreement

ISO	International Organization for Standardization
MCI	Medical Council of India, India
MSACS	Middle States Association of Colleges and Schools, also called as "MSASC", USA
NAAC	National Assessment and Accreditation Council, India
NBA	National Board of Accreditation, India
NCTE	National Council for Teacher Education, India
NEASC	New England Association of Schools and Colleges, USA
NIRF	National Institutional Ranking Framework, India - Ranking body
NIST	National Institute of Standards and Technology, USA
NWCCU	Northwest Commission on Colleges and Universities, USA
PAB	Planning Accreditation Board, USA
PCI	Pharmacy Council of India. India
PDCA	Plan, Do, Check, Action
QA	Quality Assurance
QAA	Quality Assurance Agency for Higher Education, UK
QS	Quacquarelli Symonds - Ranking body, UK
RADAR	Results, Approach, Deploy, Assess, Refine
RCI	Rehabilitation Council of India
RICS	Royal Institution of Chartered Surveyors, UK
SA	Sydney Accord - International Agreement for Standards of Engineering Programmes
SACS	Southern Association of Colleges and Schools, USA
THE	Times Higher Education - Ranking body, USA
UGC	University Grant Commission, India
UNWTO.TedQual	United Nations World Tourism Organization - Tourism Education Quality, Andorra
WA	Washington Accord - International Agreement for Standards of Engineering Programmes
WASC	Western Association of Schools and Colleges, USA. For HEI - termed as WSCUC, i.e. WASC - Senior College University Commission.