Contemporary Concerns Impacting Higher Technical Education

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Abstract. The current buzz with regard to knowledge explosion is globally experienced and its repercussions are felt throughout the length and breadth of higher education. Knowledge is the collection of information, education, research, experience and intelligence that is mainly harnessed in educational institutions. Precisely, systems and procedures articulated within the context of liberalization, privatization and globalization (LPG), made the governments across the world to come up with various agenda to revamp higher education. Governance reforms like enhanced autonomy, process reengineering, Human Resource (HR) policy, accountability, transparency processes, academic reforms and such other frameworks, influenced the higher education sector to develop a vision for an overall learning experience.

Keywords: Contemporary concern, Impact, Human Resource, Technical Education.

1 Introduction

Despite differences in the size and status of higher education sectors, many countries have acknowledged that the closed higher education systems are incompatible to the changing political-social-economic-cultural-technological contexts. As a resultant effect, pressures are felt by the higher education institutions from different stake holders in the policy processes viz. industries, higher education commissions, reports from various committees etc. to deliver desirable outcomes in tune with the societal demands such as institutional accountability, benchmarking performance standards, employability and alike. According to a major study conducted by the U.S. National Academy of Engineering titled 'The Engineers of 2020 – Visions of Engineering in the New Century' (U.S.NAE, 2004) a detailed analysis was carried out to identify the myriad challenges that are likely to be faced by the engineers in future both at the macro and micro levels. Besides providing backup solutions in the form of rapid recovery, reconstruction and deployment the study highlighted the scope of engineers to create solutions for qualitative problems like predicting 2 potential biological disasters, water and food contamination and damage to physical and technological infrastructure. Interestingly, this aspect is crucial for developing countries like India which is celebrated as one among the largest higher education systems in the world. However, in terms of quality the situation is drastic in the case of India as there are only few institutions like Indian Institute of Managements (IIM), National Institute of Technologies (NIT), Indian Institute of Technologies (IIT) and Jawaharlal Nehru University (JNU) that have been globally acclaimed

for their standard of education. The Indian Technical Education (TE) being one of the largest higher educational systems in the world seems to be extremely complex for sustaining at the global level. Hence, there is a need to create mass human capital in this sector. In the age of knowledge explosion, the scope of knowledge society seems to be very crucial for engineering education in particular, as India possesses more than 3495 Engineering Institutions in the country as of 2010-11 with a total intake capacity of 17,61,976 students. To be reinforces his view on the need to frame a strategy to nurture engineering graduates as highly intelligent postsecondary students. It is in this regard that the quality of engineering education emerges as the issue of paramount importance. Having mentioned the relevance of engineering graduates in sustaining the economy, he focuses on training the mind and developing the analytical abilities. In fact, to accomplish such outcomes it is good to review the faculty of Technical Educational Institutes (TEI). At a conference on International Engineering Education organized by IIT-Madras, 2017, experts from different educational domains acknowledged the fact that despite a fivefold increase in the growth of technical education institutions in India during 1995-2005, there has been a serious shortfall in quality teaching faculty. To illustrate, with a dictum, 'As you sow so shall you reap', the need for fundamental change can be addressed in the context of developing the faculties of the faculty. To study this aspect in engineering faculty, the researcher has empirically examined existing HR practices in three engineering institutes/universities.

Further, Natarajan (2009) while reviewing the current issues in Indian technical education has highlighted the need to dismantle the existing systems to suit the contemporary needs, viz. access, affordability, diversity, globalization, innovation, 4 outcomes based performance, relevance, quality etc. With the discussion and debate in higher education research oriented towards striking a balance between quantity and quality, the current chapter makes an effort to explore the concept of quality in scientificlearning from the human resources perspective.

2 Recommendations of Important Committees and Policy Documents for Higher and Technical Education

There were several commissions and policies on higher and technical education since independence all of which focussed on improving the standards of education. The first of its kind was the Scientific Manpower Committee set up in the year 1947, to assess the growing demand for scientific and technical personnel in government departments. In 1948-49, the University Education Commission was formed to study the problems in higher education. It also critically assessed the engineering and technological education in the country. It strongly recommends the strengthening of scientific and technical base of the educational system. NPE (National Policy on Education - 1986, modified in 1992) an important policy document of Government of India (GOI) has given the following steps for promoting cost – effectiveness and excellence in technical and management education which includes modernisation and removal of obsolescence, generate resources to provide services to community and industries, adequate hostel and other facilities, effect procedure for recruitment of faculty and their promotion, adequate staff development programmes for the multiple roles the teachers have to perform, curricular revisions, promotion of climate conducive of excellence and innovation with full involvement of the faculty, autonomy at academic, administrative and financial levels and the networking of systems between technical education and others. NPE has stressed the need for National Manpower Information System at all stages of technical

education in order to provide a more balanced technical education system. Other significant recommendations include flexible modular pattern based on credits for multipoint entry for technical and management education. NPE has reiterated the fact that of all the factors that determine the quality of education the teaching faculty is the most important and they should be given enough academic freedom to pursue and publish their research. The Programme of Action, 1992 has given detailed strategies for implementing the various recommendations of the NPE. It is projected that through TEQIP, about 100-120 well performing organizations will be extended into outstandingorganizations of world class. In order to make the academic profession more attractive the University Grants Commission (UGC) decided to revise the pay scales by appointing a pay review committees (PRC) headed by Rastogi in 1996, but the recommendations were rejected by the UGC due to various reasons. Later another PRC for higher education headed by Prof G K Chaddha in 2007 was appointed by the UGC. The Chadda committee had suggested over 70 per cent pay hike with additional allowances like academic allowance in addition to transport, house rent, special duty, medical and travelling allowances. It also suggested 65 years as the retirement age, which can be changed up to 70 years. An annual increment of 3-4% of the basic pay depending on the teacher's performance was also recommended by the committee. The committee recommended new positions to academics in the higher education sector viz. an assistant professor at an entry level (instead of a lecturer), Associate Professor and Professor. The committee suggested introduction of new ranks like professor of eminence, senior professor and senior associate professor. Professors are experts in their field and their package will be at par with that of the vice-chancellors. The National Knowledge Commission, formed in 2015, had analysed the Indian higher and technical education in detail and suggested issues related to expansion, excellence and inclusion. The Report of the working group on engineering education (NKC, 2019) viewed that lack of well qualified faculty and the issue of attracting and retaining motivated faculty as a serious challenge to engineering education. According to the report some of the core values that an educational institution should nurture are autonomy, academic freedom, teaching, research and information dissemination. It suggested competition and collaboration among institutions for many creative and innovative educational methodologies.

3 Traces of Human Resource Management Practices in Promoting Institutional Quality: The Indian Context

In the wake of globalization and the knowledge revolution engineering as a profession is expected to sustain globally as well as locally for which quality of the institutions viz. the quality of the faculty is very important. Owlia and Aspinwall (1996) came up with a conceptual structure to depict the quality dimension in higher education. These are competence, tangibles, content, attitude, reliability and delivery. For instance, National Assessment and Accreditation Council's (NAAC) core values like contribution to national development, building a value system among students and such others indeed provides a framework to determine the quality of higher educational organizations. In a bid to improve the quality in Higher Education (HE), prior to 2012, NAAC had developed a criterion for Governance and Leadership. With respect to change in the way the Institutions are managed worldwide, NAAC has revised their manual in 2012 by adding 'Management' as a parameter along with it and the weightage (100 points) is given to the way these institutions are being professionally managed. (Kurup, 2012) Precisely, this implies a fundamental shift in the way

things were operating especially in the context of human capital. To illustrate, for the first time, NAAC has brought in a new key aspect to institutionalize quality endeavours in the institution with 30 points weightage to Internal Quality Assurance Cell (IQAC). It requires the detailed procedure of how the institution brings about quality in all its initiatives, including training of the IQAC staff, accreditation by other agencies if any, communication of Quality Assurance policy to the stake holders and finally to bring about the strengths, weakness, opportunities and challenges faced by the institution. AICTE (All India Council for Technical Education) - the apex body of technical and management educational institutes in the country established NBA (National Bureau of Accreditation) in 1994 to grade technical and Management education programmes.

Thus Program level grading make sure that students declared to a program undergo a suitable level of teaching – learning process and are transforming themselves to capable and competent engineers in the future. NBA has an elaborate criteria such as Governance and Organisation, Physical and Financial resources, human resources of staff, faculty and students, the teaching learning process, other supplementary processes and research and development initiatives of the technological universities. Human Resources category (which carries a total of 600 points) is very important for the university's progress as the faculty human resources in particular forms the core competence of a university.

The Ministry of Human Resources Development (MHRD) has proposed the idea of technology based intervention on faculty quality enhancement through the National mission on education through Information and Communication Technology (NME-ICT) which involves a collaborative development of digital teaching learning contents for all the teachers and students. As of now, through the various Quality Improvement Programmes, (QIP) only a percentage of the 1, 50,000 teachers are being trained but this NME-ICT programme can train thousands of faculty located in different geographical areas of the country. The conditions under which higher education have been working is changing faster than they usually changed in the past. It has become a major driver for economic competitiveness in this globalised world. HR can bring in effective management principles into the higher education system and bring in solutions for sustained growth as well as develop the institute at par with international quality standards using its many innovative ways of managing the institutional human capital. Regardless of the fact that higher education systems all over the world differs in its culture and commitment there are certain systems that are common to all the 9 cultures and traditions in higher education which includes appointment of teachers, inducting them into their institution, training them for quality, appraising their performance, motivating them and finally retaining them. Ackom (2011) reports that human resources that is handled through these broad HR practices can build practical variation in terms of three organisational outcomes; quality of work life, productivity and profit. Every institution has its own distinct institutional culture and environment and at the same time will share a definite relationship with the external macro environment. Simultaneously the micro institution takes resources from the macro environment and gives back the same to it. In these circumstances, the human resources involved in every aspect of the institutional quality should be professionally managed to achieve the desirable effects in the globalised world. Appropriate Human Resource Management (HRM) practices can frame SMART targets – Specific, Measurable, Agreed, Realistic, and Time-bound and achieve the same so as to promote the overall growth and sustained development of its unique human capital.

4 Conclusion

Educational institution requires effective HRM functions to recognize stated objectives and goals. Effective HRM ensures greater organizational effectiveness. The present higher educational scenario requires effective application of HRM functions to govern the educational institutions. The present study tried to find out the scope of HRM functions conceded out by the contemporary issues and the management. The present study reveals greater application of HRM functions in the technical higher education system, although the HRM functions differ on the basis of certain teacher and institutional related variables.

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