

Impact Analysis of National Education Policy on Engineering and Technology Higher Education Institutes

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Abstract - The new education policy (NEP) 2020 recently announced by the Government Of India has a very big impact on the higher education institutes on four parameters namely a) Learning and Growth b) Internal Processes c) Students/Faculty d) Financial. In this paper, this impact is being studied for the ten criteria enumerated by the National Board of Accreditation which is based on the Washington Accord. An impact analysis was done taking into account the salient features of the new education policy using the GE-McKinsey Nine Box matrix. It was concluded that the new NEP has the most impact on Learning & Growth and Students/Faculty aspects of HEI's but before this, the institute should benchmark itself and maintain a balanced scorecard to monitor the impact of each of the initiatives taken.

Key Words: New Education Policy; National Board of Accreditation; Framework; Balance Score Card; Impact Analysis; Digital Transformation

1. INTRODUCTION

Changing demographics have led to a more diversified student body, and labour market demands are becoming more complex these days in India. This has resulted in an increased emphasis in higher education on transversal skills in addition to disciplinary knowledge and competencies. The focus on Higher Education concerning learning and teaching has increased in India both at national and institutional levels, the sector is exploring how higher education can meet multiple and rapidly evolving expectations of the students and the industry.

With the advent of digitization it has become imperative for HEI's to continuously improve their performance and quality of education many HEI's are initiating strategic transformation programs that either seek an improvement in institutional proficiency, changes in higher education policy and financing, or improve their competitive academic advantage. The key to this is to adopt successful strategies enumerated in the NEP which will include effective institutional leadership (governance and management), coherent operating models and structures, and institutional culture. This requires leadership to provide direction and define accountability and responsibility for strategic academic outcomes. Operating models and structures provide an institutional platform for effective and efficient delivery and culture is an all-pervasive feature of academic life that defines the shared institutional beliefs, which shape how the HEI's delivers its academic mission.

College/University leaders are grappling these days with the day-to-day challenges of implementing strategies in complex, often under-funded circumstances. This to a large extent can be achieved by the digitalization of education which is one of the key areas of focus in the new NEP. Digitalization of education involves various aspects of quality, ranging from organizational issues, technological infrastructure to pedagogical approaches [1-2], and influences internationalization by offering online and flexible educational programs. Most scholars have primarily studied digitalization either as external processes [3-4] or as internal processes [5]. The key findings are that the external processes are influenced by overall institutional strategies, often driven by governmental initiatives [6] or by international initiatives [7]. Governmental initiatives like NEP will empower higher education institutions to make decisions with responsibility and vested autonomy with accountability so that they can contribute more effectively towards this policy which strongly advocates multi-discipline learning – a distinctly attractive and flexible proposition, allowing learners to experiment with different options. Multiple-entry and exit system for undergraduate courses is a good step for students and this can be leveraged by HEI's to meet their parameters regarding student/ faculty aspirations and in this process improve their financials by starting new courses that are focused on industry requirements.

HEI's need to develop a coherent plan of action for fostering technological proficiencies to aid successful engagement with technology (and its future advancements) while providing effective safeguards for data protection and data privacy as enumerated in the new National Education Policy. Towards this, the parents of HEI students have started to cater to sufficient resources to educate their wards [8]. Nielsen Report [9] on Digital in India outlines the various digital initiatives that are being carried out which are jointly fulfilled by EdTech companies [10-12] which bridges the gap between the industry and education syllabus being followed by HEI's. Our insights and observations are enumerated below which outlines the steps to be taken to implement NEP which is translated into a variety of institutional contexts.

2. METHODOLOGY

2.1 Benchmarking

Benchmarking can be the appropriate tool to search for a point of reference necessary to assess an institution’s competitive position based on the NEP and learn from the best to improve. It is done based on accountability, standards, development, and competitive advantage [13] as shown in Fig-1.

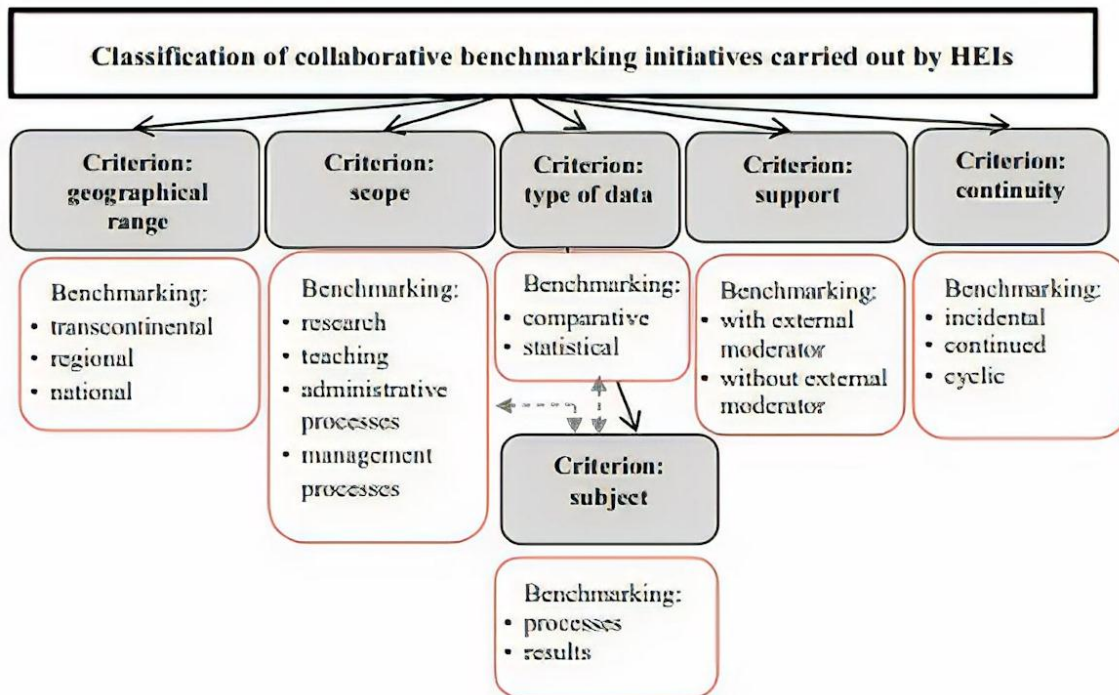


Fig -1: Classification of benchmarking initiatives in HEIs

The National Board of Accreditation (NBA) has come up with about 10 criteria spanning institute and student performance using which HEI’s can benchmark themselves. There are off the shelf tools like P4DT (Platform for Digital Transformation) [14] etc that help the institutes to do this exercise and help them find out where they stand for each of these criteria based on the classification enumerated above. Using the National Institutional Ranking Framework (NIRF) the HEI would come to know where they stand in comparison to the other HEI’s on various parameters like a) Teaching, Learning and Resources (TLR) b) Research Productivity, Impact and IPR (RPII) c) Graduation Outcome (GO) d) Outreach and Inclusivity (OI) e) Perception (PR). The NIRF is gaining importance and is being widely accepted with institutions doing parameter wise comparison with their competitors [15-17].

2.2 Balance Scorecard

Every HEI’s need to create their Balance Scorecard based on the NEP for the following:

- i) **Student’s Perspective:** The focus here would be in terms of assuring an excellent learning environment with the latest infrastructure and technology. As per the NEP, there is a need to offer programs in line with industry needs which in turn would offer innovative services to the whole community. There needs to be a special emphasis on vocational training and to create provisions for students to get appropriate certificates/degrees in case they leave midway while doing the course as being done in foreign universities.
- ii) **Internal Process Perspective:** There is a need to optimize communication at all levels and to modernize administrative processes. An important aspect of the NEP is the emphasis on Research. Towards this, each HEI needs to have a special focus to involve in the latest research and have collaboration with the industry. The internal processes are to be modified to cater to this need of the students/faculty and thereby improve overall service.
- iii) **Financial Perspective:** Given the context of the new NEP, there is a need to secure a balanced budget to cater to all the changes proposed in NEP. This would involve acquiring third party funding for various research projects. In the same

context, there is also a need to become an attractive employer so that the best faculty can be recruited to carry out these research projects.

iv) Learning & Growth Perspective: Towards learning & growth, there is an urgent need to secure a flexible org structure and provide modern effective learning resources as per the new NEP. This would encompass developing the latest skills and motivate the students to learn them. HEi’s need to promote a learning culture be it webinars, training, projects, internships, and faculty development programs. NEP also proposes the internationalization of institutions by HEI getting into collaborations with international institutes of repute and by conducting classes globally. A schematic of such a Balance scorecard is shown in Fig -2.

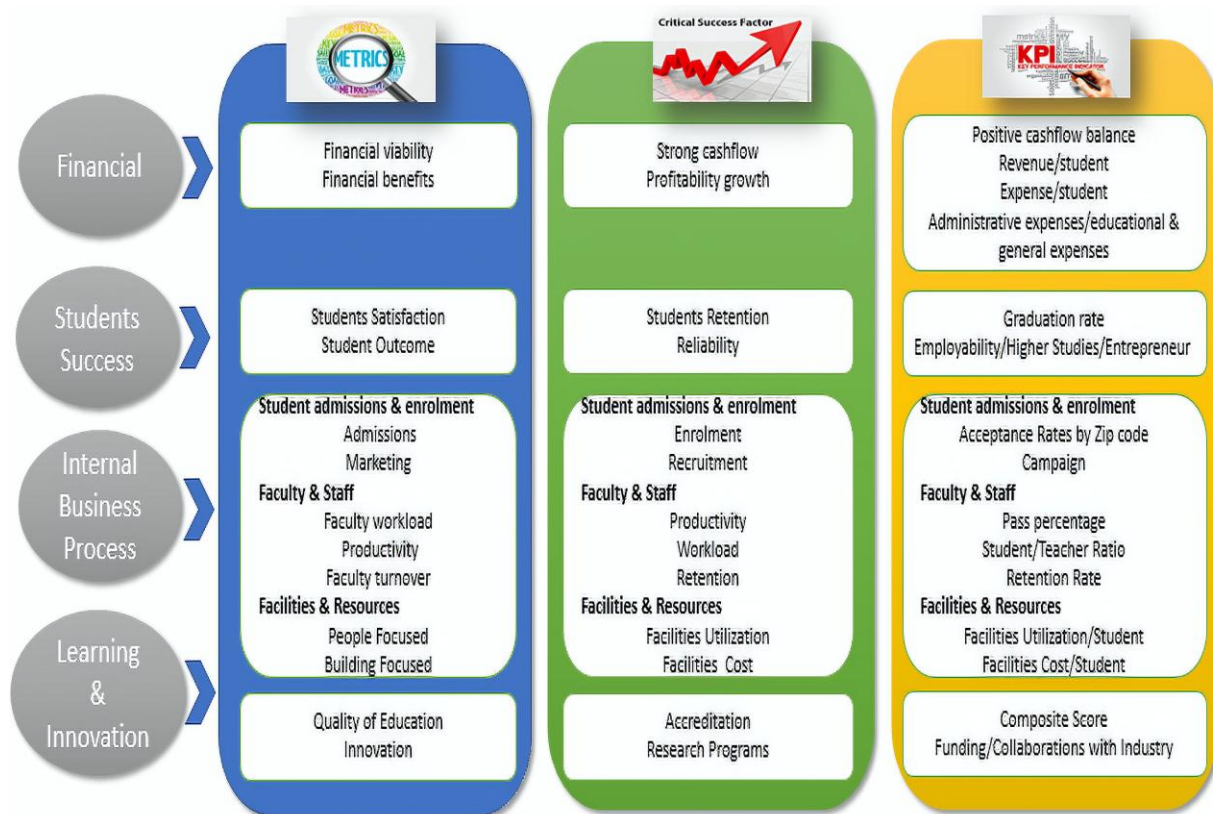


Fig -2: Balanced Scorecard based on Metric, critical success factor, and KPI

Once the Balanced Scorecard has been created the HEI’s need to evaluate their strength to two important parameters namely- Competitive strength of the HEI vs New Education Policy.

2.3 Analysis

a) Competitive Strength of HEI

The NEP would result in autonomy for the HEI's concerning academic and administrative process which would result in monetary and non-monetary benefits, institutions reputation, quality education, faculty motivations, and student's enrollment in online programs and international collaborations. This would lead to improved research funding's on account of the merit-based peer-reviewed funding process. The HEI's can increase their competitive strength on aspects like i) Learning and innovation ii) Financial iii) Student successes iv) Internal processes by the following methods.

- (i) **Learning & Innovation:** With the advent of Industry4.0, there is a growing importance/ industrial activity for developing new technologies and, consequently for converting existing courses into multidisciplinary especially on technology for embedded intelligence and systems.[19], machine learning, artificial intelligence, and the internet of things, etc HEI's can come up with Multidisciplinary Education.
- (ii) **Financial:** HEI's can increase their finances by increasing the student enrollment ratio by conducting Open Distance learning (ODL) and online programs together with EduTech companies on the latest technologies and vocational courses over platforms like My2tion [14].
- (iii) **Student Success:** By collaborating with international institutes of repute the HEI's can come up with twining programs and higher education for the students. They could also work with industry and other organizations from a perspective of doing research and placement of the students
- (iv) **Internal processes:** By adopting digital transformation platforms like P4DT[] etc. for quality, management, and training processes HEI's can bring in better efficiency and Improved governance through accountability/ transparency

b) New Educational Policy

The new educational policy emphasizes the following [18].

- (i) **Integration of Vocational Education:** There is an emphasis on introducing vocational education as part of the normal courses in the HEI.
- (ii) **Enhanced Equity & Inclusion:** The focus is on the gross enrollment ratio of the socially & economically disadvantaged groups.
- (iii) **Multidisciplinary & Integrated Teacher education:** Focus is now on multidisciplinary education by the HEI's so that students will have the right skills for industry.
- (iv) **Internationalization:** Emphasis is laid on the international organization to start their campus in India or for existing HEI's to collaborate with international institutes of repute.
- (v) **Career Progression pathways:** The faculty will have a career progression with a focus on research and pedagogical skills.
- (vi) **Flexible Curriculum Structure:** This would enable multiple entries and exit points to create new possibilities for lifelong learning.
- (vii) **Oversight and accountability:** Greater transparency of academic and financial information leading to implementing a platform to track data, audit, and information systems which would improve overall accountability.
- (viii) **Online & Open Distance Learning:** NEP emphasizes online & open distance learning by the HEI's to cater to more students.

The competitive strength of the HEI's concerning the NEP and the parameters laid down by NEP can be accessed through a QFD. This competitive strength can be measured on the 10 criteria enumerated by Accrediting Agencies. A sample mapping of the same is shown in Fig-3.

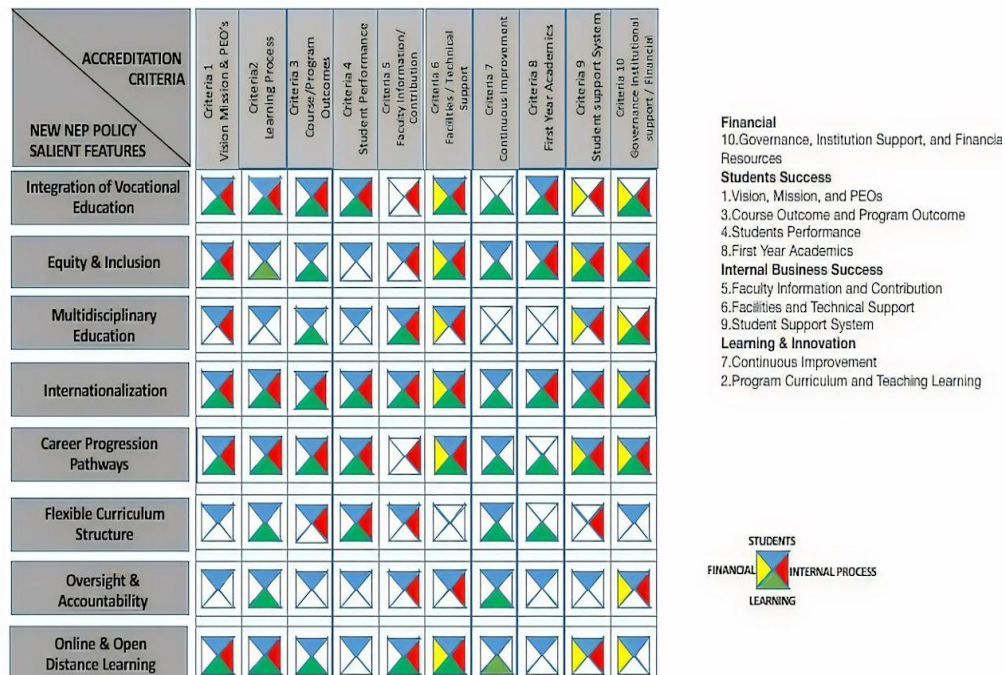


Fig -3: QFD with respect to NEP and Accreditation

Such an analysis will help HEI's to finalize which parameters they need to focus on both from the NEP and the accreditation perspective. This would help the HEI's to get funding from government agencies and increase the student enrolment ratio as well as get a good score in accreditation be it NBA/NAAC/NIRF as the case may be. This in turn would bring in the necessary quality and transparency and make the HEI's accountable. It would also help the students to get the requisite qualification together with the vocational/ industry training that has become a pre-requisite to get a job in the relevant industry.

2.4 Implementation

After carrying out the analysis as mentioned above it is imperative that the HEI's need to access their current state. This is best done by finding where they stand for student attractiveness and competitive strength of the HEI on a GE-McKinsey Nine Box matrix as shown in Fig-4.

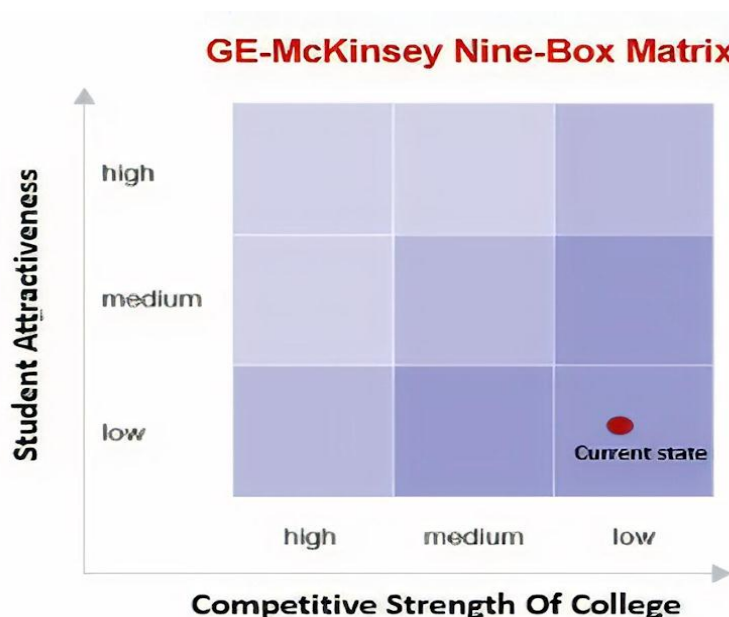


Fig -4: GE-McKinsey Nine-Box Matrix

Then based on the QFD and the GE-McKinsey None-Box Matrix the HEI's need to identify the initiatives which they wish to take both in the short term as well as long term and work out a detailed plan and measure their progress in frequent intervals of time by plotting it on on GE-McKinsey Nine box Matrix. This digital transformation needs to have the following ingredients

i) Elements of change:

- Quality Standards- NBA/NAAC/NIRF.
- Sophisticated data & measurement Systems.
- Effective leadership & Management.
- Strong accountability.
- Right Technology choice.
- Sufficient resources/Training.

ii) Drivers of Change

- Effective teachers.
- Quality curriculum.
- Personalized learning.
- Integrated support.
- Engaged parents.

This would lead to the desired student outcomes in terms of quality and affordable education.

3. CONCLUSION

The impact of NEP on HEI's is going to be quite astounding however the HEI's can wither this storm by studying the impact and taking appropriate actions to convert these much-awaited changes to their advantage be it more business, newer courses, quality education, and better revenue streams and funding both from government and industries for research and thereby bring value in education. They must benchmark themselves to create a balanced scorecard and identify the areas of improvement and measure their improvement

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BIOGRAPHIES



Mathew Chacko is an educational consultant is a visiting professor for Birla Institute of Technology & Indian Business Academy India. His main research is in Cyber-Physical Quality Management System and Education Policies.



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