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ASSESSING EDUCATIONAL INSTITUTIONS WITH MMEI

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ABSTRACT

"An investment in knowledge pays the best interest." Says Benjamin Franklin but an investment in the best educational institution pays the biggest interest. Defining the best institution is one of the major challenges. Educational institutions vary from the most reputed to undistinguished institutions. There are certification agencies like Washington Accord (International Engineering Alliance, www.washingtonaccord.org) that consists of six international agreements used to govern mutual recognition of engineering qualifications and professional competence. Also there are National bodies like NBA (National Board of Accreditation - India) for the purpose of assessment of Quality and Accreditation of Technical programmes in India. But these bodies work like certification agencies. We require processes that help and govern institutions to reach the most distinguished level.

Just as CMMI is used in software industry to judge the maturity of the software processes, in this paper we propose an assessment and improvement framework for all educational institutions. This framework would help institutions to be ranked in levels and also help them to achieve higher levels. **MMEI –Maturity Model for Educational Institution** is a model that proposes a system which would help any educational institution to be ranked among the most distinguished ones.

Indexing terms/Keywords

Assessing education, maturity model, educational institute

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I. INTRODUCTION

Education is very predominant in today's society. Education plays such a rudimentary role in today's society that we cannot imagine a life without education. Education makes people civilized and gain knowledge to have a better view of today's world. This is the reason why the government of every nation wants its citizens to be well-educated, employed and independent.

There are several places that impart education, of which educational institutions (colleges, schools, etc.,) are of paramount importance. It is recorded that in last two decades the number of educational institutions (irrespective of higher education or primary education) has been increasing (figure-1) [8]. But when we need to choose out the best, better and worst educational institute, there is a vast gap between each institute.

The situation of today's educational system is similar to the situation faced by software industries a couple of decades ago i.e., there was a sudden growth of number of DOTCOMs, no standardized processes, which lead to poor software quality and software failures. And later this problem in software industries was solved by CMMI which came with a framework to access and improve processes adopted by organizations and to produce quality software.

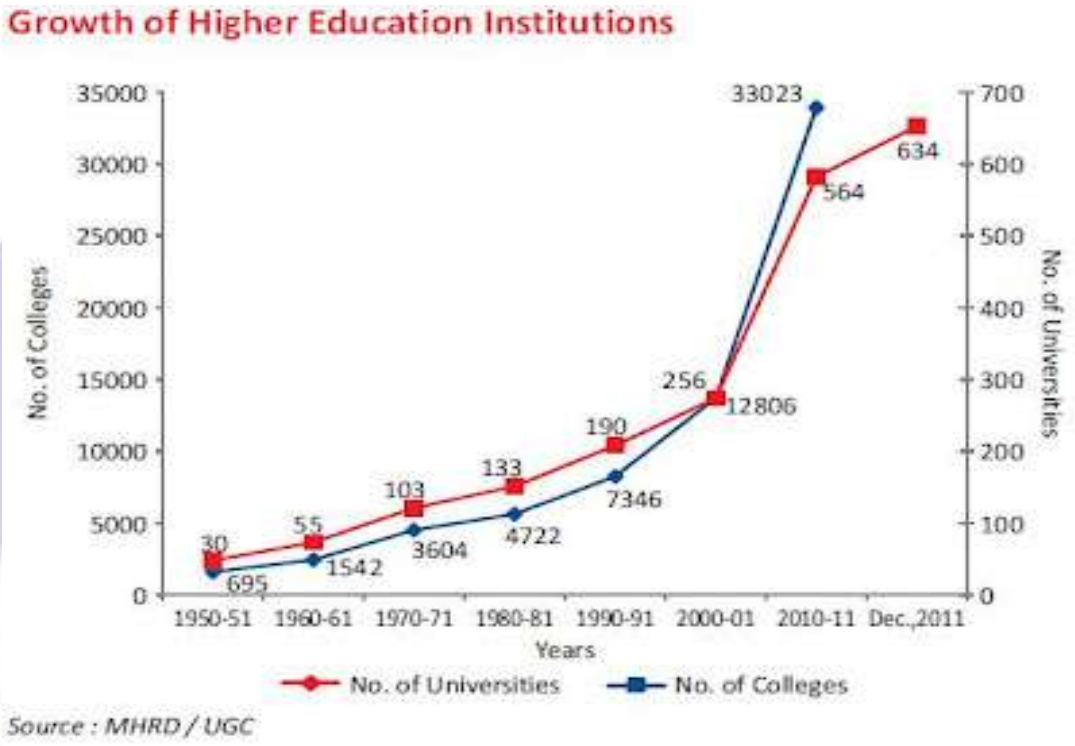

Figure 1: growth of higher education institutions

Similarly, in this paper we would like to propose a consistent framework **MMEI i.e., maturity model for educational institution** which will be useful for any educational institution to evaluate and improve themselves to reach subsequent higher levels and become the best and the most distinguished institutions and provide qualitative education.

There are certification agencies like Washington Accord (International Engineering Alliance, www.washington accord.org) which consists of six international agreements governing mutual recognition of engineering qualifications and professional competence. There are other agencies like NBA (National Board of Accreditation) set up by the AICTE(All India Council of Technical Education) in September 1994, for the purpose of assessment of Quality and Accreditation of Technical programmers' in India.

This proposed model and the principles can be applied to all graduate and engineering institutions such as arts & science colleges, IITs, B schools, IIMs, SPAs, NITs etc. The same framework with few modifications could be applied to Elementary and Higher-Secondary institutions.

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II.ASSESSING LADDER

The assessing ladder helps in ranking institutions into several levels. Here is the ladder, which consists of few renamed CMMI levels, and few additional briefed out levels required for an institute to rank themselves.

Figure 2: MMEI levels

Striving:

The institutions that do not have clear vision and mission are categorized as striving institutions .they are the institutions that are struggling to survive. We can say they are like infantry or just born.5-10% colleges are at their initial levels. They lack in well-defined procedures, system, faculties etc., they are at high risk of shutting down unless and until they take strong steps to improve their systems and procedures.

Persisting:

The institutions at this level are ones that have clear goals and vision but not able to improve due to certain criteria such as financial matters, lack of coordination among management etc., we can say that these intuitions are just surviving in the society. If the condition goes on to be the same then very soon the institutions will face situations where they need to be shut down.

Enhancing:

There are very few institutes, which might be surviving because of few experienced and renowned academicians. These institutes contribute very less to the development of the Society. These institutes need to do a lot of refinements to reach the next level. Here they require a day-to-day improvement process. The systems and procedures are ad-hoc. In pressurized situations, the procedures are forgotten and short cuts are followed.

Identified:

The majority of these institutes are popular in the society (Students, parents and others) for better placements, knowledgeable and experienced staff and better academic standards. The procedures are well placed, but not standardized across the institute, and the effectiveness of procedures is not measured. The procedures should be standardized and proceed towards the improvement process which make them certified.

Accredited:

Accreditation is a detailed process. Along with the institution's educational product, its faculties, facilities, infrastructure, equipments and processes followed are reviewed. Any elements that are necessary in the student's educational process are reviewed regularly to ensure standardization and quality before the accrediting body gives its stamp of approval

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Figure 3 accredited schools [7]

Accredited institutions are recognized and reputed not only in societies but also have been certified by the accreditation bodies. The institutions at this level are just a few steps away from obtaining the highest level of maturity. Some implementations and practices need to be brought in.

Deemed:

These are the institutions, which have their own standardized procedures, assessment process, and are well organized. They need to move forward to next levels, which will make them recognized nationwide.

Preeminent:

The institutes in this level are among those few institutes, which are recognized, nationwide. They have to work towards maintaining the grade and fame achieved. They have to concentrate on improving the infrastructure and adaption of latest skills and technologies quickly and make themselves to reach at the top most level.

Eminent:

It constitutes of the institutions that have reached the highest maturity level but need to take actions to maintain that level of maturity. Only very, few of the institutions have gained this level and recognized worldwide. It focuses on continuous process improvement. They act as role models for other institutions that are at lower level. They contribute significantly in the society. All the processes are meticulously planned and fully implemented.

Levels Conversion:

- *From Striving to Persist:*

  The institutions should create well-defined mission and be clear of the goals they need to achieve. Small procedures and activities are to be implemented.

- *From Persisting to Enhancing:*

  Institutions should build better financial status and make the management team stronger so that they can work together in proving the state of the institution.

- *From Enhancing to Identified:*

  Institutions need to bring in measures to improve their processes. All ad-hoc methods should be aborted. Small but effective goals must be achieved. Staffs, placements and academic standards should be effectively improved.

- *From Identified to Accredited:*

  Institutions need to standardize all the process and bring in measures to quantify effectiveness. They should proceed towards the improvement of the processes which can get them get certified.

- *From Accredited to Deemed:*

  Institutions need make better and effective goals. Increase the levels of effectiveness of all the processes.

- *From Deemed to Preeminent:*

  Institutions need to deploy methods by which they can gain recognition in the society. They need to improve several areas to move to the preeminent level.

- *From Preeminent to Eminent:*

  Institutions should adapt to the latest technologies and implement measures to maintain the current activities of the institution.

III.KEY PROCESS AREAS

In this paper, we have identified several key process areas that are essential for any institute. They include Application process, Skill process, etc. These are the areas where every institution must look-into when moving from one level to another.

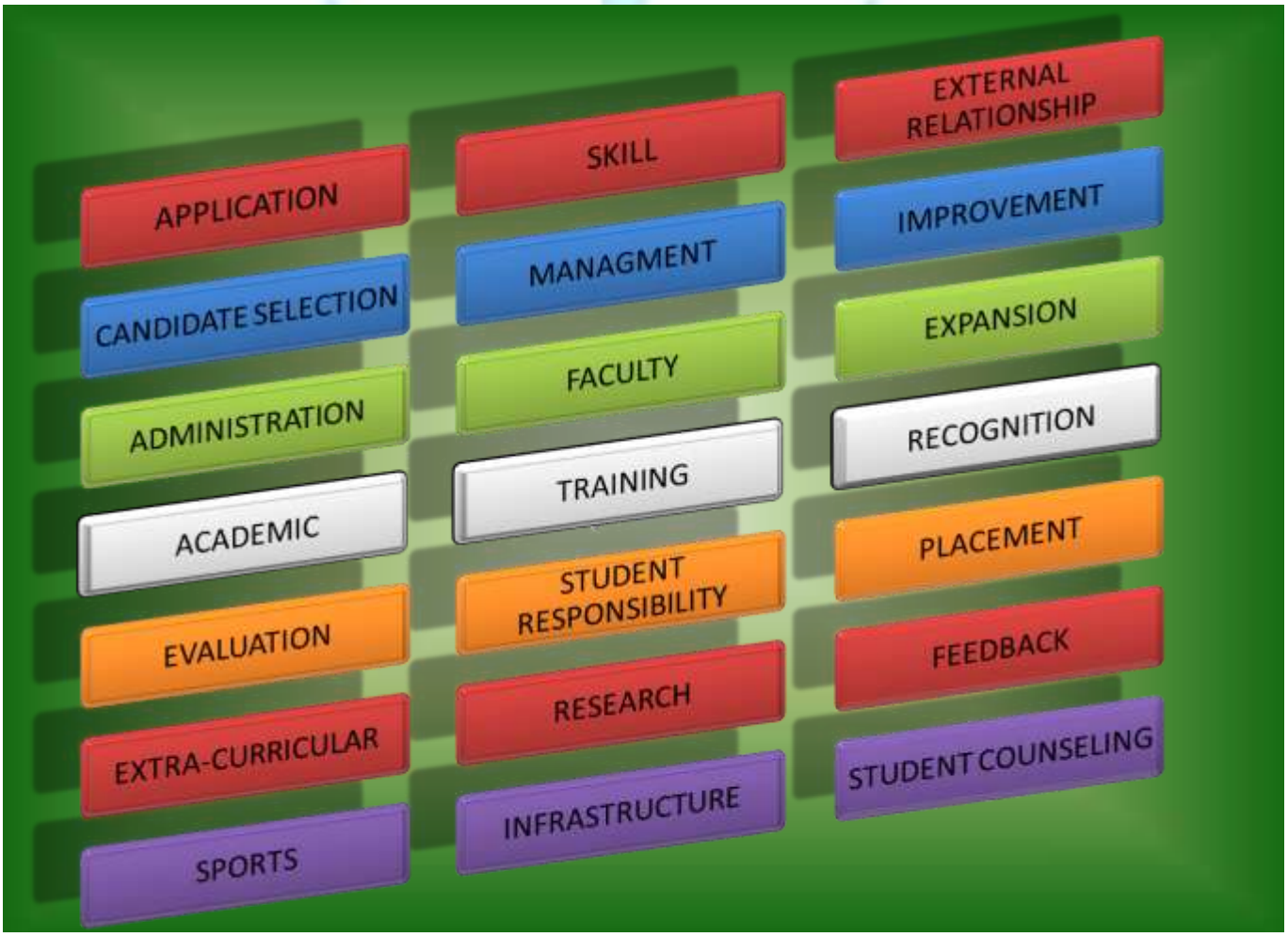

Figure 4: key process areas

Application process:

This process deals with how a student communicates with the institution to join it. The process can be done in-hand or online. It also includes processes such as eligibility criteria, nationality, etc.

Candidate selection process:

It involves the process of selecting eligible candidates. It is done either through entrance tests, interview, group discussions, etc.

Placement process:

This is process includes the training of the students to suit the corporate world by providing various placement opportunities in various sectors.

Infrastructure process:

It deals with the improvement and maintenance of the infrastructure which includes class room and staff cabin facilities, well equipped library, digital labs, practical labs, internet facilities, well-spaced auditorium, spacious play-court, upgraded software, etc.

Faculty process:

In this process the institution takes measures to analyze the quality of teaching, methodology of teaching, tracking the ways of improvement, etc.

Training process:

Training process helps the students to be trained well-enough in their fields of interests. It helps students to get trained for all the challenges that they may face later.

Student counseling process:

This process provides students with career guidance and mental relaxation. It helps students build a strong mind with positive views.

Student responsibility process:

This process prepares students to take up responsibilities on themselves rather than relying on others. It includes activities conducted by the students themselves.

Academic process:

It is the most important process of all processes. It involves selecting of syllabus and curriculum, teaching staff, teaching methodologies, assigning subjects to the teachers, planning practical syllabus, standardizing the reference books, etc.

Feedback process:

This process requires the institution to gather academic and non-academic feedback from the teaching and non-teaching staffs, student, alumni, parents and management.

Evaluation process:

It handles the evaluation of the students based on assignments, class room activities, group activities, presentations, projects, practical knowledge and examinations. Examinations could be both internal and external evaluation.

Management process:

This process includes the activities of defining the mission, vision and the goals of the institution. It also involves the measures an institution must take in order to achieve new goals and improve the already existing processes.

Administration process:

It helps in defining the internal structure of the institution. It includes activities such as assigning of roles and duties, infrastructure maintenance, student welfare, etc.

Recognition process:

It deals with the measures taken by the institution to create recognition of itself in the society.

Expansion process:

Incorporation of this process would lead the institution to grow bigger. It deals with adding an extra element to the already existing element.

Improvement process:

This process helps the institution in finding less-effective activities and finding a solution to improve those activities. It includes allocation of budget, internal auditing, planning schedules for improvement, etc.

External relationship process:

This process helps in proving the relationship between the institution and the outside world. It deals with the affiliation with local, national and international organizations, organizing seminars, guest lectures, conferences, etc.

Extra-curricular processes:

It deals with the activities that encourage students to take part in activities other than academics. It involves inter-institutional competitions, intra-institutional competitions, etc.

Sports process:

In this process, the institution majorly takes care of the health of the students that are a part of it. It includes providing facilities for all kinds of sport equipments and specialized trainers.

Skill processes:

This process encourages the institution to help students attain specialized and self-presenting skills. It includes academic skills and personality development skills.

Research processes:

In this process, the institution encourages students and faculties in the research field and publishing research papers, articles etc., in journals. The institution encourages its students and staff to take part in international conferences related to their respective fields, and panel discussions etc. Apart from this the institution themselves also organizes such conferences and publishes journal on research fields.

VI. SCALE OF RATING:

The rating scale can be used to measure the importance of any process at a level. Scale of rating ranges from 0 to 5 where 0 indicates insignificance of a particular process at a level and 5 indicates that the process is very essential.

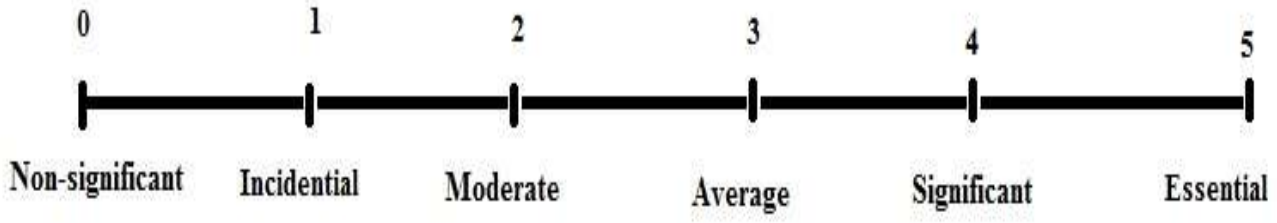

Figure 5:rating scale

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EFFECTIVENESS INDEX

S.NO	LADDER / PROCESS	Level_1	Level_2	Level_3	Level_4	Level_5	Level_6	Level_7	Level_8
1	Application process	1	1	2	3	3	4	5	5
2	Candidate selection process	1	1	2	3	4	4	4	5
3	Academic process	1	2	3	3	3	4	4	5
4	Infrastructure process	0	1	2	3	4	4	5	5
5	Faculty process	0	1	2	2	3	4	4	5
6	Training process	1	1	2	2	3	3	4	5
7	Student counseling process	0	0	1	2	3	3	4	5
8	Student responsibility process	0	0	1	2	3	3	5	5
9	Placement process	0	0	1	2	3	4	4	5
10	Feedback process	0	0	1	2	3	4	4	5
11	Evaluation process	1	1	2	3	4	4	5	5
12	Management process	1	1	2	3	4	4	4	5
13	Administration process	1	1	2	3	4	5	5	5
14	Recognition process	0	0	2	3	4	5	5	5
15	Expansion process	0	0	1	3	3	4	5	5
16	Improvement process	1	1	2	2	4	4	4	5
17	External relationship process	0	0	1	3	4	4	5	5
18	Extra-curricular process	0	0	2	3	4	5	5	5
19	Sports process	0	0	1	2	4	4	5	5
20	Skill process	0	0	1	2	3	4	5	5
21	Research process	0	0	1	2	3	4	5	5

Table 1: Effectiveness index of each process with respect to each level based on scale

Few of the key process areas need basic procedures at the lower levels and advanced procedures at the upper levels. To determine at which level a particular process area is, a rating scale is devised which rates the process area in each levels of ladder. For example, for any institute to reach the deemed level few processes such as candidate selection ,placement process, faculty, external relationship etc., must be essential where as training ,student responsibility process are just on average rate. Based on these ratings, institutions would be able to assess them-selves.

Sustaining the current Level

At regular intervals, an independent assessment by a third party or internal audit team should be done to calculate the overall effectiveness index for each process area. Every successive assessment should result in equal or greater Effectiveness index for all process areas to sustain the current level.

V. BENEFITS OF USING MMEI

Qualitative benefits:

- The institute becomes more process driven which reduces the dependency on people
- Having this model the institute can assess themselves and find where they stand.
- Increasing fame and name in every field and not only in academics.
- The academic standards are improved on regular fashion which will also lead to Quantitative benefits
- Increasing reputation and recognition, the institute moves from locally known → city-wide known → state-wide known → nation-wide known → internationally known.
- Institutions can give industries qualitative and responsible employees.

Quantitative benefits:

- Increased enrollments
- Increased Pass Percentages
- Increased skilled faculties
- Increased Placements
- Increased Industry recognition
- Increased funding for projects

VI. CONCLUSION

At present in this paper, we have done most of the scaling work related to the process areas. The effectiveness indices are under review. Various accreditation bodies

(for example,

- International Network for Quality Assurance Agencies in Higher Education (INQAAHE),
- European Association for Quality Assurance in Higher Education(ENQA),
- Qualifications and Curriculum Authority (QCA) in England,
- British Accreditation Council ,
- University Grants Commission(UGC),
- Quality Council of India (QCI),
- Distance Education Council (DEC),
- National Council for Teacher Education (NCTE),
- Scientific Institute and Research Organizations (SIROs),
- Medical Council of India (MCI),
- National Council for Indian Education (NCIE),
- Dental Council of India (DCI),
- National Assessment and Accreditation Council (NAAC),
- Ministry of Human Resource Development (MHRD))[9]

can use this model as a base to evaluate institutions and to rank them on various levels. Not only the accreditation bodies but also the intuitions can use this model to evaluate themselves and make them-selves qualitative. Apart from these benefits, the students who would like to get an admission in an appropriate college can use the key process areas' scaling. The industry recruiters who want to recruit students into their organizations according to their norms can also be benefited .Thus the quality of particular institution can be easily accessed using this simple model. With these uses, this model may lead to a benchmark in the field of education

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