# Chapter 28
# Policy Planning in Higher Technical Education:
## A System Dynamic Approach

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## ABSTRACT

*In the present Research work an attempt has been made to compute quality of higher technical Institute by incorporating various important parameters such as faculty strength, Placement of students, faculty satisfaction, student's satisfaction etc. The impact of these factors on quality of higher technical education is studied by constructing a system dynamic model for policy planning for optimum quality in higher technical education system.*

## 1. INTRODUCTION

Technical Manpower is the driving force in the rapidly changing globalized economy and society. Emergence of Technical manpower as a driving factor results in both challenges and opportunities. The growth of global economy has increased opportunities for countries with good levels of Technical education (Carnoy, 1999). In the global competitive environment of today, an accessible and high quality of higher education system is imperative for a nation's economic progress. A sound higher education system supports and enhances the process of economic and social development for a better future. Developing and transition countries are particularly challenged in a highly competitive world economy because their higher education systems are not adequately developed for the creation and use of technical manpower available. Converting the challenges into opportunities depend on the rapidity with which they adapt to the changing environment.

## 1.1. Technical Education System in India

The higher education system in India grew rapidly after independence. By 1980, there were 132 universities and 4738 colleges in the country enrolling around five percent of the eligible age group in higher education. Today, in terms of enrollment, India is the third largest higher education system in the world, behind China and the U.S.A. China having the highest enrolment in the world (nearly 23 million) is organized in only about 2,500 institutions. While the average enrolment in a Technical institution in India is about 500-600 students with 6223 technical institutions (source, A.I.C.T.E.).This makes the system of Technical education in India a highly fragmented one that is far more difficult to manage than any other system of higher education in world. However, other than a handful few institutions of national importance providing high quality higher education, the system is failing to produce quality graduates who are much needed in all sectors of society (NAASCOM, 2006).India's technical education has failed to map the future demand for various skills and it has not kept pace with industry's growth (Khemani, 2006).Since higher education in India is an important part of modern Indian society and is intertwined in the political and social systems of the society, this sector is in need to change, development and improvement (Albatch,1993).

## 1.2. Challenges Faced by Technical Education in India

In India, the entry of the private sector in Technical education is on massive scale and is largely driven by inadequacy in government funding in the education sector, paving way for private investment. This is due to liberal policies in early 90's. With the present growth in GDP it is expected that India's economy will surpass Italy by 2015, France by 2020, Germany by 2025 and Japan by 2035.It has been predicted that India, being driven by Knowledge economy, will become the 3rd largest economy by 2050 (Varghese, 2007). Technical education in India is more privatized than any advanced countries. A large number of Institutes are private and self-financed as prestigious Institutions are not able to accommodate all aspirants (Source, A.I.C.T.E.2012). Most private Institutes concentrate on profit making rather than on imparting quality education to students by limiting the essential requirements needed to fulfill the curriculum, Pay structure variations among faculties makes there retention and availability difficult. To propel the nation in 21st century there is the need for planned change in higher education with realistic perception for policy formation as to what is possible and what is not.

## 1.3. Views on Quality in Technical Education

Quality in Technical Education is defined as, The totality of features and characteristic of a product or service that bear on its ability to satisfy stated or implicit needs (B.S.I., 1978).It is further defined as development of intellectual skills and knowledge that will equip graduates to contribute to society through productive and satisfying engineering careers as innovators, decision makers and leaders in the global economy (Natrajan, 2000). Education quality is a multi-dimensional concept (Eriksen, 1995). It can be viewed as the combination of the quality of input, process, and output of the education system. Many opinions can be observed in the literature about the factors influencing the quality in engineering education. Some of them are teaching process, University – Industry collaboration (Natarajan, 2003), role of management (Gopalan, 2003), student intelligence & interest (Mouly, 2003,), excellence of teachers (Shrivastava, 2003), accreditation standards (Vrat, 2003), e-education (Maji,2003) and proper

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