

5. REVIEW ON UNIVERSITY MANAGEMENT: A GLOBAL PERSPECTIVE

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Abstract

Knowledge economy is essential to the growth of the developing countries and universities are essential ingredient to the health of new knowledge economy, which indicates the economic and social progress of a nation. University is society's one of the most enduring creations, it has been primary agent in the transformation of societies. Challenges in higher education is no longer only nation centric. They have already attained global dimensions, particularly after trade in services has been brought under the purview of the WTO regime. The University's mission should be towards providing education of the highest quality coupled with a leading contribution to the advancement of knowledge, thereby developing in students the imagination, talents, creativity and skills necessary for the varied and rapidly changing requirements of modern life. This pursuit of education improvement requires a strong future orientation and a willingness to make long-term commitments to students and to all stakeholders, communities, employers, faculty and staff. Universities need to demonstrate accountability to all the stakeholders and customers. Universities and other higher education institutions that are recognized to be in the knowledge business, valuing knowledge and viewing knowledge as an asset need to be dynamic, innovative and continued learners. This entails systems approach and thinking. As systems thinking is a shift of mindset from in seeing people as helpless reactors to seeing themselves as active participants in shaping their reality, from reacting to the present to creating the future by being proactive. The multiple roles played by the university accentuate them to anticipate many types of changes, including changes in education requirements, instructional approaches, resource availability, technology, and demographics. A major long-term investment associated with improvement could be the investment in creating and sustaining a mission-oriented assessment system focused on learning. This entails strategic management of the entire University activities. There is a need to engineer the working system of the universities.

The forces of technology and globalization are creating a revolution that is forcing the universities to seek new ways to reinvent themselves for sustenance. Universities must innovate or else will perish. Their ability to learn, adapt and change becomes a core competency for its survival. Operational facets of University management is highly complex and non linear in reality. Such a system is characterized by interaction of feedback loops that when combined, define the structure of the university system and

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its behaviour over time. To facilitate the sustenance in the dynamic environment and in the wake of GATS agreement, 'Systems thinking' will assist universities to be proactive and foster healthy environment for its regulation.

Thus, this paper reviews the world wide perspective to arrive at the various issues and different facets of university management to ascertain the complexity and operational aspects pursued by various authors. This could drive the development of new university governance on a firm footing.

1.0 Introduction

Continued economic globalization is fostering ongoing growth of universities throughout the developing world, as they turn out the professional, managerial and technical cadres required of modern societies (Wolf, 2001). Dincă G (2002) expressed that Universities play an ever-increasing cultural and social role in modern society. Faced with globalization, universities have to deal with new challenges like structural changes within the system, financial crisis due to harsh competition existing between various ministries with a view to obtaining public funds. New role for higher education in the modern state from Napoleonic model to train the elite to mass education of the university to meet the needs of production and of society at large. The higher education "production" system has been only slightly influenced by "technological" changes, and still largely resorts to the same basic technology as a century ago (lectures, seminars, etc). The productivity of the system has not dramatically improved. Facing such dramatic changes, Universities in many western democracies have undergone a sea change in their strategic focus, core values, and 'modus operandi' in the last two decades. In adapting to and enacting these changes, they have sought to survive through a considerable variety of strategies that have involved prioritization of revenue generation, resources reallocation, management professionalisation, organizational restructuring and strategic relationships with government and business (Parker, 2002).

University is perennial organisation and has been perceived differently. A few of facets are:

Cardinal Newman (1850) defined a university as *"a school of knowledge of every kind, consisting of teachers and learners from every quarter. Many things are requisite to complete and satisfy the idea embodied in this description; but such as this a University seems to be in its essence, a place for the communication and circulation of thought, by means of personal intercourse"*.

Jawaharlal Nehru, the first Prime Minister of India observed that *"an university stands for humanism, for tolerance, for truth. It stands for onward march of human race towards even higher objectives. If our universities discharge their duties adequately, then it will do well by the nation and the people"*.

Universities are continually evolving to meet government, employer and student needs, hence the complexity in its management. To guide management decision making statistical linear models and spreadsheets are widely used. These essentially static modelling approaches are inadequate for this application domain, because universities are dynamic, complex, non-linear systems. Such a system can be characterized by interactions of closed chains (or feedback loops) that, when combined, define the structure of the system and hence show, how it behaves over time. System Dynamics is an appropriate modelling technique for University Management. (Kennedy and Clare, 1999).

2.0 Need for Managing an University

Universities need to keep abreast with the political, environmental and technological

changes occurring around the globe and evolve a renewed strategy of management to adapt, meet the competition, attain sustainable growth and remain dynamic. Universities need to respond to demand and be accountable for the outcomes they produce. Venturing into new territory by inculcating diversity, risk acceptance and desire to experiment are crucial today. Their ability to learn, adapt and change becomes a core competency for survival. Hence, Universities must innovate or else will perish. This presents the importance of effective governance systems for managing this era of change and innovation in the academic world (Amacher and Meiners, 2002). The observations made by the following authors reinforce the necessity of managing university.

- Trow (1972) notes that higher education, once the preserve of the elite, has been transformed into a mass, and now almost universal, phenomenon. This massification has given rise to more diverse and powerful administrative structures and diminished the sense of community among the professoriate. Academics increasingly work in large organizations and are constrained by bureaucratic procedures.
- Hoare (1995) observes that, Vice Chancellors are running large, complex organisations and are often faced with management and administrative tasks that would test the best managers in the private sector.
- *The shift for universities for organizing their policies and activities with teaching as the focus to policies and activities centred around learning is not just a semantic shift because it will result in quite different policies and activities from those in place at the moment, has been noted by Bowden and Ference (1998).*
- Dolence et al., (1997) and Senge (2000) noted that educational institutions are caught in the crosscurrents of change and needed to shift from an industrial and mechanistic age model to an information age model.
- Coaldrake (2000) expressed that, “to operate successfully in the future, not only one needs to retain worthwhile aims and traditions, but also adapt to changing circumstances. It will require fundamental reappraisal of university traditions and practices trying to find ones own way, rather than relying on national road maps emerging from major reviews or statement of government policy.
- Clark (1994) emphasised that, the market dynamic will force universities to learn how to stand more on their own and compete. The trick then will be to go up-market, rather than down-market, hooking innovation to merit. Down-market, the university becomes a backwater; up-market it can operate in the emerging “international world of learning”.
- Delors Commission (1996) opined that, spending on education has more than just social dimension; it is also an economic and political investment yielding long term benefits.
- The expansion, in combination with expectations on adjustments to the new demands of internationalisation and new information and communications technologies, is nowadays to be accomplished within an institutional framework of extended autonomy, reductions in state funding, and increased dependency on additional funding. The devolution of state authority to the institutions entails more profound institutional governance and management and a strengthening of the institutional leadership, factors that also contribute to a quite new framing of academics’ sphere of action (Askling 1999; Bauer et al. 1999).
- Organisations need effective governance and change management capacities in order to demonstrably boost learning, and maintain the link between their general development as ‘Learning Organisations’ and the growth of their nations ‘knowledge economy’ and ‘knowledge Society’ (Macpherson, 2000).

- In order to survive, universities must not only maintain their critical awareness in the development of knowledge, but must also apply this critique to their own role in society. Universities are affected by the crisis of the contemporary world and must play a part in dealing with its problems (Roversi-Monaco Fabio, 2000).
- Kumar et al. (2004) critically evaluated the engineering education in India and expressed that *"Over the years, engineering curricula in India have been modernized and obsolete equipment and instrumentation have been replaced by modern counterparts, but not so far in administrative and management systems. Except in a few cases, administration and management structures are archaic and rigid with little scope for innovation, effectiveness, or efficiency"*.
- 'Doing more with less' and 'doing things smarter' are becoming fashionable guiding principles in university management and governance was observed by Mok Ka-ho, (2005). Internal competition in the university sector is inevitably becoming keener and intensified.

Thus, the universities are in transition in a complex and changing environment. These views call attention to establish responsibility for strategic direction and development of the university and external and internal accountability, including monitoring and review of institutional strategic performance. A clear statement of who is responsible for what, particularly between the governing council, the Vice Chancellor, her/his management team and academic board need to be defined. The major focus is development of skills of strategic management that help universities to become more effective and efficient

The need for effective management of universities necessitates understanding of varying degrees of change in individual institutions and national systems in the context of internationalisation and globalisation. The four

varying degrees of change are:

- **Knowledge related changes** of the traditional forms of knowledge production, transmission and certification;
- **Changes related to concepts of education**, as a service, commodity and market;
- **Institutional changes** in terms of becoming autonomous actors pursuing strategic goals and giving themselves a 'corporate identity', with a trend towards differentiation and diversification and creating more transparency and comparability (Bologna process);
- **Systemic changes** in the political arena in which higher education is embedded due to a growing number of corporative and non-governmental international and super-national actors which affects forms of governance and instruments of steering.

This calls for a reorientation in the working of Indian Universities, which may require some modifications in their governance, organization and management. A suitable revision of the university acts may also become necessary, to prepare the Universities to meet the prevailing challenges. To facilitate the holistic approach, there is a need for knowing functions of universities.

3. Functions of the University

University has to perform multiple functions like, management, sponsored research and consultancy, development and services, and continuing education and extension.

- a. **Management Functions** include important academic functions like: affiliation of colleges, programs and networked learning centres; granting autonomous status; recognizing reputed research institutions as PhD study centres; signing memorandums of understanding (MOU) with universities/institutions for joint programs; quality

assurance for the maintenance of quality, standard and relevance of academic/research programs; distance education for the society at large; financial and physical resource generation/mobilization from various sources; and public relations with respect to all its stakeholders.

b. Sponsored research and consultancy functions, sponsored R&D projects which are time bound, goal oriented, funded by central/state governments/national and international, industries, companies etc. and also for augmenting its resources, based on the areas of its expertise.

c. Development and services functions in terms of employment/ education/ development - related services for outgoing students like preparations for competitive examinations; communication skills, personality and ethics for interviews; employment for suitable placement; support entrepreneurship, new careers and other opportunities and also creation and preparation of educational/research material in conventional print and multimedia.

d. Continuing education and extension functions on a regular basis, covering formal, non-formal and informal modes, and life-long-learning opportunities at low cost; making use of e-education and other initiatives for its students, alumni, local communities, social, professional and developmental organizations.

These functions along with associated issues spelt out by various authors' give different perspectives to university governance and management. It also necessitates further review into different aspects of university management.

3.1 Aspects of university management

The different aspects of University Management are:

- i. governance aspects;
- ii. structure of the university;

- iii. roles and responsibilities of internal and external members; and
- iv. strength, composition of internal and external members.

3.1.1 University Governance

Governance is concerned with the determination of values inherent in the universities, their systems of decision-making, resource allocation, their mission and purposes, the patterns of authority and hierarchy, and the relationship of universities as institutions to the different academic bodies within and, to the external agencies such as government, business and community. Good governance seeks more participation, transparency, accountability and competition, and less regulation, though it is necessary to optimize rather than maximize such qualities (Osborne, 1998). Differing perception of University Governance are as follows:

3.1.1.1 Traditional diversified organizational models:-

Collegial model: The collegial principle of academic self-government is founded on the belief that academicians on university campuses are primarily colleagues (Guy Neave, 1998). This suggests a horizontal or approximately "flat hierarchy" and participatory management style that uses committees in decision-making. Here the decisions were the results of long democratic debates among the community of academic peers, a community that was able to regulate itself and coordinate actions without any need for hierarchical authority. Neave opines that collegiality is compatible with entrepreneurship but actually enhances efficiency and responsiveness, which in turn enhances civility and self-government. Also, the decisions were the results of long democratic debates amongst the community of academic peers, which emphasises the need for dialogue between the stakeholders.

Political model: It is based on the assumption that, conflicts and bargaining between disciplines (or faculties) should be

taken into account when looking at decision making processes within universities (Baldrige, 1971). Two differing perspectives in this model are:

- a. **Loosely coupled systems:** It refers to: lack of coordination; relative absence of regulations; little linkage between the administrative management and the academic staff; lack of congruence between structure and activity; differences in methods, aims and missions among different departments; little interdependence among departments; infrequent inspection; and lack of transparency of much that happens (Weick, 1976).
- b. **Organized anarchy:** They have inconsistent and ill-defined goals and preferences, so that the intentionality of organizational action becomes problematic; Also, organizational processes and technology are unclear or poorly understood by the members of the organization; and there is fluid and part-time participation (Cohen and March 1972).

3.1.1.1.2 Corporate governance vis-à-vis Participatory governance is explained below.

- a. **Corporate governance:** It consists of transparent rational decisions in processes and structures which will facilitate decision-making balancing the varying interests of stakeholders and appropriate delegation of accountability and responsibility within and outside an organization.
- b. **Participatory governance:** It enhances effective relationships within and across the public, private and community sectors, as collaboration is pursued in decision-making, based on clearly understood roles and responsibilities.

3.1.1.1.3 Organizational and management theories vis-a-vis Political science and sociology theories are complementary to each other.

- a. **Organizational and management theories:** This approach is mostly focuses

on 'process and structure' of the whole organization (typified by organizational models). It investigates on the issues like, decision processes, organizational cultures, changing processes, strategy making, and links between leadership styles, organizational characteristics and decision-making processes (Becher and Kogan 1992).

- b. **Political science and sociology:** It focuses more on the 'actors' of the governance system of universities and is less preoccupied by the organization itself than by the reforms that have an impact on the governing structures (senates, and other institutional bodies) and the 'academic leadership' (University Presidents/Vice-Chancellors, Rectors, Deans, Central administrators, Department chairs).

Bargh, Scott and Smith (1996) emphasised that these different models coexist in university, in their words "*The university has become a complex institution within which different organizational models coexist, often uneasily. It is rather like an archeological site. In the lowest layer is the idea of the 'collegium' ruled by academic elders; in the next layer is the notion popular in the 1960s, of the university as a political system in which issues of representation and participation were dominant; next up is the 'corporate' ideal that relied on line management bureaucracy; finally on the surface, is the idea of the university as a creative organization, its separate 'businesses' orchestrated by a strategic centre. These different organizational models are closely related to the increasing complexity and scale of universities*".

Sir John Arbutnott (2000), Vice-Chancellor of the University of Strathclyde in UK, made a point that '*a full business model of top-down executive management is not necessarily desirable or workable in a university, where there is an imperative to preserve academic autonomy and freedom and where the academic community*

should be the driver of new developments and ideas'.

Marginson and Considine (2000) characterized university governance in Australia as corporate, or at least executive, in nature.

In Europe there has been a similar trend favouring managerialism over more collegial approaches to the management of higher education (de Boer and Denters, 1999, de Groof, Neave and Švec, 1998). In addition, different nation states and regions have also developed what de Groof, Neave and Švec (1998) have called distinctive 'modes of governance'.

Due to diversity, as Demichel (2000) has pointed out university governance in the new millennium there is no 'one best system' but rather, 'to find out what is comparable and compatible in the very differently organized national systems'.

4.0 Differing Perspective of University Governance Across the Globe

Changing conditions of the late twentieth and early twenty- first centuries have brought governance issues to the fore. The need for better management and governance in universities was the issue studied by various researchers like: France (Demichel, 2000); Italy (Boffo & Dubois 2005); Europe (Askling and Kristensen, 2000, de Boer and Denters, 1999, de Groof, Neave and Švec, 1998); Briton (Pamela and Stephen Ackroyd 1999); Korea (Lee, 2000); New Zealand (Locke, 2001); Japan (Ehara, 1998, Yonezawa, 2002); North America (Ehara, 1998, Schick, Novak Norton and Elam, 1992); and Africa (Ekong E. Ekong, 2001). They looked at governance in different perspectives as under.

4.1 Perspective of European country:

Schimank Uwe (2005) brought out five mechanisms that operate in university governance regimes, elaborating on former

concepts from Burton Clark, Dietmar Braun and others by comparing two countries, Germany and Austria. The five mechanisms are: **State regulation**, a government prescription model; **Guidance by external stakeholders** though advice from government, parliamentary, industry, union, and other bodies; **Academic self-governance**, the collegial peer-review based decision making of tradition; **Managerial self-governance**, the formal hierarchical organization of universities with Vice-Chancellors, Deputy Vice-Chancellors, Deans, etc.; and **Competition** for scarce resources like money, personnel, prestige and for students within and between universities.

The influence of any one of the regimes can be very high or very low in relation the other mechanisms as shaping influences at a given time. The "university governance equalizer model" comparing four countries namely England, Netherlands, Germany and Austria is shown in the Figure 1

An equaliser is an electronic device that allows attenuation or emphasis of selected frequencies in an audio spectrum. It can be used to alter the relative balance of frequencies to produce desired tonal characteristics in sounds. Similarly, in the equaliser model each of the five governance dimensions can be turned up or down independently from each other. The equaliser model acknowledges the perpetual coexistence of these different modes, and recognises the dynamics of the changing relative proportions between each mode. The As a practical tool university governors can contextualise their institution's current balance of modes, to assess whether that balance is appropriate and to direct its change.

4.2 Perspective of Germany:

It was also observed that the 19th Century German research university granted intellectual property and academic freedom to professors in exchange for fiscal control of the institution. The university's budget was managed by bureaucrats of the department of education; its

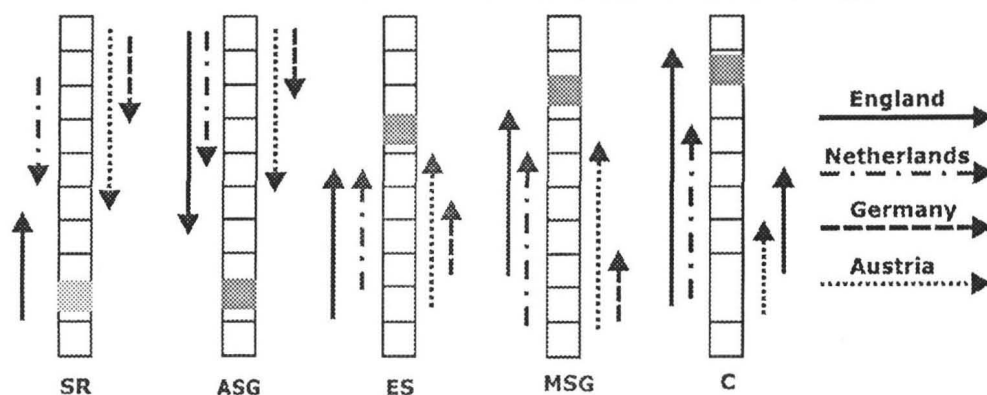


Figure 1 The Governance Equalizer: Shifts in university governance of the four countries compared, where state regulation -SR; academic self-governance-ASG; external stakeholders -ES; management self-governance-MSG; and competition-C. (Schimank Uwe, 2005)

assets were the property of the State and its staff public servants. The Rector, the principle academic leader and 'first amongst equals', had limited responsibilities for institutional finances.

4.3 Perspective of Australia:

- a. **Swansson J. A. et al. (2005)** synthesised a teaching model of good governance for university governors. The framework is simple; comprehensive; recognizable and inclusive, is applicable to individual institutions; and expandable and adaptable, not only current but also prospective and desired states institutions. This study was similar and comparable to research at the University of Canberra with respect to the governance issues in Australia, Canada and New Zealand.
- b. The Australian Government exerts a strong policy influence through the conditions of funding arrangements, with the inclusion of National Governance Protocols (NGP) within the Higher Education Support Act. These Protocols impose obligations on Australian universities for: definition of institutional objectives and governing body purposes and duties; systematic professional development programs and performance evaluations of governing bodies; systematic procedures for composition of the governing body, including

limits on size and specifications of expertise; and codification and reporting of business practices.

The preferences measured indicate national priorities that were grouped into four clusters: core needs, high demand, sector specific courses, and operational topics. Table 1 indicates the overall priority for each of these four topic groups. It was found that **Core topics** were the highest demand and cover basic threshold knowledge in governance of any sector, and are a high priority for delivery right across the sector. **High demand topics** are still a high priority, but are specialised or intensive in nature. **Sector specific topics** relate to complexities of the higher education sector. **Operational topics** relate to understanding specific policy frameworks that guide the operation of the university and its culture. The research underpinned the framework with a practical tool for interpretation that can facilitate transfer of that knowledge to university governors. It was found that the demand for the courses is approximately inversely proportional to the age of the institution.

4.4 Perspective of Nigeria:

Ekong E. Ekong (2001) investigated the management styles employed by the Vice-

Table 1 Australian national priorities of governors preferred training clusters

Priority	Core	Priority	High Demand
1	Good governance	3	Controlled entities
2	Financial statements	6	Strategic planning
4	Roles and functions	7	Performance evaluation of governance
5	Risk management framework		
Priority	Sector specific	Priority	Operational
8	Conflicts of interests	14	Student activities;
13	The research environment	15	Academic Board
9	Performance evaluation of	16	Indigenous and equity issues
10	institution	17	Forms of misconduct
11	International issues	18	Community service and industrial relations
12	Relations with external stakeholders commercialisation	19	Annual reports
		20	Harrassment
		21	Standards in examination marking

Chancellors and their impact on stability, staff satisfaction, level of alienation, access to the material resources of power and staff productivity. He examined the usefulness of top-down/authoritarian and bottom-up/democratic management styles in gaining a full understanding of the dynamics of effective and ineffective university governance. He found majority of the Vice-Chancellors in Nigerian universities used dictatorial/authoritarian management style and their principal officers (administrators) declare their administration as authoritarian. The research also exposes that the vice chancellors in their second term generally unleashed a reign of terror, high handedness and an atmosphere of fear antithetical to academic freedom and sound intellectual development (NUC file, 1993, 1994; ASUU, 1994). They also reduced the university council to a mere rubber stamp. He concluded that there are no "pure" democratic arrangements in university governance.

4.5 Perspective of Britain:

a. Pamela and Stephen Ackroyd (1999) emphasised on the problems of university governance in Britain into pre-1992 (old) and post-1992 (new) scenarios. On sources of power

within universities and respective characteristic problems of governance in these setups, which are shown in Tables 2 and 3

They inferred that pre-1992 universities are slow moving, unresponsive, traditional, rigidly structured, and collegial. Due to existence of strong senates with the balance of power being in the hands of professional academics, despite council being the dominant decision-making authority, these institutions have experienced either complete or near bankruptcy because of vulnerability to incompetent or wilful management.

The management and governance arrangements of post-1992 universities are associated with institutions that are responsive, innovative in curricula, decisive, concerned with targets, budgets and the bottom line. They have devolved and decentralised operations by strong, central, corporate co-ordination and control. The balance of power is in the hands of senior managers rather than professional academics, giving significant powers to the executive officers with limited participation in decision-making. Their academic boards are smaller than in the traditional universities, and their powers are heavily constrained resulting in increased

Table 2 Main sources of power within universities

	Old Universities	New Universities
Executive and senior staff	Weak	Strong
Professionals (senate/academic board)	Strong	Weak
Public/society (court)	Present	Absent
Management	Administrative and subservient	Management well developed
Statutory board governors	Large	Small

Table 3 Characteristic problems of governance

	Old Universities	New Universities
Characteristics	Slow moving	Responsive
	Lacks responsiveness to markets	Innovative
	Traditional	Opportunistic
	Collegial/democratic	Decisive/managerial
	Centralised and unitary administration	Devolved and decentralised administration
Key imbalances	Too strong senate	Too weak academic board
	Lack of financial control/bankruptcy/near bankruptcy	Impropriety, abuse of power, lack of interference in due process
	Too weak/ill defined executive	Too strong executive
	Large court	Lack of wider consultative structures
	Too large council	Danger of too cosy a relationship between Chair of Board and Vice Chancellor

tensions between the managers of new universities and their academic staff. A key point to note is that academic quality is generally inversely related to managerial development and effectiveness. The authors emphasised to find the appropriate balance between all relevant parties without limiting dynamism within the organisation or capacity for development of the institution as a whole.

b. Bone and Bourner (1998) through their

study emphasised that universities provide less management development for their managers than most other UK organisations.

4.6 Perspective of Turkey:

Gonca Telli Yamamoto (2006) examined the university selection criteria of students for better university management with use of marketing tools. It was to examine the criteria that affects the selection of students and, in

detail the students' point of view towards the university evaluation and selection in Turkey. It was found that selecting a university is a long-term commitment and a very important decision for the high school students and/or graduates. Academic, social, physical factors and facilities were some important criteria for university selection. This study concerns the importance of these criteria in detail.

The various perspectives of governance are put forth by the authors like: graphic equaliser model acknowledging the perpetual coexistence of different governance models; unambiguous demarcation of functions and responsibilities of academicians and administrators; development of training modules for good governance; objectives and purposes to be defined made mandatory by governments; different styles employed by Vice Chancellors; old and new university scenarios; and university selection criteria by the students. To further discern the intricacies of university governance necessitates understanding of various players in the system.

5.0 Structure of the University Players

The famous Clark triangle of coordination between state, the market and the academic oligarchy has been extended into a hexagon reflecting the increased number of relationships and interactions mapping with respect to Indian university set up. In the face of increasing differentiation and diversification institutions as well as national systems are trying to develop mechanisms which enable continued mobility and comparative assessment and recognition.

Figure 2 brings to fore contradictions and problems inherent in the new mix of steering and coordination accounting all the actors and understanding their interrelationships.

6.0 Roles and Responsibilities

It is generally noted that there is lack of clear communication within most university communities about the respective roles and responsibilities of university councils and senior

managements. Some issues include:

1. General agreement in universities that councils should focus on;
2. Relation between university values and focus;
3. Line of demarcation between responsibilities of councils, of senior management, and academic boards;
4. Effectiveness in terms of attainment of goals of universities in the wake of its distinctive nature of practice; and
5. Awareness of the role of the Councils in academics.

This entails a further look into the role of administration in universities.

6.1 Role of administration

Administration is defined as the structure and processes within universities for lamenting and executing decisions made by academic governance (Peterson and Mets, 1987). Some of the studies related to the role of Administration include:

- Classic studies of university organization of the 1970 have provided the basics of *organizational analysis in higher education* (Baldrige, Curtis, Ecker, and Riley, 1977; Birnbaum, 1989; Blau, 1994; Cohen and March, 1974; Weick, 1976).
- Two waves of changes in university organization and administration are based on integration and differentiation (Clark, 1995; Dill, 1992; Lawrence and Lorsch, 1986). Differentiation refers to the process of forming highly specialized units (i.e., basic academic units, departments) to address uncertain and dynamic environmental demands. Integration of differentiated units aims at coherence and effectiveness by investing time and resources in horizontal mechanisms of coordination (Lawrence and Lorsch, 1986). Integrating

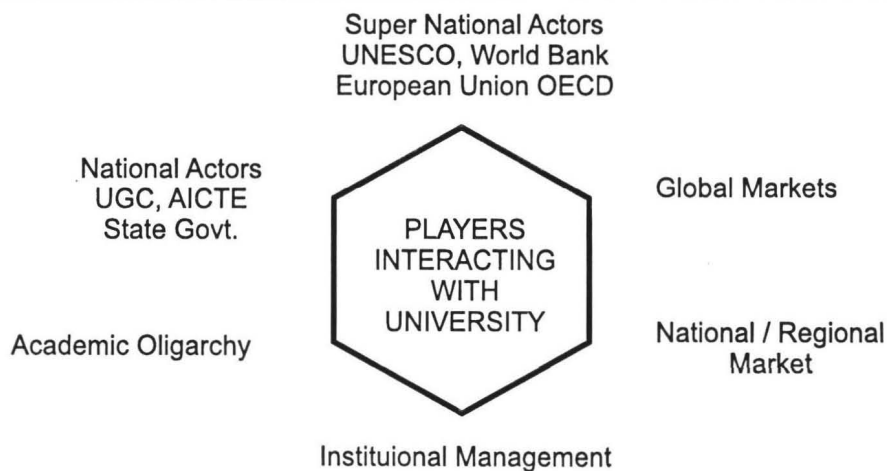


Figure 2: Modified Clark's triangle: Role of different organizations in the university management with respect to India

mechanisms emphasize lateral and reciprocal forms of communication such as face to face meetings, liaison roles, task forces, teams, and even integrating managers and departments (Dill, 1995; Galbraith, 1977). Sporn (1999) carried out an integrated work, and she concluded that professional management, collegial governance structures, proactive and strong leadership oriented on changes, clear and generally accepted institutional mission, entrepreneurial culture and dedication of academic staff, in basic units are forming the most important group of factors for successful institutional adaptation. On the other hand, Rigid legislative regulations, culture of resistance, tight dependency on resources, unclear institutional mission and low integration inside the institution will make this process more difficult and slow.

The Hoare Committee Review of Higher Education Management (Hoare 1995); the Victorian Ministerial Committee of Advice on University Governance (Storey 1997); the West Review (West 1998); the Victorian Review of University Governance, (Hamilton 2002); the Auditor General, Victoria, Report on RMIT University's finances (Cameron 2003); and

Universities Overview in the NSW Auditor General's Report to Parliament (AGO 2005), the Committee of Vice Chancellors and Principals (Jaratt 1985); the Nolan Committee, (Nolan 1995, 1996, 1997); and the Dearing Committee (NCIHE 1997); all these examine capacities of university governing bodies to handle growth and risk.

Over the past several decades, administrative positions and expenditures have become prominent features of higher education organizations (Leslie, 1995; Leslie and Rhoades, 1995; Tolbert, 1985; Gumpert and Pusser, 1995). And within management reform prescriptions, administrators are increasingly the key actors who mediate and even manage the relationships between the organization and its environments (Neave, 1997; Clark, 1996b; Peterson, 1997). Many of the scholars have expressed that research on higher education organizations has neglected this topic.

6.2 Size and composition of governing bodies

The Hoare Report indicated concern at the lack of clarity about the roles and responsibilities of university governing bodies. The Hoare Committee agreed with the White-Paper

recommendation of 10-15 members and saw more than 20 would be unmanageable. The West Review (1998) considered that around 15 were about right.

Meredith Edwards from his research on the size and composition of governing bodies in Commonwealth Universities ascertained that University governing bodies are of size 22 is well above the size of 10-15 recommended by the Hoare report (1995). Also on average, the number of external members constituted a greater proportion of the total governing body membership than did internal members [Wood and Smith, 1990, 2000]. Hence, there is an effect of this size, composition and the specific roles and responsibilities of both the external and internal members in the University governance. Thus none of these relationships could be neglected in the effective governance. Governance forms are clearly a 'system of relationships' between the University President/ Vice Chancellor, the Administrative head, the representative bodies and faculty members thus none of these relationships should be neglected when the governing structures of universities are investigated.

Hence, there is a need to delve on this size,

composition and the specific roles and responsibilities of both the external and internal members

6.3 Strategic orientation

Successful long term partnerships between universities and enterprises depend upon the leadership's willingness to articulate the new corporate purpose and vision and to support the introduction and implementation of core tasks. To integrate this kind of initiatives within the university system requires a complete development of strategic orientation. Any large organization needs a clear strategic orientation (ESMU). Even though this is often more implicit than explicit, it will include a sense of corporate purpose, strategic vision, core tasks for units and strategic plans which are explained in Table-4.

Adding a new dimension to the strategic orientation, to respond to the global challenge set by the emerging economies, universities must work in partnership with industry to make a radical review of their strategic orientation to include the following elements emphasized in Table 5:

Table 4 Components of strategic orientation

Component	Definition	Application in a university
Corporate purpose	The organization's contribution to society	Academic excellence and pre eminence in the field of learning;
Strategic vision	The key areas of activity to achieve purpose	The importance of original research and higher education
Core tasks for units	Which will indicate the unit's contribution to vision and purpose	The appropriate fields of research and teaching
Strategic plans	A coherent set of policies, programs and projects which defines the path to be pursued	Structures, policies and resources to implement the core tasks.

Table 5 : Strategic elements

Purpose	contribution to regional or national economic competitiveness;
Vision	partnership with enterprises in modernizing the curriculum and technology transfer;
Core tasks for units	determining with each academic unit whether it should undertake one or more of the following core tasks: <ul style="list-style-type: none"> ● curriculum development and mobility of staff students and enterprise personnel; ● advanced continuing education; ● collaborative applied research and development;
Strategic plans	establishing structures and procedures; projects and programs; with the necessary resources.

6.4 Institutional adaptation

Organizational adaptation refers to modifications and alterations in the organization or its components in order to adjust to changes in the external environment. Its purpose is to restore equilibrium to an unbalanced condition. Adaptation generally refers to a process, not an event, whereby changes are instituted in organizations. The study of adaptation has a long tradition in organizational analysis focused on an analysis of environments and their resulting management challenges. The concept of adaptation has been applied to higher education occasionally but not systematically.

The following researchers have examined several dimensions of institutional adaptation:

1. Retrenchment (Cameron and Tschirhart, 1992; Hearn, 1996; Zusman, 1994);
2. Restructuring (Gumport, 1993; Rhoades, 1995; Slaughter, 1995);
3. Improved performance, Redefined Missions, Reorganization (Cameron, 1984; Dill and Sporn, 1995; Gumport and Pusser, 1997; Peterson, 1995);
4. Mandated Change, Governmental Reforms,

Institutional Autonomy and Accountability (Berdahl and Millett; Van Vught, 1989);

5. Diversification of Funds, Strengthened administrative core, Entrepreneurial periphery (Clark, 1996; Clark, 1996; Slaughter and Leslie, 1997); and
6. Transformational Leadership, and Quality Management (Cameron and Tschirhart, 1992; Dill, 1993; Van Vught, 1995).

A close look at this literature reveals an implicit premise throughout that university administrators are increasingly called upon to orchestrate that adaptation.

6.5 Environmental changes for Universities

The present era may be characterized as a point of revolutionary, rather than evolutionary change (Kerr, 1987). Environmental forces have become dynamic to lead to a basic shift in the structure of higher education as an industry (Cameron and Tschirhart, 1992).

With the environment gaining more influence on the functioning of universities, various authors have focused on adaptation process strategies such as reorganization and restructuring, diversification of revenue sources, revised

mission statements, a redefined role of the state between supervision and control, redesign of programs, evaluation and assessment of faculty, or total quality management were accounted (Cameron, 1984; Dill and Sporn, 1995; Gumpert and Pusser, 1997; Kerr, 1987; Peterson, 1995). Also the widespread directives for management reform, in terms of more authority given to administration to decide upon changes, distribute resources and implement decisions have been studied (Kogan, forthcoming; Trow, 1994).

A study by Dill and Sporn (1995), of the Europe and the United States show several converging patterns in the cumulative pressure amounting to a new environment for universities in the form of:

1. Financial crisis caused by decreased government support for students;
2. Devolution or decentralization of responsibility to the institutional level;
3. International competition for funds, faculty, and students;
4. Governmental regulations to improve quality in teaching and learning;
5. Changing student demographics; and
6. New technologies.

The Societal changes in technology, politics, and economy get translated into environmental demands for universities and, taken together, form an immediate institutional environment. This new environment calls for increased accountability of universities. Environmental pressures are translated into demands to solve problems of cost, quality, effectiveness, and access. Gumpert and Sporn expressed that the domain of faculty authority is narrowed as administrators are provided with the resources to orchestrate various management reforms. Following Figure 3 depicts this visually.

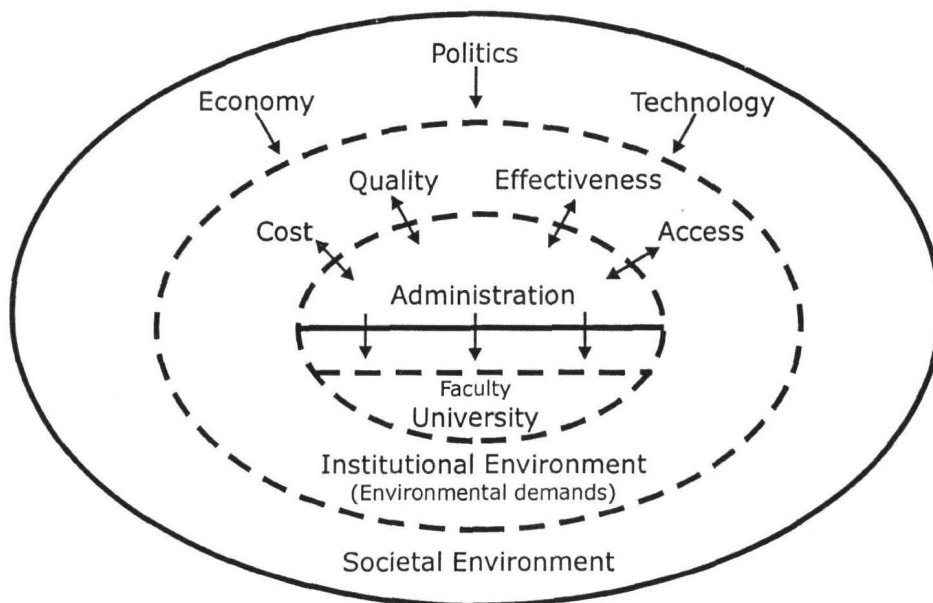


Figure 3: The role of university administration in adaptation (Gumpert and Sporn, 1999)

A comparative study of European countries confirms that while academic expertise remains dominant on the primary processes of teaching and research, "the role of the central institutional administration is an important component in higher education governance and management, especially for the non-primary processes issues such as financial management" (De Boer and Goedegebuure, 1995).

In strategic responses to changing environmental conditions and pressures, many universities are applying new ideas and changing to new ways of operating; they have become learning organizations. Universities in their learning response are adopting strategies of alliance and pursuing new forms of partnership and collaboration, across tertiary sector boundaries. Emerging from this is development of systems-synergistic cross-sectoral relationships is the integrated comprehensive university, the learning university of the twenty-first century, an organisation which both learns and fosters learning (Duke, 1992), an organization which continually expands its ability to shape its future (Senge, 1994). By learning, the university strengthens and extends its core competencies - a motive for alliance formation.

7.0 New Paradigms in University Management

The new concepts of universities and managements are learning-university, entrepreneurial University, world-class-university and transnational education. If we can understand, their very purpose of existence will throw light on university management.

7.1 The learning university

The 'learning organisation' is 'continually expanding its capacity to create its future', Senge (1990). The important characteristics of learning organisation are: it learns through creating, acquiring and transferring new ideas and knowledge, and changes its behaviour to reflect these (Garvin, 1993); the learning is

transformational, the organisation operates proactively in its environment, rather than merely reacting to the environment operating on it.

Senge's work (1990, 1994) encapsulates the essential integration process of individual, organisation and total environment, for building organisations which can learn. He uses the idea of five vital dimensions or 'disciplines': personal mastery, mental models, building shared vision, team learning, and systems thinking. Systems thinking is "the cornerstone of how learning organizations think about their world". It is the integrating discipline which gives understanding of the organisation in the changing context of its total environment, the pathway to the pursuit of systems solutions.

Stata (1989) stressed that "*the rate at which individuals and organizations learn may become the only sustainable competitive advantage, especially in knowledge intensive industries*". Reiterating Stata more strongly, Nonaka (1991) defines knowledge-creating organisations as those whose sole business is continuous innovation, and argues that in an environment in which "the only certainty is uncertainty", knowledge is the one sure source of lasting competitive advantage. The value of the learning individual and the learning organisation extends to the broader perspective of the learning society as a condition of human survival (Duke, 1992; Husen, 1974, 1990); and, in an interdependent world, to the concept of global learning (Husen, 1990; Marquardt and Reynolds, 1994).

Patterson (1999) applies the idea of learning organizations to universities, suggesting that as they adapt to increasingly competitive external environments they are becoming learning organizations. He discusses a range of models and modes of integrating post secondary education into university education, concluding that emerging comprehensive universities developed from strategic alliances, particularly in Australia, New Zealand and the UK, illustrate educational institutions that both learn and foster learning. In critic to this White and Weathersby (2005) notes that the higher education

institutions rarely practice the tenets of learning organization although it is preached.

7.2 Entrepreneurial Universities

Entrepreneurial universities are both highly innovative with respect to their internal management and organization of studies, and strongly involved in programmes of co-operation with industry and the wider world of work (UNESCO, 2003). Here academics are sensitive to practical problems and to act as 'intellectual entrepreneurs', while their institutions are closely related to various corporations for facilitating the transfer of knowledge and technology or for carrying out practice-oriented research (Kwiatkowski, and Sadlack, 2003). These universities act as sources of solutions to many practical problems asserting themselves as 'agents of development'.

7.3 World class university

Building the World-class University is an important strategy for national development. To develop such universities it is necessary to understand universals of the true university. What is the university spirit, what are their basic natures, what functions do they have and what should their missions be: these are the issues that politicians, university administrators, instructors and students, and other concerned people need to understand before they move to build world-class universities. Each nation is unique and their universities can survive and prosper only if they suit the needs of their own society. The nation links its future to World-class education building as it expects such universities to prepare professionals with creative ability, promote progress in science and technology, and transmit national culture and traditions.

7.4 Transnational Education (TNE)

Transnational education (TNE) is a potent manifestation of the impact of globalization upon higher education, and is potentially the most significant one. Its has indirect impact on global education including vital issues like

national control over the educational system, institutional autonomy, the notion of education as a 'public good', lifelong learning, consumer protection, recognition and quality matters. The benefits of TNE are, widening learning opportunities by providing more choice for citizens; challenging traditional education systems by introducing more competition and innovative programmes and delivery methods; helping to make the education more competitive; benefiting the institutions through links with prestigious foreign institutions; providing exporters the opportunity to access new sources of income. The threats include problems associated with, non-official, unregulated higher education providers often franchise institutions and branch campuses that remain outside official national quality assurance regimes and are not subject to internal or external audit/monitoring processes; consumer protection; lack of adequate information/transparency available to potential students, employers, and competent recognition authorities; existence of "degree mills" and bogus institutions that exploit the public; the unfair competitive advantage enjoyed by some TNE providers in regard to the strictly regulated national providers that can consequently lose income; lack of recognition afforded to good quality TNE. The various organisational forms of are Franchising Programme articulations (including twinning) Branch campus, Off-shore institutions, Corporate universities International institutions Distance-learning Virtual universities

It was observed that, although university has been a primary agent of transformation of societies but change in itself is slow, linear and incremental. It presents insurmountable inertia. Universities are in the knowledge business, viewing knowledge as an asset needs it to be dynamic, innovative and entail a systems approach and thinking. Massification of university education has led to diverse and powerful administrative structures and diminished the sense of community among the professoriate. This has led the universities into over administration and under managed.

Successful universities have adapted to changing environment adeptly and university administrators are increasingly called upon to orchestrate that adaptation. The dynamic external environment, rigid working system, stiff competition, decline of funds, demand for accountability from the stakeholders calls for the systems approach in university management. Systems thinking as a holistic approach, imbibes futuristic and proactive culture in the university.

The various issues being discussed by the authors focus on:

- Decision making structures
- Governance;
- Structure and its composition;
- Roles and responsibilities of its members;
- Strategic orientation;
- Adaptation;
- Environmental changes for universities;
- New paradigms of university management;
- System dynamics applied to higher education and university management.

From the literature survey, it was observed that the research studies undertaken so far dealt with a specific area of university management like, enrolment policies, role of governing bodies, structure, composition and size of governing bodies, retrenchment, restructuring, autonomy, accountability, leadership, organisational communication, environmental scanning, quality of teaching, quality of graduate output, resource allocation, budgeting, Total Quality management etc.

The research encompassing the above aspects holistically in the systems perspective is missing. Especially, the research work on stakeholders perception towards university management particularly involving the

professoriate is lacking. This area of research plays a vital role in affiliating type of Technical Universities in Indian context, where the academicians in the form of 'committees' and 'boards' discharge majority of the management functions. This necessitates emphasising the role of the academics as an important actor in the study of decision making structures, policy design and analysis. This study highlights the ways in which academicians perceive the management functions of the Technical University and its reflection on changing policy outcomes. The research gap was further discerned to develop a comprehensive methodology for the appropriate investigation and analytical exploration of the parameters influencing Technical University management, and to develop an analytical simulation tool for the university authorities to aid policy analysis. This research considers the systems thinking as a strategic management tool that can significantly enhance the competitiveness and management of affiliating type of Technological Universities, even in a formal state controlled rigid university system.

8.0 Perspective to Technical University

Engineering is a profession that affects all aspects of modern life. The education of an engineer is demanding; it not only benefits humanity but also provides great rewards for the future and personal satisfaction for pursuing such a career. Universities are in the knowledge business. India has become one of the important source countries for technical work force. This has resulted in higher proliferation of Engineering Institutions established by private sector, offering undergraduate and graduate courses affiliated to various universities in the state. Technological Universities are being established in India under the provision of ninth five-year plan, by various state governments through state legislation acts to keep abreast with the technological advancement, continuing evolution of emerging fields, foster uniform and focused growth, enhance flexibility and effectiveness of engineering education,

amalgamation of polarized disciplines promoting industrially oriented academic growth. At present, the competition is not only amongst the universities but also across countries, and not only for revenues, but more importantly for creative young minds as future employees in knowledge industries in the host countries. To overcome the competition, from private, corporate, foreign and virtual universities, these universities need to be strategically managed.

The newly established technological universities in India face formidable task of identifying, defining, establishing, maintaining, modifying different administrative and academic tasks and processes that had exhorted the university authorities and administrators to take situation based decisions. The work pressure, urgency, some times lack of apt aptitude, and lack of administrative training for authorities and administrators had resulted in the decisions, which have a short-term perspective, thereby hindering sustainable future growth. This has led towards laissez-faireism, which means allowing the activities to take their own natural course with minimum intervention and effort for improvement by the authorities. On informal interaction among the officials, Registrars and Vice Chancellors of other technical universities, the similar situation was confirmed.

From the literature survey, it was observed that the research studies undertaken so far, deal with a specific area of university management like, enrolment policies, role of governing bodies, size of governing bodies, quality of teaching, quality of graduate output, resource allocation etc. Hence there is dire need for 'systems thinking' to adapt to the supercomplex environment to foster steady and sound growth of the organisation. Our educational, social, and economic systems are far more complex than the technological systems. They belong to the class of high-order, nonlinear, feedback systems. The very nature of the dynamic feedback structure of a social system with its complexity tends to defy the intuitive solutions misleading the people into taking decision, which are incorrect. Many of the parameters are

intangible in nature and are limited by availability of the numerical information, hence mental models are normally used which quite often are logically incomplete. Moreover, the social behaviours lose reality if simplified to less than fifth-order nonlinear dynamic systems. Complex systems behave in ways entirely different from ones expectations derived from experience with simple systems. Because intuition is based on simple systems, people are misled when making decisions about complex systems. The causality may be not so direct as evident in the simple models. The new causality may be a derivative of the simple causalities and may be concealed, hence the realities are quite different from that of the mental model expectations.

Systemic view of governance, with an integrated approach spanning the entire perspectives of University functions is essential to establish the technological universities in the right perspective from beginning rather than experimenting on modularized approach where it becomes difficult to integrate the facets at a later stage. Technological university setup needs to perceive from systems-thinking and strategic governance.

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