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Utilising the *learning organization* for management capacity building at Makerere University

ACADEMIC DISSERTATION
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Abstract

This study sought to assist institutional management to revitalise their institution's responsive capacities by utilising the learning organization concept. Retrospective and real time data were used, including documents, archival data, and semi-structured interviews were conducted with key informants at the organizational level and academic deans to ascertain subunit perspectives. Using a constructed learning organization concept, theory-driven analysis was used to analyse the documents and interview data.

The findings show that changes in legislation, declining funding to higher education and liberalization were significant in Uganda's higher education environment. The strategic choices available to Makerere University implied that survival and adaptation were perpetual. Yet, given the existence of a fragmented organization, the responsiveness of subunits was bound to differ, reinforced by the power or influence of the various interest groups. Subunits in the soft-applied fields concentrated on compliance to academic quality demands, and structural parameters related to financial management. Subunits in the hard-applied fields were largely inclined to engage in national development. Through the use of institutional research, incompleteness of information was an effective management tool although the knowledge and skills of institutional researchers was at the lowest tier of organizational intelligence. Moreover, the information needs of academic deans related mainly to management and were less strategic.

The learning organization concept illustrated a responsive university as an open system, as a cybernetic organization that defines what is essential for its survival, and in which organizational learning is integral. In such an organization, information is used to detect and correct anomalies, knowledge creation alters mental models and a double loop learning organization evolves incrementally.

The study recommends that the responsive capacities of institutional management should be systemically revitalised taking into account the dynamic relationships between external contexts, unit-specific interests, and organization-wide practices. This should entail capacity building for prospective and incumbent academic leaders

and managers, entrenching institutional research at all organizational levels and improving the competence of institutional researchers.

Tiivistelmä

Tämä tutkimus pyrkii tukemaan korkeakoulujohtoa korkeakoulun reagointikyvyn (responsiivisuuden) kehittämisessä hyödyntämällä oppivan organisaation käsitettä. Tutkimuksessa käytettiin sekä taannehtivaa että ajantasaista aineistoa, kuten dokumentteja arkistotietoja ja organisaatiotason avainhenkilöiden ja yksikkötason dekaanien puolistrukturoituja haastatteluita. Kirjallinen ja haastatteluaineisto käsiteltiin konstruktiivista oppivan organisaation käsitettä ja teoriaohjautuvaa analyysiä hyödyntäen.

Tutkimustulokset osoittavat, että lainsäädännön muutokset, korkeakoulutuksen rahoituksen leikkaukset ja liberalisaatio olivat merkittäviä Ugandan korkeakouluympäristössä. Makereren yliopistolle mahdolliset strategiset valinnat viittaisivat siihen, että selviytyminen ja muutos olivat jatkuvia. Kuitenkin organisaation pirstaleisuuden takia yksiköiden reagointitavat olivat erilaisia ja niitä ohjailivat erilaisten sidosryhmien valta-asemat ja vaikutteet. Pehmeiden soveltavien tieteenalojen yksiköt keskittyivät varmistamaan akateemisia laatuvaatimuksia ja mukautumaan talouteen liittyviin rakenteellisiin rajoitteisiin. Kovien soveltavien alojen edustajat olivat erityisesti taipuvaisia osallistumaan kansalliseen kehitykseen. Institutionaalisen tutkimuksen alalla epätäydellinen informaatio oli tehokas hallinnan keino, vaikka institutionaalisten tutkijoiden tiedot ja taidot olivat organisaation älykkyyden alimmalla tasolla. Lisäksi akateemisten dekaanien tiedontarve liittyi enemmän hallintoon kuin strategiaan.

Oppivan organisaation käsite havainnollistaa nopeasti reagoivaa yliopistoa avoimena systeeminä ja kyberneettisenä organisaationa, joka määrittää sen mikä on elintärkeää sen olemassaololle ja jossa organisaation oppiminen on keskeistä. Tällaisessa organisaatiossa tietoa käytetään poikkeuksien havaitsemiseen ja niiden korjaamiseen. Tiedon luominen muuttaa mentaalisia malleja ja kaksikehäisen oppimisen kautta organisaatiota kehitetään asteittaisesti.

Tutkimus suosittaa, että institutionaalisen ohjauksen reagointikykyä tulisi johdonmukaisesti kehittää ottamalla huomioon dynaamiset suhteet ulkoisen ympäristön, yksikkökohtaisten intressien ja koko organisaation laajuisten käytäntöjen

välillä. Tämä tarkoittaa tulevien ja jo virassa olevien akateemisten johtajien kykyjen kehittämistä, institutionaalisen tutkimuksen vakiinnuttamista kaikilla organisaatiotasoilla ja instituutiotutkijoiden taitojen kehittämistä.

Avainsanat: *responsiivinen yliopisto, reagointikyky (responsiivisuus), oppiva organisaatio, Makereren yliopisto, korkeakoulun johto*

A well designed organization is not a stable solution to achieve, but a development process to keep active (Starbuck & Nystrom, 1981 p. xx).

1
Introduction

1.1 Background to the research

It is becoming increasingly necessary for institutional management[1] to be responsive to the continuous changes in an institution's internal and external environments. Indeed, the responsive capacities[2] of institutional management have become crucial for organizational adaptability. This has been occasioned by the changing relationships between governments and universities, rising student enrolment, the emerging emphasis on market-oriented patterns, demands for quality, and engagement in economic development (Bleiklie & Kogan, 2007; Hearn & Holdsworth, 2002; Salmi, 2007; Sporn, 1999a). With continuity of these changes across higher education systems and institutions, the notion of a "responsive university", which "openly considers changing circumstances, identifies appropriate ways to adapt, and takes appropriate actions to be responsive" (El-Khawas, 2001 p. 241), has been advanced (Tierney, 1998). It has been argued that adaptive universities are examples of responsive universities (El-Khawas, 2001 p. 241).

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1   In this book, the term institutional management is used to refer to those occupying positions in the top and middle layers of management, unless otherwise specified.

2   The terms responsive capacities, responsiveness, and adaptability are used interchangeably to refer to the potential or actual changes by the organization to deal with the changes in the environment through enhancing its internal regulation in order to continue accomplishing its goals (Cameron, 1984 p. 138; El-Khawas, 2001 p. 241; Rubin, 1979 p. 213).

Public sector reforms have been advanced as one of the main triggers for the current changes in higher education management. Public administration has been distinguished by its detailed rule-based procedures and its sharp contrast to the private sector (Dunleavy & Hood, 1994 p. 9). Public sector reforms have focused on the reduction in public expenditure and the increase in efficiency and effectiveness of public organizations (Pollitt & Bouckaert, 2004 p. 6). This trend has been referred to as new public management (NPM) presumed to sit side by side with traditional public administration (Ferlie & Andresani, 2006 p. 390–391; Hood, 1991 p. 3; Hood, 1995 p. 105). It is evident that decentralisation and systemic interdependencies have epitomized shifts in public management rendering adherence to hierarchical authority less tenable (Head, 2010 p. 573). In essence, there has been more complexity, multiple stakeholders[3], and the regulatory roles of government have been strengthened (Awortwi, 2010 p. 724). At the same time, information use as a coupling element has been one of the key attributes of NPM (Denhardt, 1999 p. 281; Hood, 1991 p. 12; Hood, 1995 p. 105; Pollitt, 1993 p. 2). Public management reforms have also been evident in higher education (de Boer, Enders, & Leisyte, 2007; Reed, 2002; Salminen, 2003) necessitating new skills and approaches in academic management (Salminen, 2003 p. 66).

Owing to the openness of the responsive university to external pressures such as reforms in public management, institutional management has made strategic choices concerning the essential variables or values necessary for the survival of the organization. What is essential has been articulated in mission statements and strategic goals (Dill, 1997 p. 171–172). The strategic choices have entailed decentralizing decision-making to the academic units, increasing the decision powers of individual academic leaders in relation to collegial bodies, and shifting to lump sum budgeting for academic units in the universities (Carvalho & Santiago, 2010; Ehrenberg, 1999 p. 30; Höltta & Pulliainen, 1994; Höltta, 1995b; Höltta & Karjalainen, 1997; Jongbloed & van der Knoop, 1999; Mehralizadeh, 2005). This has been premised on the view that the efficacy of the adaptive capacities of the university organization is more likely under decentralized conditions (Cameron, 1984 p. 137–138; Höltta, 1995b p. 236).

Indeed, a responsive university envisages that since subunits have aspects of open systems, they have the capacity to define what is essential for their survival (Höltta, 1995b p. 239). As a result, diverse responses to changing conditions continue to emerge from academic units, reinforcing the complexity of the university. The academic units operate according to their disciplinary orientations and have distinct values which together account for fragmentation (Becher, 1990 p. 345; Becher & Trowler, 2001 p.

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3   In this book, the term 'stakeholder' is applied to mean "a person or entity with a legitimate interest in higher education and which, as such, acquires the right to intervene". It also refers to both the internal and external stakeholders where the former will be used to refer to the academic community, administrators, and students who are inside the university. External stakeholders will refer to those coming from outside the university, for example, representatives in university governance, the industry and the public and private sectors (Amaral & Magalhães, 2002 p. 2).

81; Clark, 1983 p. 189; Dill & Sporn, 1995 p. 215). Clearly, with authority increasingly ceded to middle managers (specifically the academic deanship), differences between faculties have been as pervasive as the increase in internal requirements and external pressures (Benjamin & Carroll, 1998 p. 100; Clark, 1995 p. 9; de Boer & Goedegebuure, 2009 p. 352; de Weert, 2001 p. 97; Gumport, 2000 p. 76; Hölttä, 1998; Wolverton, Gmelch, Montez, & Nies, 2001 p. 14).

In terms of the external dimension, as the academic unit interacts with the environment, it can receive feedback pertaining to its activities directly from external stakeholders. Conversely, internal requirements relate to operational management – resource allocation and academic management – teaching and research programmes (Carvalho & Santiago, 2010; Kallenberg, 2007; Meek, Goedegebuure, Santiago, & Carvalho, 2010). Such contexts stratify the roles of middle managers and illuminate the diffusion of institutional leadership at the middle level of the organization in order to enhance responsiveness. It is also worth noting that whereas the deans may concentrate on such managerial roles by executing the mandate of the central administration, the same deans also pay attention to "the drives of disparate academic professional groups" (Clark, 1995 p. 9). Undoubtedly, the dean operates in a state of role conflict (Bray, 2008 p. 692–694; Bray, 2010 p. 313; Wolverton, Wolverton, & Gmelch, 1999 p. 82). However, it has been acknowledged that focusing on the academic roles has taken precedence in most cases (Dearlove, 2002 p. 268; Santiago, Carvalho, Amaral & Meek, 2006 p. 242).

Even then, the dean is also confronted with role ambiguity. For instance, in hierarchical terms, the dean reports to the vice chancellor just as the dean receives directives from the vice chancellor. An illustration of this is the "across-the-board fiscal cuts", a strategy that involves reductions in the financial disbursements to the academic units to which deans have to adapt (Benjamin & Carroll, 1998 p. 104). Obviously, the academic deans allocate or reallocate resources to the departments, activities and programmes within their units without any consideration of the allocation decisions of their counterparts in the same university. It is therefore certain, for example, that "…if deans receive no clear guidelines [from the central administration] about budget priorities, decisions made at the college level may seem capricious and indefensible" (Wolverton et al., 2001 p. 21). And yet, studies assessing the managerial skills of academic deans have highlighted their dismal competence in managing budgetary and fiscal allocations, and that this may affect the realization of organizational outcomes (see Harman, 2002 p. 55; Vieira da Motta & Bolan, 2008 p. 313).

Given the complexity of a responsive university and general concerns for efficiency and effectiveness of the entire organization as it responds to its external environment, extensive decentralization has been rendered less cost effective, and possibly anarchical (Hölttä, 1995b p. 231; Rubin, 1979 p. 213; Weick, 1982 p. 390). It has been argued that "universities and colleges must overcome their fragmentation into faculties, departments, laboratories, research centres, and administrative units

and instead target their efforts collectively on institutional priorities for research, teaching, and innovation" (Maassen, 2007 p. 13). According to Dill and Sporn, "A principal means of achieving high integration in a dispersed network organization[4] is through information technology" (Dill & Sporn, 1995 p. 229). Indeed, in certain instances, information and information systems[5] as integrating elements have sometimes been partnered with drastic decentralization to assure the systematic self-regulative capacities of the university as a whole (Höltä & Nuotio, 1995 p. 14; Höltä, 1995b p. 238–239). Certainly when the activities and functions of the subunits are linked, efficiency and cohesion within the organization may be improved. In addition to the advantage of using information and information technology to integrate the different subunits, they have the capacity to link the university to its external environment (Cremonini, Westerheijden, & Enders, 2008 p. 373–375; Delaney, 1997 p. 1–2; Dill & Sporn, 1995 p. 229–230; Frackmann, 1994 p. 33–34; Hearn & Corcoran, 1988 p. 643–645; Julius, Baldridge, & Pfeffer, 1999 p. 122–123; Keller, 1993 p. 3; Keller, 1995 p. 60; McClea & Yen, 2005; Peterson, 1971 p. 531–532)[6].

On that premise, most universities are acquiring or developing integrated organization-wide information systems that facilitate access to accurate data (Creswell & England, 1994 p. 15). This flow of information for decision making[7] creates "information-coupled" decision-making structures and processes (Keith, 1998 p. 171; Tierney, 1998 p. 7). Yet at the same time, the potential of information and information technology in responsive universities has barely been exploited due to concentration on inputs and less on output (Benjamin & Carroll, 1998 p. 114). Furthermore, with the exception of Creswell and England (1994 p. 16), little research has elucidated the information needs and use by middle management and the use of information technology in university management (Tatnall & Davey, 2005 p. 212). Also important is the fact that most of the previous studies have had several theoretical limitations, hence the need for conceptual models (Allen, Kern, & Mattison, 2002 p. 160; Cooper & Quinn, 1993 p. 176; Masland, 1985 p. 203–205).

From the foregoing review, it is indisputable that a responsive university, which is comprised of structurally diverse units, interacts with its external environment, makes strategic choices to survive, and at the same time needs to integrate the functions of its subunits using information systems to accelerate organizational efficiency and effectiveness. Previous research on a responsive university has focused on "systems and structures rather than people and personalities" (Tierney, 1998 p. 4), in addition

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4   Network organizations evolve when there is a high environmental complexity and a high pace of change (see Dill & Sporn, 1995 p. 217).

5   The concept of 'information systems' has been used to refer to any channel that can potentially facilitate the acquisition and flow of information between different subunits or subsystems of the university and its environment for decision-making purposes.

6   More details can be found in Section 2.4.

7   Decisions processes are triggered by a discrepancy in "information on some actual situation and some expected standard" (Mintzberg, Raisinghani, & Theoret, 1976 p. 235).

to attention on cultural aspects (Kezar & Eckel, 2004 p. 395). While responsiveness can be understood from the perspective of continuous change, empirical studies on individual higher education organizations remain limited with a few exceptions (Kondakci & van den Broeck, 2009 p. 441). Nevertheless, a multiple case study on the institutional transformation process sheds light on the core strategies employed by institutions (Kezar & Eckel, 2002). Such core strategies revolve around creating environments in which information that has been acquired is correctly deciphered to understand the changing contexts (Kezar & Eckel, 2002 p. 314).

Even then, according to Kezar and Eckel (2004), empirical research on responsiveness is still scanty and open system theory has been underutilised for understanding such phenomena. More still, in Kezar and Eckel's opinion, further studies might benefit from the use of social cognition theories such as cybernetics as a basis for ascertaining how organizations learn (Kezar & Eckel, 2004 p. 392–393). Perhaps this would address the inadequacies in research concerning why some pressures for change are easily responded to at any level of the institution than others, how various layers of governance interact to increase efficiency and effectiveness, and how campuses can improve their responsive capacities (Kezar & Eckel, 2004 p.390, p.394).

Being multi-faceted and focusing on organizational improvement, the learning organization concept provides a suitable framework for interpreting the operations of a responsive university in order to improve on its responsive capacities. A learning organization is one that continuously senses changes in its environment and adapts; and it also thrives on the acquisition, dissemination, and utilization of information about itself (Easterby-Smith, 1997 p. 1090; Easterby-Smith & Araujo, 1999 p. 3; Huber, 1991 p. 89). The scientific origins of the learning organization as explored in this study are open system theory and cybernetics. Senge's Fifth discipline, systems thinking, understood as the cornerstone of the learning organization, emphasizes the wholeness of a system that comprises different subsystems and the reciprocity that emerges from their interactions (Senge, 2006 p. 74–75). Although some scholars have argued that the literature on learning organizations has a practitioner orientation, its theoretical strength can be further traced in the research-oriented literature on organizational learning that has strong disciplinary links to cybernetics theory (Argyris & Schön, 1978; Easterby-Smith & Araujo, 1999 p. 8; Kezar, 2005 p. 13). The key emphasis of organizational learning is on improving the internal integrative responsive capacity of the organization by gathering, processing and utilizing information (Easterby-Smith, 1997 p. 1090; Easterby-Smith & Araujo, 1999 p. 3; Kezar, 2005 p. 13).

However, universities are not perfect examples of learning organizations even though knowledge is their primary material (Clark, 1983; Garvin, 1993 p. 80). At the same time, empirical applications of the learning organization in higher education research have been limited. Earlier contributions on organizational learning have concentrated on knowledge management and the connections between organizational change and organizational learning (Boyce, 2003; Kezar, 2005 p.

15). Studies using the learning organization concept have examined improvements in teaching and learning, the importance of community service, or explored the internal organizational characteristics and processes (Anderson, 2005; Collie & Taylor, 2004; Dill, 1999; Portfelt, 2006). While some of these studies elucidate the systems thinking perspective in their analyses, the elements it is comprised of, such as causal relationships, parameters or controls, feedback, and hierarchy, need further exploration in order to understand the responsive capacities of institutional management. Moreover, since information is crucial for organizational learning and integration, it is critical that the intricacies in the use of information and management information systems are further explored.

1.2   Context of the study

The foregoing patterns have been equally evident in higher education systems and institutions in sub-Saharan Africa (Association of African Universities and The World Bank, 1997; Saint, 1992; Saint, 1994; Saint, 2004a; Saint, 2004b; Saint, 2009 p.524; Salmi, 1992). Interestingly, initial efforts for reform have been unsuccessful because of the tensions in government-university relationships fuelled by the failure of governments "to provide institutions with the autonomy needed to introduce cost-savings as well as incentives to generate private financing" (Eisemon & Salmi, 1993 p. 152). Indeed, until the previous decade, public universities were under the direct control of the government. Nevertheless, public sector reforms[8] sanctioned by the World Bank have epitomized the transformations that African higher education systems and institutions have experienced since the beginning of the 1990s (Amonoo-Neizer, 1998; Brett, 1994; Eisemon et al., 1993).

In sub-Saharan Africa, noticeable reforms include changes in legislation, institutional autonomy, and increased accountability to the government, quality assurance agencies and other stakeholders (Fielden, 2008, Saint, 2009 p. 531; Saint, 2010 p. 19). There was a significant decline in the World Bank funding for higher education in the period 1994–2004. This followed demands for drastic policy reforms where governments had to reduce direct financial control and diversify funding sources for higher education in Africa to address increasing demand (Eisemon et al. 1993; Sawyerr, 2004 p. 10; World Bank, 2009 p. 2)[9]. At the same time, growth in

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8   Public sector reforms entail 'imported' policies of new public management (NPM) (Awortwi, 2010 p. 723; McCourt, 2008 p. 468). However, the success of public sector reforms has been curtailed by inadequate skills and knowledge among public administrators and their low capacity to integrate NPM doctrines in traditional public administration (Awortwi, 2010 p. 730).

9   The emphasis of the World Bank had shifted to financing primary education at the expense of higher education (Samoff & Carrol, 2004 p. 82; Sawyerr, 2004 p. 43).

institutions and enrolments has been characterized by rapid expansion in private higher education in several African countries starting during the 1980s and the 1990s (Sawyerr, 2004 p. 17; Varghese, 2006 p. 30).

With unprecedented external pressures in ascendency, strategic planning in universities in sub-Saharan Africa started in the early 1990s (Farrant & Afonso, 1997 p. 23; Hayward, 2008 p. 7; Luhanga, 2010 p. 7073). The focus of the essential variables or values in the strategic plans has been on having discretion in financial management with respect to income generation and reallocation decisions within the university during periods of economic decline and higher education expansion (Liverpool, Oseyin, & Opara, 1998 p. 139). The role of academic deanship has been strengthened and deans perform various roles including strategy development in contexts where no institutional missions and goals exist (Gwele, 2008 p. 322). Moreover, these middle managers are responsible for the operational academic management functions despite the conflicting roles (Naidoo, 2009 p. 132–133). Even with these competing demands, the deans have given more attention to the disciplinary obligations (Cloete & Kulati, 2003 p. 239). As more complexity emerges, the use of information and management information systems has been proposed to improve internal regulation and external links (Amonoo-Neizer, 1998 p. 307; Hölttä, 1995a p. 195; Saint, 1992 p. 70).

However, there is a general consensus that institutional management at African universities is weak, inefficient and ineffective, and would thus necessitate re-building (Hölttä, 1995a p. 195; Saint, 2004a p. 64; Salmi, 2007 p. 233; Teferra & Altbach, 2004 p. 31). In fact, some scholars have argued that while the decentralization and self-regulative capacities of universities have been instrumental in organizational functioning in European countries, it is fallacious to assume that this can be a recipe for organizational improvement in the African higher education systems and institutions. Instead, there is need first to build strong centralized policies and supporting frameworks in which decentralization should be underpinned by "deep commitment of universities and their faculty and staff to the organized efforts for [organizational] improvement" (Hölttä, 1995a p. 191). It is imperative that the responsive capacities of institutional management be examined, just as Saint has succinctly argued:

> Today, universities in Africa are much larger institutions, more complex in their working relationships with the external environment, and hard pressed to keep pace with the rapid changes in the world around them. Running a university today in Africa, or anywhere else, requires the full-time dedication of trained professional managers. Addressing the needs for leadership and management is … a necessary condition for meeting the other challenges faced by African universities (Saint, 2004a p. 64).

This study adopts Makerere University as a case study in the context of sub-Saharan Africa[10]. This is premised on its drastic administrative and financial reform in African higher education (Court, 2000) as well as its adaptive capacities (Clark, 2004). Moreover, recent contrasting reports shed light on the urgency for management capacity building (Visitation Committee to Public Universities, 2007). In addition, there is a need to proffer practical strategies to integrate the activities of the highly decentralized subunits and also to integrate the responses of the university to the external pressures it faces (Musisi, 2006 p. 181).

1.3   Problem statement

At Makerere University, the need to interpret the responses of the university and its disparate academic units to the changing conditions concerning academic and financial management is crucial. This is premised on the view that institutional management responsiveness should focus on improving the efficiency and effectiveness of the university by ensuring that it functions as a whole internally and as it links to its external environment. Mechanisms like the use of information and management information systems have been adopted to integrate behaviour and activities of the discipline-based units as they operate in the unpredictable environment. However, despite the dire need for integration as the university responds to its complex unpredictable contexts, it is surprising that there is little empirical evidence on improving the responsive capacities of institutional management, and from the perspective of the academic deans, at least in the case of Makerere University. To address this knowledge gap, the concept of the learning organization was utilised to interpret the prevailing responsiveness in anticipation that the findings may generate elements of a framework for building integrative capacities of higher education management.

1.4   Purpose of the study

The purpose of this study is to use the learning organization concept to interpret the responsive capacities of institutional management in order to proffer strategies for management capacity building at Makerere University. The primary focus of the learning organization is on the continuous cycle of interaction that maintains equilibrium between the organization and its external contexts. This framework can be categorized as a "middle-range" theory used for purposes of understanding and

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10   Details are in Chapter Four, Chapter Five and Chapter Six.

explaining specific aspects of the phenomena in order to link theory and research (Bryman, 2008 p. 6–7).

1.5   Research questions

The study is guided by two research questions
   a) *What is the nature of the responsive capacities of academic and financial management at Makerere University?*
   b) *What interpretations does the learning organization provide for revitalising the responsive capacities of academic and financial management at Makerere University?*

As organization improvement framework, the concept of the learning organization is adopted as a theoretical framework within which to interpret the responsive capacities of institutional management with specific focus on academic and financial management. It is envisaged that the study could clarify some of the prerequisites for effective organizational development in higher education institutions. By focusing on a responsive university and the learning organization, theorising in this study assumes that adaptation is part of learning which is incremental. Through cumulative processes of this kind of learning where anomalies are detected and corrected, it is possible that a double-loop learning organization could emerge. It is such complex processes that this study focused on in the context of sub-Saharan Africa.

1.6   Organization of the dissertation

The book comprises seven chapters, six of which elucidate the theoretical, methodological and empirical aspects explored in the study. Chapter 2 presents the basis of the responsive capacities by illuminating four aspects, namely the university environment, the strategy, the nature of the academic organization, and the use of institutional research. In Chapter 3, the learning organization concept is constituted in terms of an open system, a cybernetic organization, and the components of organizational learning. Chapter 4 addresses the methodological issues about the research strategy, the research design, the case, the selected subunits, procedures of data collection and analysis, and validity and reliability issues. Chapter 5 concentrates on organizational responsiveness of Makerere University. Chapter 6 elucidates the patterns of responsiveness of the academic units at Makerere University. The cornerstone of the study occurs in Chapter 7, where interpretations that the learning

organization can provide for management capacity building are ascertained. Figure 1 below illustrates the summary of the contents of the dissertation.

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                          │     Chapter 1       │
                          │    Introduction     │
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┌─────────────────────────┐                  ┌─────────────────────────┐
│       Chapter 2         │                  │       Chapter 3         │
│ Theoretical perspectives│                  │ The Learning Organization│
│ on a responsive university:│               │                         │
│ a basis for management  │                  │                         │
│ responsive capacities   │                  │                         │
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              │     Chapter 4       │
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│       Chapter 5         │                  │       Chapter 6         │
│   Organizational        │                  │   Responsiveness of the │
│ responsiveness of Makerere│                │   academic units at Makerere│
│     University          │                  │       University        │
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              ┌─────────────────────┐
              │     Chapter 7       │
              │   Discussion and    │
              │    Conclusion       │
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Figure 1. Organization of the dissertation

2

Theoretical perspectives on a responsive university: a basis for management responsive capacities

2.1   The university environment

University organizations operate in contexts that have divergent expectations and are subject to numerous external changes. Actually, the survival of the university organization "…is dependent upon the ability of the organization to respond to its environment, which is characterized as dynamic and thus uncertain and potentially threatening" (Gumport, 2000 p. 76). As the university organization deals with this external complexity, typified by more elements, it also evolves into an equally complex internal organization with new structures and procedures, and nurtures newer values (Cameron, 1984 p. 133–4; Hölttä, 1995b p. 236). Basically, organizational adaptation in higher education has been explored as a hybrid of managerial influence and environmental determinism (Cameron, 1984 p. 125; Hrebiniak & Joyce, 1985 p. 347). Just as external changes can affect the internal processes of the organization, it is equally likely that the strategies adopted by managers can create change in the organization and such changes in the organization may influence activities in the external environment (Cameron, 1984 p. 132). Against this background, Cameron (1984) has provided an explicit definition of adaptation in higher education:

> Organization 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. Adaptation does not necessarily imply reactivity on the part of an organization because proactive or anticipatory adaptation is possible as well. But the emphasis is

definitely on responding to some discontinuity or lack of fit that arises between the organization and its environment (Cameron, 1984 p. 123)

This definition sheds light on the flow of influence between the organization and its environment to maintain equilibrium. It is also clear that adaptation is perpetual because the changes in the contexts within which universities operate are indeterminable. Indeed, on this state of continuous instability, Clark (1998b) succinctly argues: "… *demands on universities outrun their capacity to respond. From all sides inescapable broad streams of demands rain upon the higher education system and derivatively upon specific universities within it*" [Italics in original] (see also Clark, 1997 p. 291; Clark, 1998b p. 6). Such unprecedented demands on the university organization have included the changing role of the state, demographic changes in student composition, explosion of information technologies, globalization, restructuring of national economies, changes in the labour market demands, societal demands for research and service, and the explosion of knowledge (Benjamin & Carroll, 1998 p. 92; Cameron & Tschirhart, 1992 p. 88–89; Clark, 1996 p. 417–418; Clark, 1998b p. 6–7; Gumport & Sporn, 1999 p. 102; Slaughter & Leslie, 1997 p. 9–11; Slaughter & Rhoades, 2004 p. 20; Sporn, 1999a p. 9). These changes have been ubiquitous across higher education systems and have attracted a range of institutional and academic unit responses (Sporn, 1995 p. 72–74; Sporn, 1999b p. 17; Sporn, 2001 p. 122). Makerere University as a higher education institution is no exception in this wave of responsiveness to its environment[11].

2.2   The notion of an institutional strategy

Institutional strategy documents demonstrate what the university considers essential for its survival. Keller (1983) has provided one of the most lucid discourses on the concept of strategy[12] in higher education. In his analysis, Keller argues that "… most colleges and universities have been inner-directed, formulating their aims on the bedrock of their own religious commitments, traditions, faculty desires, and ambitions for growth, largely ignoring the world outside." But some universities, Keller continues, "… have moved swiftly to improve their data collection and monitoring of the society external to their campus gates" (Keller, 1983 p. 145). No doubt, academic organizations are increasingly countering their unstable environments with strong strategic choices. Indeed, as Chaffee opines, the notion of strategy in (academic) organizations is "to deal with changing environments" (Chaffee, 1985b p. 89). For

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11   The nature of the environment is elaborated in Chapter Five and Chapter Six, based on documents and conceptions of the informants to the study.

12   The concept is applied to mean both intentions and patterns in actions or decisions or behaviours that can emerge in the organization.

purposes of improving organizational responsiveness, both strategic choice and environmental determinism sit side by side (Hrebiniak & Joyce, 1985 p. 338). This logic illuminates the tenets of the open systems theory where the interaction between the academic organization and its environment is reciprocal. For example, high environmental determinism can cause the organization to respond strategically by strengthening the position of the academic dean. At the same time, organizational structures continue to evolve as the demands from the environment change hence enabling the institution to align its provisions to the needs of the stakeholders.

2.2.1 Deliberate and emergent strategies

Considering a university both as an organization and as an open system, its strategy can be either *deliberate* or *emergent* (Hardy, Langley, Mintzberg & Rose, 1984 p. 169–170). A deliberate strategy is an assortment of stated intentions that are in correspondence with patterns of actions or decisions within the organization. An emergent strategy evolves when the university engages in activities or takes decisions or more broadly, pursues strategies that were actually never intended. Whereas this could be incompatible with the business-oriented views on strategy, it is possible and it can certainly occur in organizations. This conceptualization of a strategy partly accounts for the increasing interest it has generated in higher education (Maassen & van Vught, 2002 p. 227). Owing to the differentiated nature of the academic organization, it could be assumed that strategy can actually originate from any of the structural elements. For example, it could originate from an individual (e.g. a professor), a distinct group (e.g. a department or academic unit) or by consensus when strategies are "collectively intended and then realized by the actions of many actors" (Hardy et al., 1984 p. 171).

As a result of the interactions and feedback between the different elements, emergent strategies could certainly evolve into deliberate strategies. Alternatively, decisions on what the strategy should entail could be deliberate e.g. the strategy design committee structures may follow uniform templates while "the content of specific strategies (what programmes to offer, etc) is allowed to emerge" (Hardy et al., 1984 p. 171). This is a reciprocal relationship where the activities or programmes offered evolve into a deliberate strategy for the organization. It can be argued that when different academic units in a university start to emphasize innovation in all their academic programmes or adopt certain practices such as the utilization of information systems in management, it could imply that they are pursuing an innovations strategy or an information management strategy. In fact, the processes that a university consistently entrenches into its activities may constitute, or be referred to as, its strategy. In other words, from a systemic point of view, what the different actors or units engage in can reinforce the creation of a deliberate strategy for the organization as an entity, which is then used to deal with the environment.

As the environment responds to the strategic choices of the institution, different academic units will operate according to the deliberate strategy that emerged from their specific strategies and this could further enhance the prevailing patterns of institutional-environment interaction.

However, in complex social systems such as the university organization, this reinforcing pattern of the strategy process can be altered because of the occurrence of numerous relationships. For example, it is not uncommon for different academic units to choose to focus on certain aspects of the mission of the university while de-emphasizing others. In the same way, alteration of entrenched practices, which are replicated in emergent strategies, is difficult in a fragmented university system, especially if there are some benefits to the subunits that accrue from such practices. Thus, an emergent strategy has the capacity to hamper the evolution of a deliberate strategy. In order to address this anomaly, there is a need to integrate the fragmented actors and actions by making the basic mission as explicit as possible, that is, "the products or services [to be] offered to the public" by the university (Hardy et al. 1984 p. 173). In addition, the university can also systematically identify some other elements, including, but not limited to, organizational structures and governance arrangements within the institution, which can support the realization of this basic mission by providing corrective mechanisms for any significant deviations. However, within a university, the role of individual professors remains significantly important because they largely determine the courses and academic programmes offered and the research that is conducted in order to pursue the mission.

2.2.2 Linear, adaptive and interpretive strategies

Chaffee's (1985b) three models of strategy are not mutually exclusive and in a way, they are overlapping and could be applicable simultaneously to the university. The following analysis is a systemic explanation of each of the three models according to Chaffee's stratification, which have emerged to reduce the ambiguity of the concept of strategy. These include: a) linear strategy b) adaptive strategy and c) interpretive strategy.

As its name denotes, the *linear strategy* comprises "integrated decisions, actions, or plans that will set and achieve viable organizational goals" (Chaffee, 1985b p. 90). The attainment of the goals that facilitate the functioning of the organization in its environment can occur by strictly aligning the processes and provisions to what the environment needs. When this is done, the environmental subsystem to which the university has responded will provide feedback on whether its requirements have been adhered to. In most cases, as the model presupposes, success of a linear strategy is dependent on the capacity of top management to choose correctly the goals to be pursued and the actions to be taken to achieve those goals in relation to the environment. This model is grounded on closed system logic and assumes a tightly

coupled organization in a stable environment (Chaffee, 1985b p. 90). An example of this kind of interaction between the organization and the environment is perhaps when state quality assurance and accreditation agencies or funding organizations set rules to which the university has to abide.

The *adaptive strategy* is the second model in Chaffee's typology. It is premised on the view that the environment is too complex for a linear strategy to proffer effective strategic directions, as it consists of multiple actors. Indeed, as Chaffee (1985b) argues, "the environment is considered to be a complex organizational life support system, consisting of trends, events, competitors, and stakeholders. The boundary between the organization and its environment is highly permeable, and the environment is a major focus of attention in determining organizational action" (Chaffee, 1985b p. 91). As presumed in this model, the university (and its subunits) will have to adjust or establish specific interfaces that would facilitate its responsive capacity to the diverse external constituents. The extent this is done would ensure the alignment or misalignment of organizational responses to changes and trends in the environment. It is possible that subunits such as faculties and the university as an entity, can set up structures such as corporate relations offices and private sector interface structures, not only as a response to, but also for scanning and sensing any signals of changes and trends in the environment. But such structures can also serve strategic purposes for the institution and can equally affect certain subsystems in the complex environment.

According to Chaffee (1985b), the *interpretive strategy* illuminates the fact that organization-environment interactions are actually more complex than the adaptive strategy would suppose. Such complexity is subtly embellished in the idea of 'social contract', which goes beyond the structural aspects and delves into the culture or the value system curved out of the cognitions of various actors within the organization. Social contract, as Chaffee elaborates, "portrays the organization as a collection of cooperative agreements entered into by individuals with free will. The organization's existence relies on its ability to attract enough individuals to cooperate in mutually beneficial exchange" (Chaffee, 1985b p. 93). In other words, individuals envision the organization they would like to operate in and can willingly discard their own beliefs if they find them not shared by, or misaligned to the aspirations of, most of their counterparts.

Based on this model, the term strategy refers to "orienting metaphors or frames of reference that allow the organization and its environment to be understood by organizational stakeholders…[who] are motivated to believe and to act in ways that are expected to produce favourable results for the organization" (Chaffee, 1985b p. 93). In practice, the interpretive strategy model can be associated with evidence of institutional cohesion where there is collective pursuit of the mission of the university irrespective of the discipline one belongs and hence the university system is seen as a whole. This means that individuals or subunits begin to notice that their isolated actions can actually affect the entire university as it chooses to deal with

its environment. In this process, existing norms of individuals and subunits have to be altered so that the university interfaces with its environment as an entity. Of course, this process is quite difficult because it takes some time to change entrenched beliefs, norms and values, and could as well involve more delays than in the linear and adaptive models. The categories of the concept of strategy by Chaffee (1985b) illustrate that it is theoretically rooted in the elements of systems thinking and an open system as summarized in Table 1 below.

Table 1. Relating conceptions of strategy to some theoretical viewpoints

	External responsiveness (open system)	Internal regulation (systems thinking)		
		Parameter(s)	Feedback	Hierarchy
Linear strategy	Attainment of a specific goal can determine the functioning of the organization in its environment	Specific goal(s) to deal with the environment	Goal achievement (non-achievement) in relation to the requirements of the environments	Capacity of top management in the university to identify key goals to deal with the environment
Adaptive strategy	Changes in the environment influence the internal processes and structure of the organization	Aligning internal processes to changes in the environment (e.g. establishing specialized structures)	Extent of alignment or misalignment of organizational processes and structures to the environment	Capacity of the organization and its subunits to internally cope with changes in the environment
Interpretive strategy	Institutional cohesion can accelerate the engagement of external stakeholders in the organization	Collectivism in ideology ('social contract')	Interest of external stakeholders and their engagement (or lack of it) in the activities of the organization	Capacity of the individual members or units to discard or unlearn their beliefs

In a nutshell, the linear strategy is typical in organizations where top managers determine the best ways to deal with multiple actors in the environment to achieve organizational goals. Incidentally, this pattern is quite difficult in the prevailing open system settings in which universities operate. Even when there is a response to a specific requirement by the quality agencies, it is actually evident that the external pressures for quality originate from several sources and are unstable hence the directives of the top management can only work to a certain limit. The adaptive strategy is concerned with the alignment of the organization to the changes in the environment, either proactively or reactively, especially by modifications in the structures and processes. Nevertheless, each of the structures can only deal with

a specific element in the environmental subsystem thus making it quite costly and unsustainable for the academic unit and organization as a whole.

Concerning the interpretive strategy, which is also the least developed model, it is envisaged that interactions between the organization and its environment will be based on the extent individual members "convey meanings that are intended to motivate stakeholders in ways that favour the organization" (Chaffee, 1985b p. 94). The ideological connotations embedded in this process reflect the interplay of the cultural and social dimensions within the university organization as it responds to the external environment. But when cultures have been entrenched in the organizational fabric, they are the most controversial to alter or even difficult to use to determine the degree to which change has been realized.

2.2.3 Research on strategy in higher education

A decade after Keller's (1983) illuminative view on strategy in universities, the concept was widely embraced in the United States and also emerged in parts of Europe (Keller, 1993 p. 9; Shmidtlein, 1990 p. 85; Thys-Clement & Wilkin, 1998 p. 15). Tracing the evolution of strategic planning in higher education yields three phases. The first stage was concerned with facilities and physical space, and the demographic, economic and technological changes that occurred in the 1960s and 1970s. The second stage was typified by increasing competitiveness in the 1980s and 1990s, while the third stage was envisaged to focus on "adaptive structural changes" within universities (Dooris, Kelley & Trainer, 2004 p. 6–7; Keller, 1999-2000 p. 4; Mintzberg, 1994 p. 107). Recent conceptions of strategic planning emphasize more comprehensive aspects of learning, creativity, flexibility premised on the opinion that "…university leaders need to challenge assumptions and consider radically changing existing structures and processes" (Dooris et al., 2004 p. 8; see also Presley & Leslie, 1999 p. 235–236). Similarly, this pattern is more effective in building an integrated enterprise in contexts of high uncertainty and unprecedented changes (Keller, 1997 p. 160; Mintzberg, 1994 p. 108).

Since it is a learning process, strategic planning occurs through neither a top-down nor a bottom-up arrangement. Although the bottom-up is associated with enhancing the adaptive capacities by catering for the disciplinary dimension, it can also impede the speed at which decisions are made. Yet the top-down approach has been inadequate and even with its plausible intentions, "[it] has a bad track record in good universities" (Shattock, 2000 p. 98). Therefore, a "mixed model" where the two dimensions sit side by side is the most appropriate (Thys-Clement & Wilkin, 1998 p. 17). In essence, the strategy may be flexibly conceived by the subunits "through messy processes of informal learning … without conscious intention of senior management …" with the consequence of affecting behaviour at the different levels of the organization (Mintzberg, 1994 p. 108, p. 111). Thinking along the same

lines, de Geus suggests that "…the real purpose of effective planning is not to make plans but to change the microcosm, the mental models that these decision makers carry in their heads" (de Geus, 1988 p. 71). In fact, other studies also revealed that it entailed learning through cycles of feedback where intentions and actual practice are dynamically reinforcing (Mintzberg, 1978 p. 946). Thus, strategy as a learning process would involve experimentation with new approaches, and if they were functional, they would then evolve into strategies. But comprehensive studies that articulate its efficacy in higher education have been almost nonexistent, partly a consequence of the uniqueness of the settings in which each university operates (Dooris et al., 2004 p. 9; Keller, 1999–2000 p. 1).

At the same time, while scholars recognize the usefulness of planning in higher education, they also express criticisms for its prescriptive nature, paying less attention to the peculiarities of the institution and its cultures (Shmidtlein, 1990 p. 85). In fact, it has been referred to as a "business practice" (Chaffee, 1985a p. 133), or one of the "management fads" (Birnbaum, 2000 p. 63–75). It has also been labelled as an outline of the activities to be conducted by the organization and thus not adding much value to the actual processes and functioning of the subunits. Moreover, it yields far less than what it promises because of several overlaps and lack of precision in what the primary focus will actually be. Indeed, this contradictory dimension can be seen in the ambiguities associated with institutional missions. For example, an institution can state that it will be globally competitive or locally responsive but such foci are inadequate for the subunits to adapt homogeneously (Cowburn, 2005 p. 104). Hence effective planning may hinge on the capacities of subunits to decipher patterns in their contexts reciprocally by influencing each other and subsequently eliciting organizational learning (see also Haberaecker, 2004 p. 86).

2.3   The nature of the university organization

Academic organizations are peculiar entities in that the academic units of the university may pursue the strategy differently, even with an institutional strategy. According to Clark (1996 p. 417) "greater awareness of new means of knowledge organization will help universities make wiser choices in the twenty-first century". In fact, changes in knowledge and its organization have been among the most pervasive in universities measured in the increasing number of basic academic units with different primary foci. As discipline after discipline emerges, it clearly "complicates university organization and presents hard choices in institutional policy" (Clark, 1996 p. 418). Indeed, "the problems thereby presented for university management and change are increasingly severe, in many cases surpassing the magnitude of the problems introduced by increased access and the need to educate a much larger number and greater variety of students" (Clark, 1996 p. 423). The specializations

that comprise the university are structured according to disciplines, which provide a basis for the unique cultural and social dimensions of the institution. Clearly, the emergence of organizational sagas is based on belief systems built over a period of time although their durability largely depends on the structures in the social contexts (Clark, 1972 p. 179; Parsons, 1971 p. 488–489).

2.3.1 The university as a professional organization

University organizations are knowledge institutions. Knowledge is the primary material on which all structures and processes of the academic organization are grounded. It is on this basis that the emphasis within higher education institutions is on the discovery, conservation, transmission and application of knowledge (Clark, 1983 p. 12). Structurally, academic organizations comprise several specialized units built along knowledge specialties rendering the university into a loosely coupled organization. This is in resonance with Clark's assertion that "a university-type organization is one in which there are many cells of specialization side by side and loosely connected at the operating level, together with only a small number of higher levels of coordination" (Clark, 1983 p. 17). It is presumed that such loosely coupled systems facilitate the responsive capacities of the academic organization in the interactive processes with the environment although "each [subunit can preserve] its own identity and some evidence of its physical or logical separateness" (Weick, 1976 p. 3). Nevertheless, the linkages between organization-wide strategies and the actual actions of the loose subunits are oftentimes weak hence making loose coupling "…a non-rational system of fund allocation … and incapable of being used as a means of change" (Weick, 1976 p. 8).

Consequently, and by its inherent nature, Mintzberg (2000) has referred to the university organization as a professional bureaucracy (p. 171). In this kind of organization, Mintzberg notes, the extent and perpetuation of fragmentation can be attributed to two mechanisms, namely pigeonholing and standardization of skills and knowledge. Pigeonholing entails the division of academic activities and programmes of the university organization into standard packages that are considered suitable for specific situations or that meet the demands and interests of certain interested individuals. In practice, as students apply to enrol at a university, they are distributed across the available courses or degree programmes (e.g. economics, history or physics) with a professor or professors in charge. This illustrates that the university has standardized academic programmes or courses as one of its elements. Standardization of skills and knowledge, according to Mintzberg (2000), is grounded on the training that the various academic experts have gone through as they get prepared to serve their respective professions. The skills and knowledge delivered by academicians are coordinated through established standards set by members of the profession and professional associations in which they are affiliated.

Mintzberg (2000) has outlined impediments associated with professional bureaucracies like universities. There are 'problems of coordination' that result from difficulties in establishing distinct boundaries between 'borderline' pigeonholes. In other words, since it is usually individual professors who propose academic programmes or courses, these may overlap especially in closely related disciplines. This complicates decisions concerning which pigeonhole to eliminate when the need for restructuring the organization arises. Another set of problems is the 'problems of discretion'. In most cases, professionals are more loyal to their professions than their organizations, which they regard "convenient [places] to practice their skills" (Mintzberg, 2000 p. 190). Moreover, such professional independence could curtail sharing expertise because "they simply do not wish to be dependent on each other" (Mintzberg, 2000 p. 190). Indeed, the 'problems of innovation' emerge because professionals often disregard cooperation with their counterparts in the same institution. But as professionals attempt to create new pigeonholes, there is a growing tendency to drift to interdisciplinary arrangements. Still, the uncooperative character of professionals could impede such efforts and the advantages that can accrue from interdisciplinary teaching and research (Mintzberg, 2000 p. 190–191).

2.3.2 Goal ambiguity and decision-making processes

It is apparent that most organizations have specific goals that they pursue. For example, government agencies have roles stipulated in legislations, hospitals focus on treating patients while the main objective for business firms is profit. Nevertheless, the goals of the university are defined and pursued in various ways making it necessary for the organization to create decision structures to realise its intended goals (Baldridge, Curtis, Ecker, & Riley, 2000 p. 128). The multiple goals of the university include teaching, research, and community service. As a result, "[efforts] to specify a set of consciously shared, consistent objectives within a university or to infer such a set of objectives from the activities or actions of the university have regularly revealed signs of inconsistency" (Cohen, March, & Olsen, 1972 p. 1; Cohen & March, 2000 p. 17). Competing demands from the departmental, faculty and institutional levels as well as variations in the goals of constituents like the administrative and academic staff contribute to the complexity of the university.

Consequently, decision-making is highly diffused within the university organization. This is because the university as a professional organization is knowledge intensive and its professionals have a high degree of autonomy. Besides, there is extensive fragmentation according to disciplines or knowledge specialties that the fragmented units and actors would wield some decision power or authority. Indeed, departments and faculties, department chairs and faculty deans have discretion, which in certain cases may be parallel to the decisions of the central administration (Clark, 1983 p. 266–267). Hardy et al. (1984) have discerned three

categories of decision-making that are common in the university organization. First, decisions made by professional judgment are reflected in the autonomy of the professors concerning pigeonholing and the standardization of skills and knowledge. Specifically, the professor is at liberty to decide the courses to teach, books to use and the teaching methods. However, such decisions have to be aligned to a defined code of conduct that is agreeable to other members of the profession, such as colleagues from other universities.

Second, many decisions are made by administrative fiat. These decisions are made by the senior administration that comprises the university council, vice chancellors or presidents or rectors and any other senior member of the central administration. The decisions by administrative fiat are mainly about finance-related matters such as capital investments, budget reallocations, and resource mobilization. In addition, administrative decisions are common when the institution is facing a crisis to which central administration has to respond. In the same vein, decisions concerning the support functions of the core university processes such as library and computing services, are also made by administrative fiat.

Third, some decisions are made by collective choice. Although professionals establish pigeonholes and standardize their academic provisions, such decisions are cemented through interactive processes between the professionals and the administrators. For instance, individuals interact horizontally in committee structures and their binding decisions are taken to the next vertical or hierarchical level where they are scrutinized for approval to the next level or disallowed for subsequent reconsideration by the previous level (Hardy et al., 1984 p. 175–182).

2.3.3 Disciplinary differences of the academic units

University organizations are complex entities structured according to disciplines, which provide a basis for the unique cultural and social dimensions of the institution. In essence, "…disciplinary knowledge forms are to a large extent constituted and instantiated socially [and] their constitution has a reciprocal effect on the cultures from which they spring" (Becher & Trowler, 2001 p. 23). Although universities presumably "possess a single culture" (Becher, 1994 p. 151), and rightly so, it seems that they are characterized by complexity that should be understood prior to embarking on any improvement in institutional management responsive capacities. In fact, "to see the whole is to see it in breadth, but without access to the particular; to see the part is to see it in depth, but without the general view" (Becher, 1987 p. 271). The quest to particularize what constitutes the academic organization illuminates four disciplinary categories, namely hard-pure, soft-pure, hard-applied and soft-applied (Biglan 1973a; 1973b). Biglan further stratifies the disciplines into those with a focus on "all living systems" and "the study of man" on one hand, and "areas that do not study living things" on the other hand (Biglan, 1973a p. 198; Biglan, 1973b p. 207),

but this latter stratification has been considered to be of less significance (Becher, 1987 p. 275). Instead, Becher builds on the hard-soft and pure-applied classification to explain the nature of knowledge and disciplinary cultures closely related to each (Becher, 1987 p. 278, p. 289).

Hard-pure disciplines are the natural sciences, which include physics, botany and zoology. One of their important distinguishing characteristics is that their scientific inquiry is sequential and can be cumulatively pursued by segmenting the research problem into many related sub-problems that yield several inventions. Conversely, the soft-pure grouping, basically the humanities such as history and anthropology as its knowledge area, entails inquiries that are "reiterative and revisionist" whereby the findings are recycled from already existing discourses, but with emphasis on novelty in the interpretations. With respect to the applied fields, the engineering and medicine represent the hard-applied. Their primary intention is on "know how" and is thus more inclined to some practical end with much focus on tangible and usable inventions and techniques of further scientific production. In a way, this depends on the cumulative knowledge. The soft-applied knowledge can draw on the soft-pure knowledge to generate revised "procedures and protocols" for use to improve professional practice. Fields such as education and law belong to the soft-applied category (Becher, 1987 p. 278–281).

As can be expected, depending on the nature of the disciplines, the subdivisions or clusters of the disciplines tend to overlap and their boundaries are blurry. Becher and Trowler (2001) illustrate this dimension with what they refer to as convergent and tightly knit fields based on clearly defined rules, procedures, norms and values on what their field stands for, and seek to protect their intellectual space. In contrast, there are divergent and loosely knit fields whose identities are difficult to decipher because their boundaries with other knowledge areas are almost invisible. For example, geography can be associated with several fields. To further illustrate the complexity in the knowledge areas, some disciplinary groupings are considered more prestigious than the others.

> Physicists consider themselves, and are regarded by others, as better than the common crowd; historians are accepted to be a cut above geographers; economists look down on sociologists; and so the catalogue continues. Roughly speaking, hard knowledge domains are regarded more highly than soft ones, and pure than applied (Becher & Trowler, 2001 p. 81)

Obviously, with the ubiquity of environmental pressures, disciplinary rather than integrated academic responsiveness becomes detrimental to any "endeavour to retain a measure of collective independence" (Becher, 1990 p. 345). Yet, without paying closer attention to these disciplinary differences, institutional management can be tempted to administer homogeneous measures or parameters that are certainly incompatible or skewed with respect to the practices of the disciplines. In this respect, it is not

uncommon to find unsuccessful organizational improvement initiatives like faculty development programmes (Becher, 1994).

Perhaps integrative functioning of universities is manifested and sustained through "recombinations of old fields as well as risk-taking investment in new fields" (Clark, 1996 p. 429). Moreover, despite the instability of the sub-disciplines carved out of the parent disciplines, there can be some epistemic proximity where a specialty in one discipline is closer to a specialty in another discipline. Such complexity can be a result of the convergences in theoretical discourses, methodological approaches or conceptual underpinnings applied within those different specialties. For example, it is well known that Marxist sociologists may share several assumptions with the Marxist economists and historians irrespective of their classification as either pure or applied fields (Becher, 1990 p. 334–336)[13].

2.3.4 Tight-coupling and integration

Building on the earlier work of Weick (1976), Orton and Weick (1990) further explore the concept of coupling through organizational responsiveness and distinctiveness. For instance, if an organization is responsive but its subunits are less independent, it is considered tightly coupled. In fact, universities are also tightly coupled systems that consist of a series of bureaucratic arrangements in the form of hierarchies, committees, individual academic leaders and other academic processes with clearly defined operating procedures and standards.

It is imperative that there be feedback connecting the required behaviour and the outcomes, such as the adequate quality of programmes or research, although this may not necessarily be the case (Lutz, 1982 p. 667–668). To further emphasise the essence of tight coupling, Lutz (1983 p. 297) argues that, reaffirming and strengthening organizational ties or couplings is an administrator's chief responsibility. As university administrators fail in that responsibility, higher education is going to be in trouble. Certainly, integration is essential and can be elucidated in collegial forms as shared norms, in bureaucratic forms like rules or hierarchical structures, and market forms as competitive resource allocation through negotiations. A mixture of all the three forms is adopted as a means to enhance the efficiency of the university (Dill, 2000 p. 10–11, p. 26).

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13 At the same time, this can be exploited as an integrative tool where findings from studies in the respective specialties can contribute to general theoretical developments or stimulate creation of research networks and "mutual tolerance among rivalry disciplinary groups" within the university (see for example Becher, 1990 p. 345).

2.3.5 The political dimension of the university

The university comprises interest groups competing for power and resources. Because it is highly segregated through extensive decentralization, self-interest and the tendency of 'we' and 'they' is often implied in the operations of the university (Birnbaum, 1988 p. 131). As the university and its subunits normatively agree to pursue research, teaching and service in equal measure, the reality is that emphasis will not be in equal measure in the organization and across the academic units. Even when certain groups agree on given objectives, it is highly likely that they would disagree on the means of their achievement (Birnbaum, 1988 p. 134). This resonates with the shifts in 'balance of power' in which an academic unit may belong to more than one like-minded group at a time. In practice, the political model is more evident in policy-making processes as a basis for organizational goals and means for achieving those goals. This pattern elicits critical decisions which interest groups would strive to align to what is essential for their survival (Baldridge et al., 2000 p. 135). This largely occurs under conditions of scarce resources in which the allocation becomes contentious (Baldridge et al., 2000, p. 136; Birnbaum, 1988 p. 133). Indeed, subunits that attract external funding or provide resources that are valuable to other subunits or the organization as a whole wield more power. Such power enables those subunits to acquire reasonably higher shares of the internally distributed organizational resources further increasing their power (Salancik & Pfeffer, 1974 p. 470).

Therefore, the political dimension involves formation of coalitions related to perceptions of the status quo and through such interactive processes power is derived without necessarily resorting to norms or even bureaucratic tendencies. As stated by Birnbaum (1988 p. 132), "[the] influence of any group is limited by the interests and activities of other groups; in order to obtain desired outcomes, groups have to join with other groups, to compromise their positions, and to bargain." Whereas the power of the parties involved is crucial in sustaining a coalition, it also depends on the nature of their relationships. Stable coalitions are more prevalent when relationships are continuous, but these can be altered as conditions change (Birnbaum, 1988 p. 140–141). Decisions concerning which coalition a party should belong to are based on *negotiations* between leaders or representatives of each party. As such, negotiations are presumed to be at two levels, namely within an interest group and with a representative of the other party. For example, an academic dean represents his or her subunit while the vice chancellor represents the central administration. In this process, it is highly likely that the initially intended outcomes by each party may not be realized in their original state but instead incremental changes occur as negotiations continue. It can be deduced that although this political perspective is inefficient, it has the capacity to create stability within the organization (see also Birnbaum, 1988 p. 142–145).

2.4   Use of institutional research

Although information and knowledge are often used interchangeably, it is important to draw a distinction between the two. Information is data that have been transformed for purposes of "reducing ambiguity, equivocality or uncertainty" or just the "the flow of messages" (Huber, 1991 p. 89; Nonaka, 1994 p. 15). This can account for the interest in the utilization of information as a regulative and integrative element within the organization. Knowledge is a product of the "very flow of information, anchored on the commitment and beliefs of its holder" (Nonaka, 1994 p. 15). Nonaka (1994) further interprets Shannon and Weaver's (1949) classification of information as "syntactic" and "semantic" in terms of the "volume" and the "meaning or value" of information respectively (Nonaka, 1994 p. 16). Apparently, the creation of knowledge is inclined to the semantic aspect because it relates to the meaning of the information and hence has the capacity to affect existing beliefs. Additionally, the scholarly contribution of Nonaka to the understanding of knowledge presents a distinction between *tacit* and *explicit* knowledge. Tacit knowledge "is deeply rooted in action, commitment, and involvement in a specific context" *whereas* explicit knowledge also regarded as *codified* knowledge refers to "knowledge that is transmittable in formal, systematic language" (1994 p. 16). Nonaka further stated that both types of knowledge are complementary and mutually reinforcing.

> It is important that the organization is able to integrate appropriate aspects of emerging knowledge into its strategic development. Thus, the potential contribution of informal groups to organizational knowledge creation should be related to more formal notions of a hierarchical structure (Nonaka, 1994 p. 17).

It is worth noting that learning is presumed to have taken place when explicit knowledge is converted into tacit knowledge. Thus, once explicit knowledge has been acquired and distributed among the organizational subunits, ascertaining whether it has actually had an impact would necessitate examining any changes in the patterns of behaviour or mental models (Nonaka, 1994 p. 19). The nexus between the tacit and explicit knowledge can accelerate change when an increasing number of groups gets involved. The implication is that groups elicit more knowledge creating activities compared to the individual. This resonates with the choice of subunits as one of the units of analysis in this study. Cognizant of this, and basing it on Nonaka's organizational knowledge creation, the collective (group) and organization knowledge levels are explored (Nonaka, 1994 p. 20). The following sub-sections focus on relevance of institutional research, competence of institutional researchers, and the information needs of the academic deans. In addition, the systems-thinking concepts of control, feedback and hierarchy are used to interpret the use of information systems in regulating managerial processes within the university.

2.4.1 Relevance of institutional research

Information has become more crucial for higher education management as it responds to the unprecedented changing conditions. As Keller (1995 p. 60) states, "… campus leaders need to replace casual, political, and crisis-oriented administration with information-grounded, strategic innovations" (Keller, 1995 p. 60). According to Keller, market research and institutional research will perhaps be the two main sources of information that academic managers will depend on to inform their decisions. Market research espouses that improvement in the quality of functions and processes, and adaptations to the changing contexts hinge on organizational capacity to obtain feedback from students, academics, staff, employers, parents, and alumni. Institutional research emerged in the 1950s as a source of information that focuses on more than collection of data on the internal operations of the university. It also encompasses monitoring of external environments in order to provide the leaders with information on emerging changes or trends (Keller, 1995 p. 60; Peterson, 1999 p. 84). In fact, whether the university or its subunits are proactive, adaptive or responsive, information and institutional research supports planning and decision-making processes for redesigning and transforming the enterprise (Hardy et al., 1983 p. 189–192; Peterson, 1999 p. 84; Seybert, 1991 p. 232; Seymour, Kelley & Jasinski, 2004 p. 54).

Whereas institutional research is presumably a centralized function grounded on reducing any duplication, Hearn and Corcoran (1988) note that "[an] organizational ecology of multiple, sometimes competing, offices is arising in place of a stable ecology featuring one dominant office for the supply and coordination of institutional research information" (Hearn & Corcoran, 1988 p. 634). Indeed, different units within institutions are developing their own information sources and systems. This dispersion of the institutional research role is by no means an indication of reduction in the work at central level; rather it is a shift to lesser centralization of institutional efforts.[14] Within the university, this pattern emerges when it is perceived that the central office is constrained by time and other resources to meet the institutional research needs on campus, also referred to as the "limited attention argument". Moreover, where the legitimacy of the information provided is considered to be questionable by most of the recipients or users of the information, decentralized units to do institutional research will spring out on a premise called the "informational legitimacy argument" (Hearn & Corcoran, 1988 p. 635, p. 642–643).

Continuation of this trend seems inevitable owing to the accountability challenges and the numerous external constituents the university as an entity or particular academic units have to respond to. As a consequence, it becomes imperative to invest

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14 Dispersion of institutional research in this case implies the emergence of the function at faculty or academic unit level within the university. But it may also refer to the various offices within the organizational structure such as departments of planning, information technology, evaluation, support services (Hearn & Corcoran, 1988 p. 634; Petrides, 2002 p. 75).

in a specialized office or to decentralize the function of institutional research to the subunit level. Indeed, it is inconceivable to expect the central institutional research offices to meet all specific information needs of the numerous units within the university (Creswell & England, 1994 p. 8–9; Delaney, 1997 p. 1–2; Hearn & Corcoran, 1988 p. 643–645; Petrides, 2002 p. 75; Terenzini, 1993 p. 3). Thus, it can be concluded that even with certain negative implications such as duplication, "the dispersion of institutional researchers to various parts of institutions implies a dispersion of sources and controllers of information throughout the institution. Processes of this kind may provide an impetus for improved organizational efficiency and effectiveness" (Hearn & Corcoran, 1988 p. 648).

Competence of institutional researchers

If the institutional research function is this important, then it is equally important that the necessary competence of the institutional researchers is elucidated. Terenzini (1993 p. 3–6) has conceptualized the knowledge and skills required for institutional research in terms of three interdependent tiers of organizational intelligence: technical/analytical, issues, and contextual intelligence.

Technical/analytical is foundational knowledge that includes facts about terms (e.g. contact hours, credit hours, personnel) with respect to students, academic staff, finance and facilities, which are key areas of institutional research. In addition, methodological skills (e.g. in research design, programme evaluation, enrolment forecasting) are also part of the technical skills.

Issues intelligence as the second tier of organizational intelligence involves knowledge of the main areas of institutional decision making and management activities (e.g. resource allocation and reallocation, facilities management) and understanding of procedures such as budget development and execution as well as how it relates to faculty resource allocations, approaches to faculty workload analysis, and faculty evaluation. Of course, such procedures may elicit political undertones but knowledge of how these are downplayed is what constitutes issues intelligence.

Finally, *contextual intelligence* concerns awareness of the cultures of higher education in general and in the context of a specific institution. As the highest tier, it requires knowledge of the historical and philosophical development of the institution, familiarization with the cultures of the academic staff and the organization, understanding of the informal and formal power structures. "[Contextual] intelligence also entails a knowledge of the local, state, national, and international environments within which the institution must function and which both present it with opportunities and constrain what it can hope to accomplish or become" (Terenzini, 1993 p. 6). Clearly, the relevance of the lower tiers (technical/analytical and issues intelligence) is more profound when combined with contextual intelligence and hence enabling institutional research and researchers to derive legitimacy, trust and respect to contribute to evidence-based organizational improvement (Perkins, 2001 p. 92–93; Terenzini, 1993 p. 6).

Information needs of the academic deans

Obviously, it is not uncommon for universities to acquire information systems or even establish mechanisms to determine the relevant information but, "… a beginning point for most … deans would be to conceptualize the categories of information needed and used" (Creswell & England, 1994 p. 10). Thus, it is first of all vital to explore the roles of the academic deans in their contexts as a basis for understanding their information needs.

First, there is an academic staff-oriented leadership role, the focus of which is on academic staff morale, professional development, and promotion of university-wide academic staff development activities. Essential information for this role can be found in personnel records, budget information, and policy documents and procedures.

Second, it is possible for the dean to concentrate or emphasize the discipline or field of study. Such roles would entail keeping the discipline up-to-date by gathering information on the changing patterns in teaching, research and practice in the field.

Third, the dean functions as a manager. This role has a focus on support activities such as preparation of budgets, maintenance of departmental and faculty records, and assigning duties to academic staff. Information is required on personnel records, budgeting and scheduling.

Fourth, the dean is an academic leader. In this, the strategic goals and vision are emphasized where interest is on ideas that can improve the processes within the academic unit. As per the hierarchical structures of the university, deans receive information from the heads of departments, and then communicate to the central administration. Such information exchange may be on policies and procedures, alumni, students and personnel.

Fifth, academic deans may be externally oriented. It is through this that the deans stress the need to scan for external changes that affect the operations of their units, partner with various stakeholders, explore new student markets, and find new sources of funding. The information requirements associated with this may be met by institutional research offices on campus or external stakeholder organizations (Creswell & England, 1994 p. 13–14).

However, although understanding the basis of the information needs (e.g. of the deanship) is an important premise for ascertaining the relevance and use of information systems, it is insufficient to elucidate the use of information systems especially its regulative capacities that may enhance integration and as already noted, integration contributes to organizational effectiveness. But surprisingly, previous studies on the use of information systems in the management of universities have mainly focused on whether they are a worthwhile investment, the competence of information system users or their attitudes, and their contribution to efficiency (Gorr & Hossler, 2006; McCredie, 2003; Rodrigues & Govinda, 2003). Similarly, management information systems effectiveness research in other organizations has hardly conceptualized the use of information systems in terms of the building blocks of organization theory (Cooper & Quinn, 1993 p. 176), a scenario common in higher

education studies as well. In fact, with the exception of Hölttä (1995b) and Hölttä and Karjalainen (1997), information system research for higher education management has seldom been understood by using the concepts of organizational theory. It is a dimension that the subsequent sections articulate by focusing on the elements of systems-thinking namely control, feedback and hierarchy.

2.4.2 Control

Information is invariably used to detect any anomalies or errors in organizational processes. According to Ewell (1989 p. 11): "These generally involve the formal comparison of the performance targets that were hoped for and the results that were obtained." In essence, "…it requires information that quite clearly signals the differences between what is expected and what was found" (Ewell, 1989 p. 11). Parameters or standards used in the identification of any discrepancies in the functioning of the university may be based on existing trends over time, differences in the performance of comparable subunits as well as clearly defined or formal expectations that could be set by the decision makers. Apparently, the selected indicators of any deviations ought to be few and each should be aligned to only a specific number of variables. This would enable a simplified and systematic illustration of any significant disparities that may have been caused by the errors. Within the university, for example, students' grades can be an indicator of quality where significant decline or rise in test scores measured against performance targets is questioned. Besides, specific requirements concerning the quality of academic programmes may be set by the accreditation agencies requiring compliance from the subunits and in case of any inconsistency corrective actions would be elicited.

Two major controls within the organization can be discerned, namely output control and behavioural control. Output control encompasses measurement of output by the managers as they seek to legitimize performance of their subunits with respect to well-defined goals. Academic units will most likely respond differently to requirements in the external contexts or internally may function better or worse on a particular strategic goal than their counterparts because of disciplinary differences. Consequently, output measures are a viable mechanism for standardizing the performance and functions of the disparate units within the university organization (Ouchi & Maguire, 1975 p. 569). Such measures may be understood by most of the units or may be applicable to other disciplinary groups with little or no modification.

Conversely, behavioural control emphasizes a clear understanding of the means-ends relationship and focuses on the personal work processes of the subordinate with respect to the norms of the organization. It is logical that this dimension is suitable for smaller organizations (Ouchi & Maguire, 1975 p. 559–560). Clearly, "… behaviour control serves the quite different needs of the individual manager, who has one subunit to oversee" (Ouchi & Maguire, 1975 p. 568). Of course the

notion of bounded rationality constrains the capacity of managers to comprehend behavioural parameters used by their counterparts. Nevertheless, it is also possible that through sharing knowledge on acceptable behavioural standards, managers can evolve homogeneous controls that eventually become organizational. Based on the characteristics of the academic organization, the two control mechanisms are complementary with one catering for organizational needs and the other supporting the particular needs of the subunits (see also Ouchi & Maguire, 1975 p. 569).

2.4.3 Feedback

Informational feedback induces action through bridging discrepancies between the expectations and actual outcomes. Information systems have the capacity to support the accomplishment of performance targets, for instance, where there is feedback on cost and output between the subunits and central administration (Hölttä, 1995b p. 248–251; Hölttä & Nuotio, 1995 p. 15). Such performance targets may be set by the central administration in terms of funds reallocation and new demands for internal accountability hence presenting new sets of information requirements for the deanship (Creswell & England, 1994 p. 8–9). As a requirement, information may have to be presented in specific formats or with certain contents to authenticate whether the output or behaviour of the academic unit conforms to acceptable standards. When such required information deviates from the expected, the decision to accept is withheld until the information is corrected. A good example is the use of minutes of meetings as a valuable measure to assure that the academic and financial practices are congruent with established standards. Incidentally, some of the information that is necessary for organizational effectiveness may be withheld or not made available to the deans. This might then lead to consequences such as deviations in work processes or low performance of the tasks (Wolverton et al., 1999 p. 82; Wolverton et al., 2001 p. 21).

Whereas the academic units may have some discretion in performing their tasks, they are cognizant of the accountability demands from the environment to which the institution as an entity has to respond (Hearn & Holdsworth, 2002 p. 135; Hölttä & Karjalainen, 1997 p. 230). In the use of information systems, feedback can be generated when the limits are built into the information system or by analyzing outputs from the information system that may show significant anomalies that would elicit corrective action. This latter dimension corresponds to the social aspect in the academic organizations where committees responsible for specific functions discuss the information from the system to establish whether it meets what their discipline considers appropriate. Essentially, such feedback triggered by social controls may also entail negotiation or dialogue between the academic units and institutional leadership. "Information of this kind is rarely sufficient for making a particular decision, but it can provide a basic contextual foundation that informs a range of

related decisions and the links among them" (Ewell, 1989 p. 12). In fact, it can be a ground for new resource allocations or inputs to some of the academic units but still such dialogue is augmented by the input and output figures from the information systems (Hölttä & Pulliainen, 1994 p. 44–45).

Importantly, the use of contextual information in higher education is evident in strategic planning or programme review (Ewell, 1989 p. 12) where the organization unlearns its practices and cultures by "discarding obsolete and misleading knowledge" (Hedberg, 1981 p. 3). Basically, when unlearning occurs, it is anticipated that organizational processes would be altered or even reinforced since unlearning old behaviours is an antecedent to new behaviours (Hedberg, Nystrom, & Starbuck, 1976 p. 51; Huber, 1991 p. 104). However, because information within organizations is embedded in established structures, systems and value systems where it is stored for longer periods of time, unlearning becomes constrained. Certainly, the acquisition of new information through feedback is much easier than discarding knowledge since the organization and its subunits simply store new information on old information making retrieval of old information, when it is needed, difficult (Easterby-Smith, 1997 p. 1093). On the other hand, it is also possible that information on external changes for instance, fiscal hardships or changes in the interests of stakeholders may elicit a form of information feedback that can challenge the existing values, systems and structures (Easterby-Smith, 1997 p. 1093; Hedberg et al., 1976 p. 51; Hedberg, 1981 p. 18–19).

2.4.4 Hierarchy

In typical top-down organizations, information would originate from top management with clear guidelines for operation at the middle and lower levels. Conversely, the bottom-up model enables individuals from the lowest level of the hierarchy to create and disseminate information to the next upper layer. In practice, the information that is transmitted from the bottom to the top "is processed selectively so that people at the peak would get simple, processed information only" whereas in the top-down approach, "… information is processed and transformed from the general to the particular" (Nonaka, 1994 p. 30). Apparently, hierarchical management of complex subunits can solve the information problem due to the reduced amount of information on each particular unit (Hölttä & Karjalainen, 1997 p. 231; McClea & Yen, 2005 p. 89–91). In essence, the higher levels receive "feedback information on output variables, without any need to understand the internal mechanisms of the [decentralized] subsystems" (Hölttä & Karjalainen, 1997 p. 231). For instance, a subunit may propose a new programme based on new quality criteria obtained by the institution from the national quality assurance agency. If the programme is not aligned to the information requirements of institution or the demands of the quality assurance agency, it may not be accepted at the subsequent levels in the hierarchy

but instead will be returned to the academic unit for corrective measures. Similarly, institutional management may create structures within the basic units to streamline the financial allocation decisions which structures also submit financial reports that may elicit some form of feedback.

Nevertheless, contrasting evidence suggests that hierarchy can degenerate into a situation where less and less information is available at the subsequent levels. Essential details might therefore be missed or lost, leading to less informed or uninformed decision making, and for the case of academic deanship, incidences of role ambiguity might increase (Wolverton et al., 1999 p. 82; Wolverton et al., 2001 p. 21). Kivistö and Hölttä (2008 p. 334) further elucidate.

> The more levels there are between top management and the operational level, the greater [is] the potential for loss of information … Loss of information may occur at every administrative level, and information is usually filtered by judgements and interpretations of what information should be transmitted …the fact that information transfers are vertical means that there is the potential for intentional distortions of information to occur.

However when the problem of reduced information that flows to the next hierarchical level or other units persists, it may not be a recipe of irrationality but rather an illuminative view of the prevailing conditions in the organization (Davenport, Eccles & Prusak, 1992 p. 53). Astonishingly, whereas "organizations systematically gather more information than they use… they continue to ask for more" (Feldman & March, 1981 p. 171; Teodorescu, 2006 p. 78). Nonetheless, Benjamin and Carroll (1998) have proposed an integrated information system where the institutional mission, objectives, and activities that is, some of the activities within the academic departments, are supported by information systems. It is envisaged that performance measures or parameters premised on desired outputs can be established, based on the resource allocations across all the subunits of the university organization in relation to institutional goals. When the resource allocations at the departmental level deviate from the general institutional priorities, 'controls' built into the financial information will point out this anomaly. But the subunits have supplementary information systems to support specialized activities and such systems have been independent of each other eventually hampering information-based institutional integration (Benjamin & Carroll, 1998 p. 115–117).

2.5 Conceptualizing a responsive university and management responsive capacities: views from the competing values framework

The foregoing discussion has illuminated four key aspects of a responsive university including the university environment, the notion of institutional strategy, the nature of the university organization, and the use of institutional research. Certainly, understanding these is critical before proffering any strategies for managerial improvement because they explain the integration or differentiation of the organization. Integration of the activities and functions of the subunits of organizations is crucial for managerial and organizational effectiveness (Dill & Sporn, 1995; Hearn & Holdsworth, 2002; Hölttä, 1995b; Hölttä & Karjalainen, 1997; Weick, 1982). Although organizational effectiveness is conceptually imprecise, most, if not all of the theories of organization encompass this phenomenon (Quinn & Rohrbaugh, 1983 p. 363)[15]. To address this dilemma, Quinn and Rohrbaugh (1983) provide the competing values framework (CVF) as a device for understanding the construct of organizational effectiveness from an integrated and differentiated dimension. The CVF was a result of empirical studies on the opinions of organizational theorists concerning what constitutes the concept of organizational effectiveness (O'Neill & Quinn, 1993; Quinn, 1988; Quinn & Rohrbaugh, 1983).

According to Quinn and Rohrbaugh (1983) and Quinn (1988), an effective organization is one that has the capacity to encompass competing or dilemmatic value dimensions. The CVF comprises four quadrants stratified using a horizontal axis representing the internal and external dimension, and a vertical axis that illustrates the transition from control to flexibility (O'Neill & Quinn, 1993 p. 1; Quinn & Rohrbaugh, 1983 p. 369). The internal dimension is concerned with the social and technical systems crucial for organizational performance whereas the external focus demonstrates the need for survival of the organization in its unpredictable external environment. Flexibility facilitates differentiated responses to change while control implies "…integration of activities and centralization of control" (Cooper & Quinn, 1993 p. 178). For each quadrant there are two complementary quadrants and a quadrant that is purely contradictory. All four quadrants are based on a theory or an underlying philosophy of organizing, namely the human relations model, the open systems model, the rational goal model or the internal process model as shown in Figure 2. Along similar lines, effective leaders or managers perform eight competing roles where each quadrant has two corresponding roles (Quinn, Faerman, Thompson, & McGrath, 2003 p. 15–19). Leaders are presumed to evoke given roles under certain conditions.

The open systems model is typical of loosely coupled systems where adaptability, growth, resource acquisition and external support constitute the effectiveness

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15 The growth and interest in organizational effectiveness can be traced to the 1960s, coinciding with general systems theory. It is thus clear that most of the effectiveness literature puts emphasis on the open system model (Quinn & Rohrbaugh, 1983 p. 373).

criteria. Through innovation and creativity, such an organization might acquire more external resources because of successful implementation of its vision. The managerial roles associated with this quadrant are innovator and broker with a task of understanding the changing environmental conditions and facilitating adaptive processes. In addition, these managers are skilled in representing their subunits or organizations in the external environment and "obtaining external resources" (Quinn et al., 2003 p. 19).

With regard to the rational goal model, the underlying assumption is that once planning and goal setting have been done, all actions will result in productivity and efficiency. Individuals receive directives from those in positions of authority and concentrate on performing tasks and are evaluated on their performance since such tasks and targets are usually specific and the time-limited (O'Neill & Quinn, 1993 p. 4). In this model, decision making is logical and it is the ultimate basis for all actions (Quinn, 1988 p. 82). The managers in this quadrant perform director and producer roles typified by goal setting and quick decision making. In addition, there is tendency to motivate other members of the subunit or the organization to concentrate on achievement of results.

In the human relations model, the focus is on cohesion and morale that is normally associated with "members of a common social system with a common stake in what happens. They are held by a sense of affiliation and belonging. The organization is a cohesive clan or team and contrasts heavily with the rational goal model" (O'Neill & Quinn, 1993 p. 4). Such organizational settings survive on sharing information and collegial decision making processes in which the managerial roles are facilitator and mentor. The managers strive to reduce conflict and build morale and cohesion among members of the organization or an academic unit. Moreover, the manager promotes capacity development and encourages acquisition of skills by individual members.

Finally, the internal process model corresponds to the notion of hierarchy in organizations. It focuses on measurement, documentation and information management as processes that can elicit stability and control. In addition, the organization is effective as long as it maintains equilibrium. In such organizations, the roles are clearly defined; tasks are understood, based on specific rules, and time is not a constraint (O'Neill & Quinn, 1993 p. 2). Managers perform monitor and coordinator roles which involve ensuring that there is flow of information, individuals comply with organizational rules, and subunits meet output requirements.
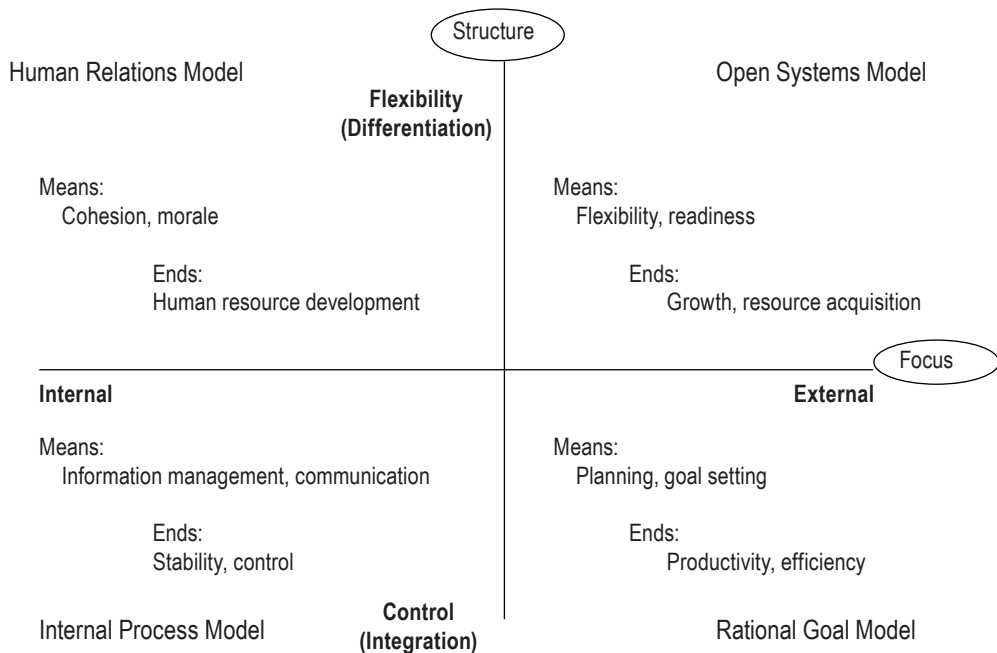
Figure 2. The competing values framework (CVF)
Source: Quinn and Rohrbaugh (1983 p. 367–369)

Despite their apparent contradictions, as has been illustrated in Figure 2, the four models together constitute the construct of organizational and managerial effectiveness (O'Neill & Quinn, 1993 p. 5). In essence, effectiveness occurs where each model is combined with its complementing or contrasting models, thereby creating an effectiveness pattern shown "as simple and logical, as dynamic and synergistic, or as complex and paradoxical" (O'Neill & Quinn, 1993 p. 5; Quinn, 1988 p. 69–71). "Indeed, an organization might be cohesive *and* productive or stable *and* flexible. For that matter, stability might be as likely to contribute to flexibility as it would to inflexibility or vice versa" [Italics in original] (Quinn & Rohrbaugh, 1983 p. 374–375). Therefore, one important contribution of the CVF is to demystify the hypothesis that the models are mutually exclusive as it is often the case to overemphasize the values in one of the domains while downplaying the others to the detriment of effectiveness (O'Neill & Quinn, 1993 p. 5; Quinn, 1988 p. 49–50). In fact, behavioural complexity would envisage that academic managers "integrate opposite roles" in order to mitigate "the negative zone" of overemphasising each role (Quinn et al., 2003 p. 20–21).

As one of the multi-perspective theoretical approaches relevant for studying the responsive capacities of institutional management in their complex environments, the CVF was recently proposed as a framework for studying the changing nature of the deanship (de Boer & Goedegebuure, 2009 p. 359–360). The proponents of

its application to higher education state that CVF "would provide us with valuable insight on how deans run their faculties and gives the opportunity to make accurate comparisons across time and different contexts" (de Boer & Goedegebuure, 2009 p. 360). Accordingly, "…additional possible explanatory variables such as environmental complexity, institutional type, size, and prestige as well as the disciplinary background of deans and faculties all be taken into account"(de Boer & Goedegebuure, 2009 p. 360). At the same time, the tenets of the CVF and its managerial roles "are not necessarily tied to a particular level of organizational hierarchy" (Quinn et al., 2003 p. 19). Broadly speaking, this underscores the value of the CVF in understanding the responsive capacities of an institution's managers as they operate in their environment.

2.6   Conclusion

In this chapter, a responsive university has been conceptualized based on four aspects: the environment, the institutional strategy, the nature of the academic organization, and the use of institutional research. The environment of a responsive university is diverse, complex and unpredictable. This necessitates the organization to adapt continuously in order to maintain equilibrium. In this process, an institutional strategy is used to elucidate what it considers essential for its survival and those essential variables become the parameters or standards for its operations. Nevertheless, as an academic organization comprising disparate units based on disciplines, it is clear that the subunits in a responsive university also define their essential variables. These variables may be congruent to the strategic plan of the organization or may slightly differ. This is because academic units belong to discipline-based clusters with varying practices and cultures driven by different interests while pursuing unclear goals that typify university organizations.

The use of institutional research sheds light on the need to build regulative capacities of a responsive university. Institutional research is crucial for the survival of the university in its turbulent environment since it assures evidence-based decision making. Moreover, information-based mechanisms for regulation can take the form of limits on output or behaviour. In addition, informational feedback is critical for corrective feedback concerning the performance targets and transformative feedback may be generated by new external informational requirements. The flow of information also takes a hierarchical pattern. On the whole, the constituted responsive university presents a basis for ascertaining the responsive capacities of institutional management before proffering strategies for managerial improvement. In fact, the essence of focusing on the four dimensions is to understand the interactions within the whole and its parts as a prerequisite for organizational improvement initiatives (see Becher, 1987 p. 271; Becher, 1994).

Finally, the competing values framework (CVF) is used to provide a basis and context within which a responsive university has been conceptualized. The eight roles in the four quadrants of the CVF shed light on the competing values that academic managers confront. Since the four quadrants are complementary and reinforcing, the viewpoints related to each quadrant are crucial. The additional emphasis on the integrative capacity of information in this study is premised on the need to maintain equilibrium. This is reflected in the internal process model, but because this model hardly articulates the actual processes in maintaining equilibrium, the learning organization has been utilised on the basis of its systemic orientation. Ascertaining or maintaining equilibrium through the use of institutional research would be enhanced through the application of the tenets of systems thinking owing to the continuous changes that the university and its subunits have to undertake. Moreover, the learning organization shows both the open system perspective and the internal regulative functioning, as discussed in the following chapter.

3
The Learning Organization

According to Senge (2000a p. 277), "the learning organization is a vision… not a model… not a summary of best practices". In fact, "there are no Learning Organizations in the sense of particular institutions that have arrived and should be emulated. In another sense, every organization that survives is continually learning: sensing changes in its environment and adapting" (Senge, 2000a p. 277). The learning organization was popularized by Peter Senge's seminal work 'The Fifth Discipline' (Senge, 1990). This was influenced by studies on the life expectancy of corporations in the 1980s that attributed the high mortality of organizations to their "inability to learn" (Senge, 2000a p. 291). On that premise, subsequent studies on the learning organization have focused on threats largely originating from outside the organization to which it has been either slow or unable to cope (Kezar, 2005 p. 13; Senge 2000a p. 277).

Conversely, organizations learn internally and also encounter internal threats to learning with implications for organizational responsiveness and performance (Easterby-Smith & Araujo, 1999 p. 8; Kezar, 2005 p. 13). Indeed, "… an organization learns if any of its units acquires knowledge that it recognizes as potentially useful to the organization" and "an entity learns if, through its processing of information, the range of its potential behaviours is changed" (Huber, 1991 p. 89). Undoubtedly, the adaptations of the learning organization to its environment hinge on the use of information and creation of knowledge that respectively focus on maintaining equilibrium and change in behaviour. For the purposes of this study, Garvin's (1993) definition of a learning organization has been used: "an organization skilled at creating, acquiring, and transferring knowledge, and at modifying its behaviour to reflect new knowledge and insights". In fact, "new ideas are essential if learning is to take place…and these ideas are the trigger for organizational improvement" (Garvin, 1993 p. 80). If this illustrates the learning organization concept, then its disciplinary basis can be traced in the open system theory, cybernetics and organizational learning.

3.1   The learning organization as an open system

Whereas the learning organization has diverse scientific origins, it is basically anchored in system theory and specifically the open system theory. A system can be defined as an organized whole that has two or more interdependent parts (or subsystems) and is separated from its environment by a boundary (Kast & Rosenzweig, 1973 in Birnbaum, 1988 p. 30). System theory reflects the connection between inputs, process, outputs and feedback originating from the interaction between the environment and the organization. These are subsystems that have reciprocal effects. For instance, the environmental subsystem is a source of inputs for the organization and in return a recipient of outputs from the organizational subsystem. The feedback from the environment about the outputs is received by the organization as new input and becomes part of the cycle that eventually seeks new responses or strategies to generate new output. Such an interface between the environment and the organization and its subunits denotes an open system which is also typical of the responsive university (El-Khawas, 2001 p. 241).

Open systems have permeable boundaries that permit several interactions between the environment and elements of the system. In essence, the changes in the environments of open systems are unpredictable, the internal organizational structures are flexible and the internal organizational processes are nonlinear. By and large, "[open] system parts are themselves systems; they constantly change as they interact with themselves and with the environment, and the system evolves over time" (Birnbaum, 1988 p. 35). A university is an open system that comprises elements and subsystems with both social and structural dimensions such as disciplines, and departments and faculties, which are organized in hierarchies. In the same way, faculties can be standalone systems that consist of elements such as departments, which could also be separate systems if considered to be independent entities.

Contrary to the open system perspective is the closed system, which is typified by defined boundaries that restrict interaction between the system and the environment. Besides, changes in the environments of closed systems are rather predictable, the internal organizational structures rigid, the internal organizational processes linear, and the consequences of any interactions between elements can be predicted with certainty and are largely based on rules (Birnbaum, 1988 p. 35). The closed system logic is identical to the traditional nature of the academic organization where hierarchy and rationality take precedence. Moreover, it envisages the university as an "ivory tower" that is detached from its environment. Nevertheless, the environment within which the university operates has become so diversified and unstable; it necessitates changes in the responsive capacities of the university organization. This echoes Birnbaum's categorization of institutions and their subunits as more or less open, and that improvement in their effectiveness "may be enhanced by adjusting the extent to which they are relatively open or closed to influences from the environment" (Birnbaum, 1988 p. 35).

3.2 The learning organization as a cybernetic organization

Learning organizations recurrently adapt to changes in the environment as a basis for their survival. The basic reason for the responses that the organization and its subunit make to the external pressures is to maintain or restore equilibrium. In practice, the contexts within which universities are situated or function are characterized by unpredictable occurrences, which, as inputs to the organization or its subunits, create new forms of obligation or at least elicit a need for alteration in the existing practices so that equilibrium is restored or maintained. The university, for instance, cannot and should not try to deal with all the phenomena that confront it. Rather it selectively identifies and defines what is essential for its survival from all the emerging requirements and tries to concentrate on that[16]. Such definitions are often detailed in institutional strategy documents, which also state the vision and mission statements and whose modifications illuminate the continuities in adaptations as the conditions in the changing contexts change.

Research that deals with improving the managerial effectiveness of the universities as they adapt to their uncertain environments has mainly adopted the *cybernetics management* perspective (Hölttä, 1995b; Hölttä & Pulliainen, 1994). Concerns that rational management is inadequate for enhancing adaptability in complex organizational contexts are not new. The traditional management approaches overemphasize performance targets but discount the "[limits] that need to guide behaviour". Yet the emphasis of institutional management should be "…on the selection of the limits that are to be placed on behaviour as on the active pursuit of desired goals" anchored in cybernetics (Morgan, 1997 p. 99). The limits are on the "essential variables" which the institution articulates in its mission and priorities. Mission statements provide the framework within which the subunits define what they consider essential for their survival.

Nevertheless, the subunits that comprise the responsive university, also an open system, have the capacity to interact with the environment in different ways by identifying their own unique essential variables. What is more, the subunits establish structures and build unit-specific subsystems to coordinate their interaction (Hölttä, 1995b p. 239). As a prerequisite, the essential variables are congruent with the basic mission of the university, namely teaching and research. Moreover, they may encompass both the institutional and the disciplinary dimensions, and also embrace the use of information throughout the process (Hölttä, 1995b p. 240).

Importantly, top-down or linear management is insufficient for enhancing the responsive capacities of institutional management. To confront this dilemma and

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16 This resonates with the 'principle of creative tension' in which the organization or a subunit simultaneously identifies where it wants to be (vision) and acknowledges where it is (current reality). Harmonization of these two polarized positions is "by raising current reality toward the vision … or by lowering the vision toward current reality" (Senge, 2000b p. 289).

interpret such complex relationships theoretically, the principles of *systems thinking*[17] provide a foundation. The systems thinking perspective envisages that elements or subsystems[18] interact both within the institution and with the environment; this relationship is nonlinear as it involves bi-directional flows of influence between the elements, subsystems and the environment. During this process, the essential elements for institutional survival and the environmental subsystems can be either amplified or stabilized through feedback loops as a result of their interactions. Amplifying effects emerge when a positive change in an element or subsystem triggers an equally positive effect in the element or subsystem it interacts with, which also transmits a similar effect to the original element or subsystem. According to this logic, it is likely that a small change can generate significant effects within the system. This is referred to as *positive feedback* (Birnbaum, 1988 p. 47–51; Hölttä & Karjalainen, 1997 p. 231).

Yet the consequences of the interaction are not perpetually positive. The nonlinearity in the relationships between elements or subsystems can provoke undesirable outcomes or deviant behaviour that affects organizational functioning negatively. In addition, institutional management has to respond to mismatches between the elements or subsystems within the organization or a change in its environment by introducing corrective mechanisms or by invoking established parameters within which the organization functions. But in connected social subsystems of the university, this stabilizing mechanism can downplay the valuable impact of any important changes in an element or subsystem which had not been the primary target of the stabilization. These could be initiatives by a group of academic members of staff or a committee that may be ignored or affected. This is partly because of the occurrence of *delays* in the process of restoring the defective element hence taking longer to have the entire system to regain its previous normality. This entire process of restoration of equilibrium is known as *negative feedback* (Birnbaum, 1988 p. 183; Morgan, 1997 p. 84; Senge, 2006 p. 89). Hierarchical black boxes based on the hierarchical structures of the university are equally critical (Hölttä, 1995b p. 234–236). By way of illustration, if a subunit deviates from the established limits or norms, the next hierarchical structure such as individual academic leaders or a committee can be used to intervene and provide feedback (Hölttä, 1995b p. 233–234).

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17 The elements on which the systems thinking perspective is based include: causal links between variables, parameters within which the organization operates, feedback, and delays that can occur in the process.

18 According to Birnbaum (1988), the three key subsystems are: the environment, the administrative subsystem, and the technical subsystem (Birnbaum, 1988 p. 42).

3.3 Organizational learning as an integrative and regulative mechanism

Learning occurs on two fronts. First, learning is presumed to have taken place when the intentions set by the university or its subunits are achieved. This process would entail aligning actions to outcomes. Second, learning occurs when there is a mismatch between the intentions and outcomes. Correction of this mismatch shows that learning has occurred (Argyris, 1999 p. 67). Organizational learning is concerned with the internal learning processes in organizations and the extent of organizational performance (Fiol & Lyles, 1985 p. 803; Kezar, 2005 p. 13). Nonaka (1994 p. 14) further elucidates the situation:

> Any organization that dynamically deals with a changing environment ought not only to process information efficiently but also create information and knowledge. Analyzing the organization in terms of its design and capability to process information imposed by the environment no doubt constitutes an important approach to interpreting certain aspects of organizational activities…it can be argued that the organization's interaction with its environment, together with the means by which it creates and distributes information and knowledge, are more important when it comes to building active and dynamic understanding of the organization.

Owing to the likely differences in responses that the organizational subunits make to external contexts, parameters or controls within which the organization operates have to be established in order to sustain equilibrium[19]. It is against these parameters (also referred to as *governing values* or *variables*) that appropriate *action strategies* are sought, identified and deployed by the subunits with the aim of achieving a certain set of desired outcomes (Argyris & Schön, 1978). The subunits are loosely coupled and make localized responses, but whether this interaction is progressive or regressive, it will affect other units within the organization, and in different ways. Such localization or simplification of relationships can also impede organizational improvement since it yields narrower diagnoses of organizational issues (Easterby-Smith, 1997 p. 1091; Kezar, 2005 p. 12; Senge, 2006 p. 44–46).

It should be emphasized that, whereas individuals[20] are crucial for organizational learning, in this study the application of the learning organization concentrates on analyzing the organization and its subunits on the premise that:

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19 This implies that learning is a less straightforward and complex process. It involves differences in interpretations of phenomena and is affected by the diverse power structures within the organization. These occurrences point to the fact that learning cycles could as well remain incomplete (March & Olsen, 1975 p. 157–158).

20 Kezar argues that "organizations will not learn and evolve if individuals do not make a commitment to learn and see their lives as a creative journey" (Kezar, 2005 p. 12).

Although organizational learning occurs through individuals, it would be a mistake to conclude that organizational learning is nothing but the cumulative result of their members' learning. Organizations do not have brains, but they have cognitive systems and memories … organizations develop world views and ideologies. Members come and go, and leadership changes, but organizations' memories preserve certain behaviours, mental maps, norms, and values over time (Hedberg, 1981 p. 6).

In essence, while the behaviour of individuals is a measure of learning, the prevailing conditions within the organization and its subunits constitute the context that determines the actions of the individuals even when such actions are deviant and delay learning processes (Argyris, 1999 p. 68). Thus, as one of the core learning capabilities of learning organizations, "understanding complexity" envisages *interconnectedness* between structures, cultures and information within the organization and as it interacts with its environment (Senge, 2000a). In fact, system theorists have argued that organizational learning is evident in systems that have favourable conditions for self-regulation and in instances where organizational stability is collectively pursued (Argyris & Schön, 1978 p. 325–326).

3.3.1 Control

On the assumption that the environment is dynamic, and that the consequences of any interactions cannot be accurately predicted, it is necessary to establish parameters or governing values or regulatory loops within which outcomes can be ascertained or feedback on performance can be generated (Argyris & Schön, 1978 p. 18–26; Morgan, 1997 p. 100; Senge, 2006 p. 74–75; Senge, 2000a p. 277). The university or the subunits assign a structural or social regulatory loop to one essential variable or a limited set of variables. The assumption is that each loop is part of the "continuum with a preferred range" for organizational functioning (Argyris, 1999 p. 242). As pressures for change emerge, the subunit may create an interface that will ensure that it can deal effectively with its environment.

However, owing to their nature as social systems, it is possible that the demands for change will be broken into elements that are manageable and which will then regulate or control only one or a limited number of variables. This generates several regulatory loops that signify single-loop learning, as will be elucidated in the next section (see Argyris, 1999 p. 69). The use of management information systems is one example of a loop that can support regulation and integration (Argyris, 1999 p. 152; Argyris & Schön 1978 p. 268–276; Easterby-Smith & Araujo 1999 p. 4). In fact, top management thrives on incomplete information for effective management because it relegates accountability for the gaps in the information to the subunits and only intervenes when standards are violated or are not met (Argyris, 1999 p. 156). Of

course, these may not directly determine the actual execution of the technologies of knowledge production, namely teaching and research, but it can elicit organizational improvement (Easterby-Smith, 1997 p. 1090; Huber, 1991 p. 91; Kekäle, 2003 p. 285; Morgan, 1997 p. 100).

3.3.2 Feedback

Two distinct feedback loops can be discerned, namely the *single-feedback loop* and *double-feedback loop* that respectively originate from the concepts of single-loop and double-loop learning (Argyris & Schön, 1978). Single-loop learning is a process that leads to incremental changes through generating rapid and multiple feedbacks. As illustrated in Figure 3, the single-feedback loop "connects detected outcomes of action to organizational strategies and assumptions which are modified so as to keep organizational performance within the range set by organizational norms" (Argyris & Schön, 1978 p. 14–15). The response to the single-feedback loop is accomplished by choosing alternative action strategies in conformity with the existing norms, rules and explicit procedures that govern performance such as institutional rules or policy documents. According to Argyris and Schön (1978 p. 14–15), these control mechanisms that determine the need for other responses are referred to as the '*espoused theory*' (Easterby-Smith, 1997 p. 1090; Huber, 1991 p. 91; Morgan, 1997 p. 100).

The *double-loop feedback* concerns double-loop learning that may involve radical changes within the organization by "challenging the existing assumptions and beliefs to align the institution to the environment" (Kezar, 2005 p. 10). In this case, this feedback emerges when organizations choose to redefine their operating norms and values as they carve out new niches, new measures for performance and outputs. In other words, the nuances of entrenched practices become contested and are steadily displaced or dissolved, to pave the way for newer organizational processes based on renewed values, strategies and assumptions (Argyris & Schön, 1978 p. 18–26; Morgan, 1997 p. 87). These are the actual patterns of behaviour and are referred to as the '*theory-in-use*' or mental models – the taken-for-granted assumptions that continually evolve into entrenched organizational norms or practices (Argyris & Schön, 1978 p. 14–15).

Changing the mental models can elicit '*defensive reasoning*' from the subunits because in most cases they seek to maintain their status quos especially in professional organizations such as universities (Feldman & Pentland, 2003 p. 94; Kezar, 2005 p. 11). Argyris (1999) refers to a defensive routine as "any action or policy intended to prevent the players from experiencing embarrassment or threat, and does so in ways that makes it difficult to identify and reduce the causes of the embarrassment or threat" (Argyris, 1999 p. 56). Defensive routines evolve on the belief that they are crucial for organizational survival. They are "overprotective and anti-learning" since

they conceal any errors that would necessitate corrective action in order to ensure organizational effectiveness. Such behavioural patterns demonstrate the strength of the social subsystem or cultural dimension that can reinforce ineffectiveness through intentional concealment of anomalies. It is possible that the patterns are taken as acceptable practices since they hardly permit deciphering the cause of "embarrassment or threat" that elicits the defensiveness (Argyris, 1999 p. 56).

One important process for realizing a shift or alteration in the mental model or the theory-in-use is 'dialogue' or 'inquiry and advocacy' or 'reflective conversation' that includes engagement in consensual discourses to challenge or reinforce the existing assumptions or practices (Kezar, 2005 p. 10–11; Morgan, 1997 p. 99; Portfelt, 2006 p. 26; Senge, 2000a p. 278). This implies that it is possible to achieve or restore equilibrium by using 'single-loop' strategies to deal with this 'double-loop' problem. For instance, as new norms or values continue to be unacceptable to the organizational subunits, or as old norms remain seemingly unalterable, the organization could selectively introduce its new action strategies to subunits. Embracing such norms would most likely succeed and as it did, other subunits would also continue to adapt, eventually becoming organizational beliefs and practices (Argyris & Schön, 1978 p. 23). The corrective feedback represents single feedback whereas a change in the organizational norms or values would entail a double feedback loop but the latter would take some time to achieve because it involves alteration of organizational culture[21].

In Figure 3, the use of information in academic and financial management is illustrated in terms of the governing values, action strategies, outcomes and feedback. The information requirements that focus on assuring the quality of the academic programmes and financial resource reallocation could be assumed to represent the governing values or variables in the managerial practices. Such information may be built into the information system or may be analyzed according to printouts from the information system. In order to keep within the established parameters, some of the actions would entail emphasis on the minutes of the committees that show whether the decisions concerning some of the functions and activities are or were within acceptable limits. It is possible that the information in the minutes or the printouts is insufficient, or that the financial reallocation decisions considerably deviate from established standards. In such instances, corrective feedback or single-loop feedback is elicited whereby the errors detected are only rectified once they conform to the guidelines. In the same way, the guidelines themselves can be altered especially when information on fiscal hardships or new accountability criteria is received as a result of changes in the environment. Moreover, the external stakeholders, such as quality agencies, may set new parameters for all academic programmes of the universities and this would necessitate revision of the internal parameters and procedures in congruence with the emerging external or assessment information needs so that

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21 Single loop learning is referred to as 'adaptive learning' and focuses on 'coping' whereas double loop learning is referred to as 'generative learning' and its emphasis is on 'creating' (Senge, 2000b p. 288).

equilibrium is restored or maintained. These processes symbolize double-loop feedback where governing values change accordingly. It is also possible that a change in the governing values or mental models may occur, by continuously embracing specific single-loop practices.
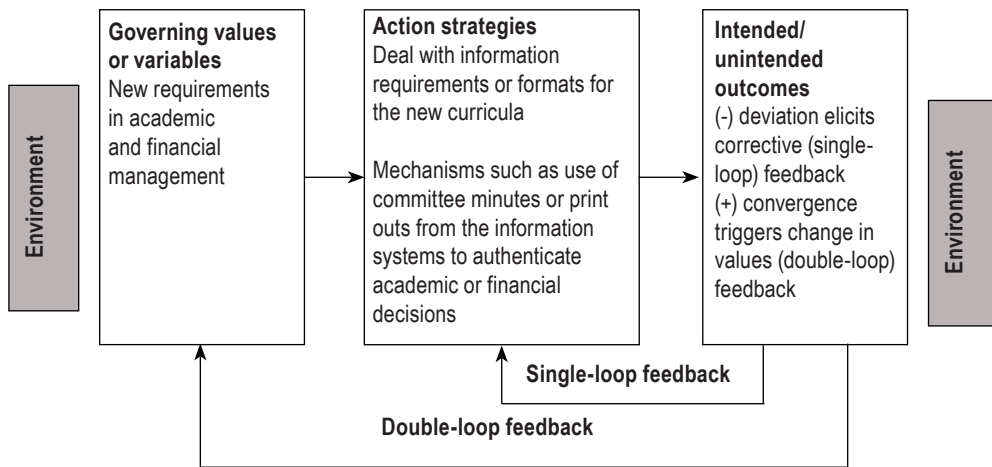
Figure 3. Organizational learning framework and the use of information in academic and financial management
Author's compilation based on Argyris and Schön (1978) and Senge (2006)

3.3.3 Hierarchy

Hierarchy in learning organizations departs from the mundane strategic and managerial views discussed by Mclaughlin and Mclaughlin (1989 p. 23). Instead, the learning organization thrives on the capacity of the disparate units to acquire information that they consider valuable to the entire organization (Huber, 1991 p. 89). Of course, the interpretation of such information or meaning of information can be identical or may vary across subunits within the academic organization. Variation would imply the emergence of diverse behaviour patterns or differences in the responsive capacities of the subunits. On the contrary, homogeneous interpretation demonstrates the capacity of a subunit to decode the interpretation of another subunit thus reinforcing uniform patterns in responsive capacities subtly contributing to integrative functioning. In both cases, there is organizational learning although it is assumed to be more evident in the latter case (Huber, 1991 p. 102). This hierarchy corresponds with Nonaka's "middle-up-down" model as a suitable approach for information creation and dissemination within organizational subunits (Nonaka, 1988). It is a synthesis of the two approaches of top-down and bottom-up, but shifts emphasis to middle management, which is actually at the intersection of the two.

Middle management occupies a key position; it is equipped with the ability to combine strategic macro (context-free) information and hands-on micro (context-specific) information. In other words, middle management is in a position to forge the organizational link between deductive and inductive management. Middle management is able to most effectively eliminate the noise, fluctuation, and chaos within an organization's information creation structure by serving as the starting point for action to be taken by upper and lower levels. Therefore, middle managers are also able to serve as the agent for change in the organization's self-renewal (Nonaka, 1988 p. 15).

In the same way, both information and ideology are used to inform decision processes at middle management level (Cummings, 1983). It may be difficult to stratify activities that have been decided on the basis of either information or ideology even when it is assumed that management by information is linear, logical and focuses on the realization of predetermined organizational goals. Alternatively, management by ideology reflects nonlinearity and puts emphasis on shared values as a basis for cohesion within the organization (Cummings, 1983 p. 532). Still, much attention is devoted to "…the process of distilling information, formulating cues, and utilizing established categories for the communication of information upward within vertical differentiation" (Cummings, 1983 p. 533). Conversely, horizontal differentiation envisages that "line managers are more likely to manage by ideology" because of "the generally more uncertain, complex environments within which line managers operate and also the short time horizons within which decisions need to be made in many line positions" (Cummings, 1983 p. 533). The choices made illustrate variations in the interpretation of information which is grounded on the incentives that the subunits discern from each of the available alternatives. Such diverse choices under conditions of ambiguity accelerate behavioural change or induce attitude formation in various ways (March & Olsen, 1975 p. 161–162).

3.4   Critique of the learning organization

The learning organization perspective is important for envisioning an ideal organization and provides some of the pathways to the realization of such an organization. However, this framework has shortcomings. First, it has been widely regarded as normative because it envisages an intangible organization. This normative nature is grounded on the origin of the perspective, which has a practitioner-orientation aiming at creating change by deliberately transforming learning processes in organizations. Critics argue that the learning organization fails to provide a solid theoretical foundation upon which responsive organizations can determine the extent of responsiveness. In other words, it is a seemingly unending

journey – it "is a vision …not a model…not a summary of best practices" (Senge, 2000a p. 277). Indeed, the framework is quite diverse and essentially 'macro', making its application mainly dependent on researchers' choices. As can be seen in the different applications of its tenets to higher education research in the following section (Anderson, 2005; Collie & Taylor, 2004; Dill, 1999; Portfelt, 2006), it clearly emerges that whereas some of the concepts focussed on in the various studies are quite similar, the indicators underlying them are in most cases varied. In this way, research findings remain non-cumulative (Collie & Taylor, 2004 p. 152) and hence, theoretical development is rather hesitant.

Yet at the same time, contrary to the widely held assumptions that the learning organization is prescriptive and empirically deficient, "it is not a stringent prescribed model, but instead [the focus should be on the selection of] a set of organizational behaviours that exemplify a commitment to learning and improvement" (Collie & Taylor, 2004 p. 142). Equally important is that while scholars in higher education opine that the learning organization "…is not based on empirical research…" they clearly note that "the ideas embedded in it are drawn from empirical research in organizational learning" (Kezar, 2005 p. 13). As applied to this particular study, the management science approach of the technical domain of the organizational learning perspective provides a framework within which structures and systems of organizational responsiveness can be interpreted. This perspective draws heavily from both system theory and cybernetics theory. Along similar lines, the concept of the learning organization as applied to this study is constituted as an open system, as a cybernetic organization, and that thrives on organizational learning as an integrative or regulative mechanism. It can be deduced that since the theoretical underpinnings of the learning organization are in the organizational learning framework, then its application as an interpretive framework is theoretically sound (Prange, 1999 p. 28–31). But even then, critiques for this perspective have also been advanced.

First, the organizational learning framework thrives on feedback that has been dichotomized into single and double loop feedback. The former is incremental and the latter is transformative. Accordingly, the logic is that any action is considered acceptable as long as it conforms to the established parameters. However, whether the negative outcomes that may emerge in this process after the double loop feedback has altered the governing values can be equally appreciated remains contestable. Of course, it has been argued that since the double-feedback loop is both incremental and radical, the incremental can operate as a single-loop that will not necessarily affect the norms (Boyce, 2003). Overall, substituting double loop responses with single loop strategies is viable but it certainly continues to limit the comprehensiveness of the theoretical model to only discrepancies in outcomes (Dibella, Nevis, & Gould, 1996 p. 362; Easterby-Smith & Araujo, 1999 p. 4).

Second, the model envisages perfect solutions to unintended outcomes. Obviously, this blurs the salient variations in interpretation based on the social discourses within organizations as it focuses on replacing action strategy with

action strategy (Addleson, 1996 p. 34). Indeed, it is no coincidence that it puts much trust in the human competence of managers or leaders and other structures that act as thermostats at the different hierarchical levels. Hence, it somehow relegates if not downplays the critical aspects that building consensus entails, which is also a common practice in professional and fragmented organizations such as universities. Admittedly, extra attention has to be accorded to the relational dynamics manifested in informal relationships and invisible cultures resident within the university organization. Nonetheless, this cannot and should never discount the fact that the interest of organizational learning is on outcomes and the limits that guide desirable behaviour rather than on the actual behaviour in organizations. Therefore, in this current study, like in the previous studies applying the learning organization to higher education, choices have been made to construct a framework suitable for the phenomenon being studied. This framework is used to interpret the responses of the university as an entity and its academic units to the changing conditions concerning academic and financial management. In addition, the use of information and management information systems in assuring integration with the objective of improving the responsive capacities of institutional management is explored.

3.5   Previous research on the learning organization in higher education

The general consensus is that the application of organizational learning and the learning organization perspectives in higher education research has been significantly scanty (Kezar, 2005; Portfelt, 2006). Moreover, there has been a conceptual deficiency in which the two perspectives have been interchangeably used even when they are not exactly the same thing (Kezar, 2005 p. 14). Earlier applications of organizational learning and the learning organization to the study of higher education did not move beyond acknowledging that learning was crucial for improving institutional capacity. For instance, in the proxy areas of total quality management, there has been little or no attention to what learning is, how it occurs and the outcomes of the process. In addition, although benchmarking has been studied and is important, it circumvents some existing unique organizational characteristics, rendering it inadequate for organizational improvement (Kezar, 2005 p. 15–16). In the 1990s, research trends in higher education saw the use of the perspective of organizational learning in knowledge management, which focuses on assembling and utilization of data and information within the organization to generate knowledge for purposes of continuous learning. Furthermore, organizational structures such as institutional research offices have played a key role in delivery of information to stakeholders like the government, and in provision of information necessary for decision-making processes (Kezar, 2005 p. 17). Additionally, Kezar suggests that in order to enrich our understanding of learning in higher education organizations, there is a need to

explore the role of cross-campus teams in the dissemination of knowledge within the organization and ensure strong organizational capacities for detecting and correcting errors (Kezar, 2005 p. 20).

As illustrated in the reviewed studies in higher education research, with the exception of Boyce (2003), research into organizational learning has been even scarcer than research into the learning organization. In her theoretical study on the critical linkages between organizational change and organizational learning, Boyce (2003) argues that changes in organizations can be categorized into first-order and second-order change, and that these can be aligned to single and double organizational learning, respectively (Argyris & Schön, 1978 p. 18–26; Boyce, 2003). First-order change is a gradual process through which existing codes of practice, structures and procedures are altered as demands for change within the university organization emerge. According to Boyce, this change entails corrective intervention for disparities in tolerable performance, implementation of policies and goal attainment. First-order changes reflect the tenets of single feedback loops premised on restoration of equilibrium to counter any anomalies in the efficiency and effectiveness of the university organization (Boyce, 2003 p. 126). Changes in the action strategies and the emergent outcomes are the changes most commonly experienced in organizations but may not actually constitute irreversibility.

Second-order change implies drastic transformation of the existing values to newer conceptions and value systems in the organization. The vastness of this kind of change is reflected in new missions, visions, emergent cultures, structures, processes and practices etc., symbolizing organizational responsiveness reminiscent of the double-feedback loop (Boyce, 2003 p. 127). However, new missions may not necessarily imply changes in cultures and values nor would they squarely elicit uniform organizational actions. Hence, fundamentally altering the university's culture and obtaining total transformation requires "continuing ability to engage in rigorous double-loop inquiry". Organizations should notice that it is the tendency to envision each change as a 'project' instead of as a building block to transformation that curtails realization of complete change (Boyce, 2003 p. 128). Clark's (1998a) work on 'entrepreneurial' universities has been cited as the best example of organizational transformation through the double feedback loop.

The empirical application of the learning organization, albeit arising out of its combination with organizational learning in certain instances, has focused on accountability and the quality of teaching and learning (Dill, 1999; Collie & Taylor, 2004), the community service function (Anderson, 2005), and the characteristics of the internal organizational processes (Portfelt, 2006). Table 2 illustrates the different indicators in the conceptualization of the learning organization when it was applied as a framework in previous research in higher education. It is evident that the most significantly used concepts, as per the literature reviews in this study, are the open system (or external responsiveness) and systems thinking (or internal regulation) involving use of information (organizational learning). In this study, the use of

information is further explored in relation to the elements of systems-thinking in order to ascertain its capacity for regulating and integrating the responses of the academic units which is vital for organizational improvement.

Table 2. Indicators of the concepts of the learning organization in higher education research

	External responsiveness (Open system)	Internal regulation (Systems thinking)		
		Control (structural or behavioural)	Feedback (stabilizing or reinforcing)	Use of information
Dill (1999)	"External pressures in form of performance indicators, teaching assessments, and academic audits" (p. 127–128)	'Appointment of curriculum coordinators, creation of faculty committees' at teaching unit level (p. 150) 'University-wide faculty committees to audit quality within academic units. Committees also allocate funds for experiments and innovations' (p. 150) 'Shared norm of analytical problem-solving' (p. 149)		Acquisition of information through surveying graduates, curriculum advisory committees, external reviewers of subjects (p. 150) Transferring knowledge across units is still limited (p. 150)
Collie and Taylor (2004)		Department chairs as leaders who encourage faculty to participate in developing departmental goals (p. 143) Faculty involvement in designing strategies (p. 143) 'Processes to support learning' (p. 146) e.g. rewarding or recognizing faculty, professional-development opportunities, and aligning rewards to department goals (p. 143) 'A climate of openness, trust and collaboration' (p. 146)		Departmental effort to collect, interpret and communicate results or disseminate information (p. 143)

Anderson (2005)	'Tapping the potential of multiple constituencies' (p. 40–41) University as an entity or as a fragmented organization in institutional engagement or partnership with the community (p. 42)	Horizontal structures to coordinate the partnerships i.e. both internally and externally (p. 45–46) Variation in the emphasis on the core missions of the university Blending personal values with expertise (p. 43–45)		Acquisition of information from external sources Little knowledge of what other units are actually doing Redistribution of information from partnerships to improve internal and external partnerships and transparency (p. 45–46)
Portfelt (2006)		'Organizational defensive routines' are evident in all organizational subunits (p. 173)	Culture negatively reinforces different other subsystems Structure stabilizes other subsystems (p. 173)	Lack of systematic acquisition of information and dissemination of information (p. 172–173)

Dill (1999) examined the changes in organizational structures and governance with respect to the improvement in teaching and learning across 12 case universities from seven countries. It was assumed that such changes would provide the starting point from which to constitute an academic learning organization. Dill's study seems to have been among the first systematic studies in which application of the learning organization theory was introduced into higher education research, departing from earlier works that barely moved beyond stating that learning was necessary for organizational survival. Dill draws from research on production management in business and industry and applies the concepts to the field of higher education, which in his opinion is facing diverse challenges from students, quality assurance agencies and the proliferation of information technologies (Dill, 1999 p. 132). Dill takes an institutional integration viewpoint in constructing the academic learning organization and illuminates the emerging organizational and governance structures. It is demonstrated that such structures are also situated at the faculty or academic unit level.

Dill identifies five characteristics that constitute an academic learning organization: culture of evidence, improved coordination of teaching units, learning from others, university-wide coordination of "learning", and transferring knowledge. First, the *culture of evidence* emerges as resources decline and competitiveness becomes fierce necessitating organizations to nurture ethos of evidence-based problem solving and decisions. A pattern of shared norms is created as members of the organization consider the practice of evidence important for the core processes of the organization. Second, there is *improved coordination of teaching units* through which the university organization is aligned to its competitive environment by

adjusting its existing structures and emphasizing the importance of integration. Newer structures are established in the form of individuals, committees and even specialized subunits such as 'schools' that are responsible for coordination. These provide the support function that the basic units in their traditional nature may not potentially offer. Another characteristic is *learning from others*. An academic learning organization looks outside its boundaries and learns from experts in particular fields. Because universities are fragmented expert organizations, different subunits would rely on the external reviews and external advisory committees for benchmarking their courses and degree programmes as a means to improve the international comparability of the existing academic provisions. Moreover, surveys with graduates from the academic programmes provide information on their relevance and viability in the labour market, and thus a basis for restructuring the existing curricular.

There is also *university-wide coordination of "learning"*. As an organizational strategy for streamlining academic practices, structures are created not only as a consequence of responsiveness but such structures also become drivers of further responsiveness. In most cases, homogeneous support structures are established, such as faculty committees that harmonize the core processes within the academic units and according to the established parameters for the whole organization. These committees determine financial resource allocation within the academic units in addition to coordinating the various support structures at faculty level that provide specialized assistance for improving the core functions of the academic unit. Finally, there is *transferring knowledge*. Different subunits within the same university organization adapt differently to the same environment, hence there will be performance variations among units. It is assumed that units that have adapted more and better than others would become models to be emulated by all the other units in the university. Nevertheless, the decentralized nature of the university impedes the process and yet little is known about transferring knowledge among such fragmented units of the university. Dill argues for the establishment of systematic structures for the purpose of knowledge transfer in the university units (Dill, 1999 p. 148–151).

Collie and Taylor's (2004) quantitative study applied a constructed learning organization framework to understand the strategies for improving the quality of teaching by academic departments in 24 universities in the United States. Sixteen were multi-disciplinary public universities and eight were private institutions. Stratification was used to select 18 similar departments from each of the 24 institutions. Following their extensive literature reviews on learning organizations, Collie and Taylor have presented vision and leadership, knowledge management and communication, and learning culture as the three key concepts of learning organizations that can be found in academic departments. These were the independent variables in their study, while teaching improvement based on student evaluation results was the dependent variable. Collie and Taylor found significant relationships between vision and leadership and teaching improvement. Similarly, knowledge management and

communication was related to teacher improvement and the main argument was that the collection, interpretation and dissemination of information from student evaluations would lead to improved teaching. Despite this finding, however, Collie and Taylor note that the perceptions of the departmental chairs indicated that the interpretation and general utilization of student evaluation data for teacher improvement was still limited. Another finding from the study was that the learning culture construct, which was dichotomized into processes (that promote learning e.g. rewards) and climate (e.g. openness, trust and collaboration), was related to teaching improvement.

On further exploration to ascertain the construct with the most explanatory power for teaching improvement, Collie and Taylor illustrate that knowledge management and communication, and the learning culture (i.e. climate) account for 7 per cent of the variance in teaching improvement in the sampled university departments. This finding broadly highlights the importance of paying attention to the interpretation, utilization and dissemination of information, and specifically information emerging from student evaluation results and building a culture for information-based teaching improvement in the departments. Collie and Taylor also report that the prevailing learning cultures within the departments are inclined to recognition of individuals and not collectives. This is further complicated by the concentration of deliberate learning opportunities for academic staff at the institutional level instead of the departmental level. This situation apparently has a consequence of curtailing the transfer of knowledge across departments, which the learning organization frameworks presuppose (Collie & Taylor, 2004 p. 145–150). The alignment of departmental goals to institutional goals is not examined in the Collie and Taylor study. Yet it is of paramount importance to ensure that departmental initiatives are somehow consistent with the institutional intentions hence creating a university that learns. It is this missing dimension that renders their argument on the transfer of learning opportunities for academics less convincing, from the institutional level to the departmental level.

Anderson's (2005) study questions whether and how the learning organization provides an interpretive framework for continuous organizational improvement when public universities decide to use community engagement as a strategy. On the basis of her research, Anderson is of the view that 'strengthening external networks by partnering with communities' has the capacity to 'affect institutional practice and foster partnership work that is responsive to societal needs' (Anderson, 2005 p. 38). Theoretically, four constructs of the learning organization, namely systems-thinking, mental models, personal mastery, and double-loop learning are adopted to interpret the partnerships between the university and the community. To illustrate the application of the learning organization concept empirically, Anderson uses some of the interview data collected from both community partners and academic staff members during a study at a single case public university in the United States. Anderson argues that there has been a tendency to concentrate on academic staff in

most of the discourses on a responsive university, perhaps because of the traditional missions of teaching, research and service, yet to realize such a university would necessitate involvement of the multiple constituents found within the university. The tenets of the learning organization are considered as a useful tool in the promotion and realization of institutional engagement as Anderson states:

> The learning organization requires the inclusion of all institutional members to maximize organizational capacity. Institutional engagement cannot be realized through a narrow focus on [academic staff] roles in collaboration with the community or staff-run outreach programs, or through student volunteerism but rather through a process that is inclusive of all of these elements and encourages cross-collaboration among these constituencies. (Anderson, 2005 p. 41).

With respect to the construct of systems-thinking, Anderson notes that the subunits of the university organization operate independently of each other and their actions are viewed as unit-specific, at least inside the university. However, once a specific subunit engages or enters into partnership with external constituents, such engagement becomes a university partnership because a university is considered as an entity from an outsider's viewpoint. Anderson found that such polarized visualizations have increasingly made institutional engagement problematic to both external and internal constituents. As Anderson succinctly argues, "it is the adoption of a systems perspective that allows institutional actors to understand the complex webs of interaction within the campus and to navigate them for the purpose of furthering institutional engagement with the community" (Anderson, 2005 p. 42). A university as an open system that interfaces with its environments generates plenty of information at the various levels of the organization, which could enhance learning in a responsive university (Anderson, 2005 p. 40).

Information acquired and used in correcting any errors detected in the interactive processes between the university and its community demonstrates the occurrence of single-loop learning. Obviously, there is no alteration of the organizational values but rather the procedures or processes through which theories-in-use function are altered. The occurrence of double-loop learning ensures that the organizational values or theories-in-use are questioned and changed. Anderson indicates that university-community partnerships demonstrate engagement that provides feedback primarily to the partnering subunit, and the university organization in general. It is anticipated that the university would act on the acquired information, respond accurately to the external needs, and revitalize its capacity to be a responsive university by having its individual members participating in the partnerships. However, Anderson has presented evidence to show that whereas information is important for improving responsive capacities, the distribution of this information within the institution is actually uneven. Organizational subunits hardly know about what their counterparts are doing or that they are actually doing the same thing. In order to integrate this

information emerging from numerous partnerships, horizontal structures can be established specifically to coordinate the associated activities. In Anderson's analysis, externally generated information is examined by such structures and then made available to organizational subunits. This redistribution of information makes it possible for more internal and external partnerships to evolve and for the already existing ones to operate more transparently (Anderson, 2005 p. 45–46).

Based on the mental models or theories-in-use, Anderson observes that individual actions are in most cases incongruent with the often espoused assumptions at the organizational level. In her analysis, she illustrated that whereas universities assume that they serve the core mission of teaching, research and service, it also likely, and often it happens, that the theories-in-use of most academics are selectively inclined to either of the three elements of the university mission. In terms of institutional engagement, this would require a challenge to the theories-in-use so that connections between the three elements are embraced. In the same way, this will facilitate the alignment of individual to institutional missions, for example, through deliberate application of discovered knowledge to emerging societal problems (Anderson, 2005 p. 43–44). Finally, according to Anderson, if institutional engagement is interpreted using the personal mastery construct, it would require the willingness of individual members of the university organization and its subunits to "make meaningful contributions to the organization by applying and expanding their own personal range of knowledge" (Anderson, 2005 p. 45). It is through this that organizational capacity for engagement can be realized and sustained especially because "both thinking and action relating to one's values, knowledge, and interests can serve to further collaborative work on community issues"(Anderson, 2005 p. 45). Anderson concludes that partnerships have the potential to ignite creativity among individuals who blend satisfactorily their expertise with tacit personal values in the process of organization-environment interactions.

In her Swedish case study, Portfelt (2006) explores whether the organizational characteristics of the case university correspond to characteristics of a "mixed theoretical model of the learning organization" (Portfelt, 2006 p. 34). The study further examined whether the relationships between the social and structural characteristics of the university that was studied were drivers of organizational learning in relation to the model. Portfelt suggests that learning organizations are open systems, with a learning culture, and have supporting learning structures. Empirically, data sources included documents, interviews and a survey among academic and administrative staff. Using an analytical framework grounded on the study of organizational culture and informal structures, Portfelt reports that the grouping subsystem (i.e. different structures) enables the permeation of organizational boundaries and thus makes the organization a single entity. However, according to her, whereas this can "facilitate the creation of knowledge and knowledge transfer within the university", it is still inconclusive whether there is actually any systematic transfer of knowledge within and between academic units (Portfelt, 2006 p. 162). The ambiguity that surrounds the

concept of a vision and its realization in learning organizations has been illuminated in Portfelt's case institution hence partly meeting the requirements of the constructed model. Other constructs, such as communication (information acquisition and distribution), sanctions (rewards and punishments), norms (culture) and evaluation (systematic problem-solving) were totally inconsistent with the model.

From a systemic point of view, several significant points emerge from Portfelt's analysis. First, the norm system influences the other subsystems by negatively reinforcing them and constraining the functioning of this case university as a learning organization, whereas the grouping subsystem provides the balancing or stabilizing feedback. Second, in her additional analysis, Portfelt reveals that the only homogeneous characteristic in all the subsystems that constitute the analytical framework, is the mental model manifested in the form of deep-seated "organizational defence routines" (Portfelt, 2006 p. 164–169). It is undesirable but existing practices such as these that are continually reinforced through feedback loops. These practices sometimes curtail the possibility of the university organization 'unlearning' practices that are incompatible with its dynamic environments. Such practices are antecedents to the preservation and conservation of the organizational culture that individual members might not want to alter and an impediment to consequences of double- feedback loops (Portfelt, 2006 p. 27–28). Third, there is one-dimensional learning, which focuses mainly on maintaining and restoring equilibrium within the organization. Moreover, systematic acquisition and collection of information is non-existent both within and outside the university. According to Portfelt, the characteristics of the case university fall short of the constructed learning organization model (Portfelt, 2006 p. 172–173).

3.6 Conclusion

The learning organization illustrates an open system that continuously adapts to the changing conditions in its complex environment. This would necessitate new capacities for the organization as an entity or its parts to survive in such contexts. At the same time, a learning organization has characteristics of a cybernetic organization. It focuses on both performance targets and the 'limits' on the essential variables that are necessary for its survival and achievement of the desired outcomes. When there is correspondence between the intentions and the outcomes, it is likely that positive feedback will be generated. But when there is a mismatch, anomalies will be detected and corrective action taken to restore the organization to a state of equilibrium. This is referred to as negative feedback.

Drawing from the discourse on cybernetics, organizational learning is another construct that constitutes the learning organization. For organizations to learn, they ought to have the capacity to acquire information and transform it into knowledge

that eventually influences behaviour. Since information is "the flow of messages" (Nonaka, 1994 p. 15), incomplete information is one of the mechanisms that can be used as a regulative control loop. This can be in the form of structural loops such as the use of management information systems or social loops that may entail decisions of committees. These information requirements or parameters can be referred to as governing variables or values to which the subunits align their different action strategies in order to achieve desired outcomes. When the action strategies are inadequate to achieve the outcomes, single-loop feedback triggers newer action strategies (see Figure 3).

At the same time, double-loop feedback which involves changing the governing variables or values themselves explains the changes in cultures or norms. Double-loop changes can be an incremental process where continuous single-loop strategies evolve into organizational norms which eventually become new governing variables or values. Similarly, double-loop feedback could be triggered by environmental pressures to which the organization realigns its inner standards and processes. Nevertheless, very often, the existing cultures are difficult to alter but this can be circumvented by engaging in dialogue (Kezar, 2005 p. 10–11). Besides, learning organizations have relatively flat hierarchies whose emphasis is on the capacity of the subunits to understand the operations of their counterparts or decipher their interpretations of the information requirements.

One of the major criticisms of the learning organization is that it is a normative concept. But this has been because of the critics' failure to anchor the concept in theory. This has been addressed in this study by locating the concept in the open system theory, cybernetics and organizational learning. Yet, it is also worth noting that the framework of the learning organization has been applied to studies in higher education in a range of ways. It is evident that the work has concentrated on various aspects of organizational improvement. However, these studies have not explicitly examined possibilities for capacity building based on the connections between the organizational and academic unit practices, partly from the perspectives of the deanship. Moreover, there has been inadequate exploration of information processing processes yet these are a key construct of the learning organization. In this current study, the learning organization has been applied to interpret more than whether responses illustrate improvement in the institutional management responsive capacities. It also explores the relevance of information in the total process of responsiveness. But even with this application of the learning organization, the framework is still rarely used in higher education research even though the adaptability of the university is perpetual.

4
Methodology

This chapter presents the operational framework, the research strategy and the paradigmatic thinking behind the basic methodological choices of the study. The research design applied to the study with respect to the selection of the case and academic units, data collection and analysis as well as the validity and reliability issues are also elaborated.

4.1   Operational framework

This study is divided into three components. First, a responsive university is explored theoretically in Chapter 2 as a basis for understanding organizational and academic unit responsive capacities. It comprises the university environment, the requirements it presents for the organization, as well as the responses made by the organization and its academic units, and the use of information and management information systems as elements for regulating the functioning of the university. Second, the learning organization concept is constructed to explore its correspondence with a responsive university. The learning organization is regarded as an open system, and its operations hinge on systems thinking hence having the characteristics of a cybernetic organization. Moreover, such an organization learns by ensuring that it gathers and disseminates information about itself and the information is used for error detection and correction (single-loop learning). It may also involve change in the mental models or existing practices or values (double-loop learning). Third, the correspondence between a responsive university and the learning organization is ascertained by using Makerere University as a case study. A summary of the three components is illustrated in Table 3 below.

The correspondence was examined empirically by using documents such as strategic plans, annual reports and visitation committee reports, and interviews with key informants in the central administration, to explain organizational

responsiveness discussed in Chapter 5. The responsiveness of the academic units in the case university as elaborated in Chapter 6 is grounded on the perceptions of the academic deans and how these perceptions are manifested in the elements of the learning organization. This is delimited to the changing conditions in academic and financial management practices. Academic aspects refer to curriculum review, quality issues, and research coordination and management. Financial matters concern the allocation, reallocation, control and monitoring of financial resources.

Table 3. Aligning the theoretical framework with the empirical perspective

A responsive university	The Learning Organization	Makerere University
University environment to which it adapts	As an open system that survives by continually sensing changes in its environment and adapting	Significant changes in the environment affecting the internal operations of the university and its subunits
An institutional strategy is used to elaborate essential variables or values necessary for organizational or subunit survival in the unpredictable environment	A cybernetic organization which defines 'limits' on behaviour or performance as it responds to changes to maintain equilibrium with its environment	Requirements the changes in the environment present for the university as an entity and responses made
An academic organization that comprises disparate units with different beliefs and interest groups	Academic units as subsystems set their own 'limits' on behaviour or performance as they respond to changes to maintain equilibrium	New requirements the changed environment presents for the academic units and responses made
Uses institutional research to monitor external changes and internal operations	Organizational learning as an integrative or regulative mechanism involving acquisition and processing of information by the subunits, and elicits change of behaviour in the organization	Relevance and use of information and management information systems at organizational and academic unit levels

Adaptations in academic management, which institutional management confronts, have been categorized as monitoring vulnerabilities, reduction in the resource dependencies, and compliance with emerging demands (Gumport, 2000). Quality issues have been standardized through renewed approaches to quality assurance, evaluation and accreditation frameworks to which university governance has adapted (Bleiklie & Kogan, 2007 p. 486). Curriculum reviews have been mainly linked to entrepreneurial changes. In fact, variations in the responses of the different disciplines to the changing conditions have been elaborated in one of Clark's (1998a) pathways namely *the stimulated academic heartland*. Academic disciplines differ, and as a result the extent of responses will also vary. In Clark's analysis, "science and technology departments commonly become entrepreneurial first and most fully" (Clark, 1998a p. 141). In the social sciences, business and economics change faster

than the rest of the disciplinary areas, yet the humanities, according to Clark, lag behind since they hardly attract funding from the government or other agencies.

Another essential variable concerns research management which in the context of academic management refers to "any activity instituted at the level of the institution [and within the academic units], which seeks to add value to the research activity of academic staff, without being part of the research process itself" (Kirkland, 2005 p. 156; Kirkland, 2008 p. 718). Environmental pressures make it necessary for the university to infuse the research function into its overall institutional strategy although this may vary from context to context. But, as Kirkland (2005) argues, the linkage between the central research offices and the overall strategic direction of universities has been weak yet it is a prerequisite for responsiveness (Kirkland, 2005 p. 158–159).

Research management has been categorized into passive and active management where the former is dependent on control by external forces like the markets or funding agencies and the latter is when there are clear research agendas or priorities in the university that entail definitive internal resource allocation methods and accountability (Taylor, 2006 p. 9). Yet, although it has been argued that integration of research and teaching is necessary, it is increasingly evident that the university or even its subunits segregate the functions into teaching and learning, and research by creating positions responsible for each function (Leisyte, Enders, & de Boer, 2009; Taylor, 2006 p. 22; Taylor, 2007).

Concerning financial management, universities strive to improve the responsiveness of their subunits by aligning their internal allocation mechanisms according to resources originating from the external environment (Ehrenberg, 1999 p. 30). Resource allocation or reallocation and monitoring relates to the procedures and decisions by central administration within the university to distribute or disburse finances to the subunits. This has also been referred to as institutional budgeting. All units within the university require resources to achieve their objectives and the institutional mission and goals. Accordingly, internal resource allocation is one of the tools that can accelerate change in the faculties, colleges or research institutes of the institution (Jongbloed & van der Knoop, 1999 p. 143).

Obviously, decision processes may be diverse but the essence of allocation creates an accountability relationship between central administration and the subunits. The faculties or colleges have the discretion to use the resources they receive from the centre yet at the same time they account for all expenditures on the basis of their performance. In decentralized settings, the deans are accounting officers for all the transactions in their units and are responsible for the allocation to instruction or research activities within the faculties or colleges. Institutional management provides regulatory frameworks or monitoring mechanisms which stipulate the "limits" on budget performance within which the units must operate. It is clear that the central administration will deal with the information that comes from the subunits without necessarily understanding how the actual processes of allocation or expenditure were

determined. Instead, they rely on structural and social controls so that the university strives to function as an entity (Jongbloed & van der Knoop, 1999 p. 143–145; Kekäle, 2003 p. 285).

It is clear that the boundary between academic and financial management is increasingly blurred, resonating with the emerging emphasis on integration, efficiency and effectiveness of institutional management. But it has to be understood that these processes have reciprocal influence thus creating as much disequilibrium as they strive to counter (Reed, Meek & Jones, 2002 p. xix). Given the complex environment in which a university operates, academic leadership capacities that focus on strategic choices are necessary but insufficient in sustaining the responsive capacities of institutional management (Askling & Stensaker, 2002 p. 123). The main challenge is that competing values, ambiguities and conflict typify academic leadership. Some higher education researchers have suggested that the fundamental dilemma is to harness self-regulation in the managerial processes at all levels of the organization. Such measures enable the university "to learn how to live with them" (Askling & Stensaker, 2002 p. 119).

This resonates with how leaders in learning organizations perceive reality in their settings grounded on three distinct levels (Senge, 2000b p. 292–293) as illustrated in Figure 4. First, much of the attention is placed on 'events' and explanation of their occurrence which is equated to being 'reactive' to change. Second, there is concentration on 'patterns of behaviour' that entail interpretation of prevailing conditions in view of past trends and determining their possible implications. Such exploration is referred to as being 'responsive' where different approaches are sought to tackle changes over a period of time. Third, the focus of the systemic dimension is on the causes of the patterns of behaviour and the ultimate objective is to alter those patterns hence regarded as being 'generative'.
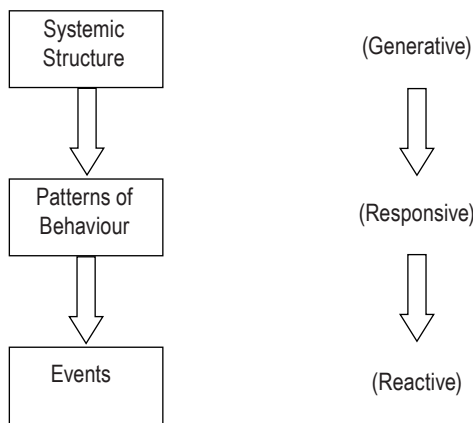
Figure 4. Responsive capacities of leaders in learning organizations
Based on Senge (2000b p. 292)

Senge (2000b) also notes that academic leaders and academic organizations are seldom generative though more mindful of events and at best, patterns of behaviour. Conversely, to leaders in learning organizations, all the three levels are crucial but exceeding attention should be placed on the systemic structure. Understanding the capacities of academic leadership to deal with competing values and ambiguities it confronts is a prerequisite for organizational improvement. However, knowledge on how such capacities can be built is still speculative.

4.2   Research Strategy

A research paradigm or metatheory refers to basic beliefs or assumptions against which phenomena should be understood and studied. Higher education as a professional field of study emerged in the 1930s and the orientation of its studies was influenced by the scientific or the positivist paradigm which was actually the most dominant. With increasing paradigmatic debates in the social sciences in the 1960s, and the emergence of the interpretive paradigm as well as the critical paradigm, higher education research has been reorienting accordingly (Kezar, 2004 p. 43; Peterson, 2000 p. 29; Schwandt, 1998 p. 223). The fundamental questions and assumptions underpinning the paradigms revolve around what the nature of phenomena (ontology) is, what constitutes knowledge of these phenomena (epistemology), and what the best means of generating knowledge on these phenomena (methodology) are.

The basic choices in this study are rooted in the interpretive paradigm. According to this paradigm, "there is not a single knowable reality that we can access since all understanding is filtered through human beings, but that people construct and interpret knowledge and therefore knowledge is relative and specific" (Kezar, 2006 p. 343). It is believed that knowledge is generated through interactive processes with others rendering knowledge subjective. This assumption guided this study on the premise that an organization as an entity espouses certain standards or parameters within which to operate. However, such standards may be or are indeed understood differently by its subunits. As shown in this study, the university organization as an entity defines what is essential for its survival and establishes parameters in form of mission statements and strategic goals. Yet, the subunits may interpret these parameters differently as they emphasise what is essential for their own survival and choose to respond to them. The use of information and management information systems as a mechanism to regulate the dichotomy in the responses of the subunits can be equally diverse in its application even within the same institution. All these patterns (see for example Chapter 5 and Chapter 6) illuminate the characteristics of a responsive university.

The interpretive paradigm allows for variations in how knowledge is constituted for example, as concepts, metaphors, stories or narratives, and pairings and word contrasts (Kezar, 2006 p. 307). This sheds light on the fact that the meaning of theory can keep changing and could be used in various ways. Indeed, interpretive researchers often use the term conceptual framework to mean theory and theorise instead of applying existing or tested theories (Kezar, 2006 p. 306). The interpretive tradition is more inclined to middle-level or local-level theories, and not the universal theories as in the positivist paradigm, and it further argues that context is crucial for understanding phenomena (Kezar, 2006 p. 302). The application of theory in this study is by theorising[22] the learning organization and constituting it as an open system, as a cybernetic organization, and as one that engages in organizational learning (for details see Chapter 3).

The dynamic relationships associated with inquiry in the interpretive tradition have been useful in reducing the theory-research-practice 'trichotomy', which is a common criticism for higher education research (Kezar, 2000 p. 9; Kezar, 2006 p. 317; Peterson, 2000 p. 23). It has been argued that researchers should grasp problems in practice and then explore literature and theoretical frameworks to ameliorate such situations (Kezar, 2000 p. 16). Other scholars have even proposed new models to supplement the traditional model of knowledge production in order to bridge the theory-research-practice gap (Bensimon, Polkinghorne, Bauman, & Vallejo, 2004 p. 106–107). As one of its criticisms, the learning organization has been regarded as a practitioner-oriented concept. It is apparent that its development thrived on action research and could therefore be situated in the participatory paradigm (Kezar, 2006 p. 309). However, this study takes a different dimension in constituting the learning organization by focusing on its assumed disciplinary origins through theorising as already noted.

In terms of methodology, an interpretive researcher conducts his or her research in an imaginative and nonlinear manner and can use both induction and deduction in his or her inquiry (Kezar, 2006 p. 306). The focus of the interpretive paradigm is on how "meanings are created, negotiated, sustained, and modified within a specific context of human action" and "the means or process by which the inquirer arrives at this kind of interpretation … is called understanding" (Schwandt, 1998 p. 225). In practice, the researcher may collect data relevant to his or her informants and strives to maintain its unique representation. In this approach, data analysis commences during data collection to generate themes based on the informants' views. Additional analysis is done as theory is built, in most cases a mid-range theory (Gioia & Pitre, 1990 p. 588). Yet, at the same time, the researcher's other main role is on structuring meaning in order to provide comprehensive understanding of the phenomena. One way this was done in this study, was to theorise alongside the data collected and being

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22 "Theorising is seen as the way in which people make sense of the ambiguity and complexity of the world by imposing a degree of order and systematic analysis" (Kezar, 2006 p. 306).

analysed. In essence, by applying the constructed learning organization concept, the researcher made "sense of the ambiguity and complexity of [a responsive university] by imposing a degree of order and systematic analysis" (Kezar, 2006 p. 306). This shows how a deductive approach was used side by side with an inductive approach.

Like in all studies grounded on the various traditions, this study needs to be appraised against certain criteria as illustrated in the subsequent sections. However, since it is multifaceted, the interpretive paradigm makes interpretation of phenomena diverse and the means of their verification less straightforward. Nevertheless, verifying or evaluating interpretations can be based on conditions that may have prompted them. Hence, such verification criteria may include thoroughness, coherence, and comprehensiveness among others (Schwandt, 1998 p. 229). Additional sources of verification have been drawn from case study methodology which was used in this study. According to Creswell (1998), verification can be external where the researcher seeks opinions of the informants, it can be by requesting other researchers to comment on the various aspects of the study, or it can be by ascertaining whether it is compelling to certain audiences. Verification can also be internal where the researcher determines whether the study "is consistent with the researcher's sense of meaning" (Creswell, 1998 p. 215). Triangulation is another measure of assuring standards in case study research (Stake, 1995 p. 107–120). In this study, sources of verification are elaborated in section 4.8.

4.3 Case study research design

The emphasis of case study methodology is on understanding complexity and context of behaviour in order to contribute to action and intervention (Cohen, Manion, & Morrison, 2007 p. 85). A single case study was used to illustrate the correspondence between a responsive university and the learning organization concept. As a starting point in the decision to design and conduct a case study, the unit of analysis ought to be clearly defined and one should be assured that it is congruent with the primary intentions of the study (Yin, 1989 p. 52). In addition, a case study is used when the focus is on an incisive examination of phenomena such as a community or an organization situated in a certain context or locale and conducted within specific timeframes (Bryman, 2008 p. 52–53; Creswell, 1998 p. 40). The temporal scope for this study was largely the period 1992–2007.

According to Yin (1989 p. 49–52), there are two categories of the single case study design. The first category is the holistic design in which the whole entity is a single unit of analysis especially in situations where subunits cannot be distinctly recognized or when the theory guiding the study is equally holistic. In contrast, the second category is an embedded case design that has the unit of analysis as the single entity as well as the subunits that comprise it. This latter alternative was adopted

in this study as it entailed studying the responses of the academic units as well as analyzing the strategic intentions of the university as a whole, which may present the advantage of extensive analysis that yields different insights from the single case. As an empirical inquiry, a case study thrives on a plurality of sources of data such as archival data, documents and interviews hence allowing for triangulation. It also involves multiple methods of data collection (Yin, 1981 p. 58–59; Yin, 1989 p. 23). The focus in this study was on both the responses of the organization as an entity and of the academic units to the changing conditions concerning academic and financial management using Makerere University as a case study.

4.4   Case selection and description

Makerere University was chosen as the case for this study. The choice of Makerere University was premised on its long history that would enable the researcher to investigate the adaptations to the changing conditions in academic and financial management. It is also the largest university in Uganda with both private and public arms whereby some of the students are fee-paying and the others are sponsored by government. More still, this university has been successful at higher education reform that has been labelled "the Quiet Revolution" (Court, 2000). Yet at the same time, there are reports that have questioned the management capacities within the institution, and there have been recommendations for overhaul or improvement. Importantly, the academic deans have been central in all the reform agenda of the university but the reports illuminate tendencies for role conflict and ambiguity (Visitation Committee to Public Universities, 2007). Against that background, the case was chosen in order to interpret the responsiveness of the university as an entity and its subunits. It was envisaged that the findings of the case study would contribute to strategies needed to improve the responsive capacities of the university. In essence, this selection illuminated potential characteristics of a *revelatory case* which is one of the three rationales for single case studies (Yin, 1989 p. 48–49).

At the time of data collection, Makerere comprised 22 academic units including 10 faculties, one college, five schools and six institutes. As at June 2009, the total student enrolment was 36,878, of which 34,968 were undergraduates and 1,910 were postgraduates (Makerere University, 2010). The chancellor is a titular head with no executive powers. In addition, there are several hierarchical management positions including the vice chancellor as executive head, with two deputies (one for academic affairs and the other for finance and administration), a university secretary, an academic registrar, a university bursar, a principal of a constituent college, deans or directors of schools or faculties or institutes, heads of departments, and administrative staff within the different university units. Furthermore, institutional leadership is responsible to the university council – the supreme decision-making

body that is supported by the senate when it comes to academic matters as enshrined in the 2001 legislation (Republic of Uganda, 2001 p. 30–32). Figure 5 illustrates the organizational structure of this case university[23].
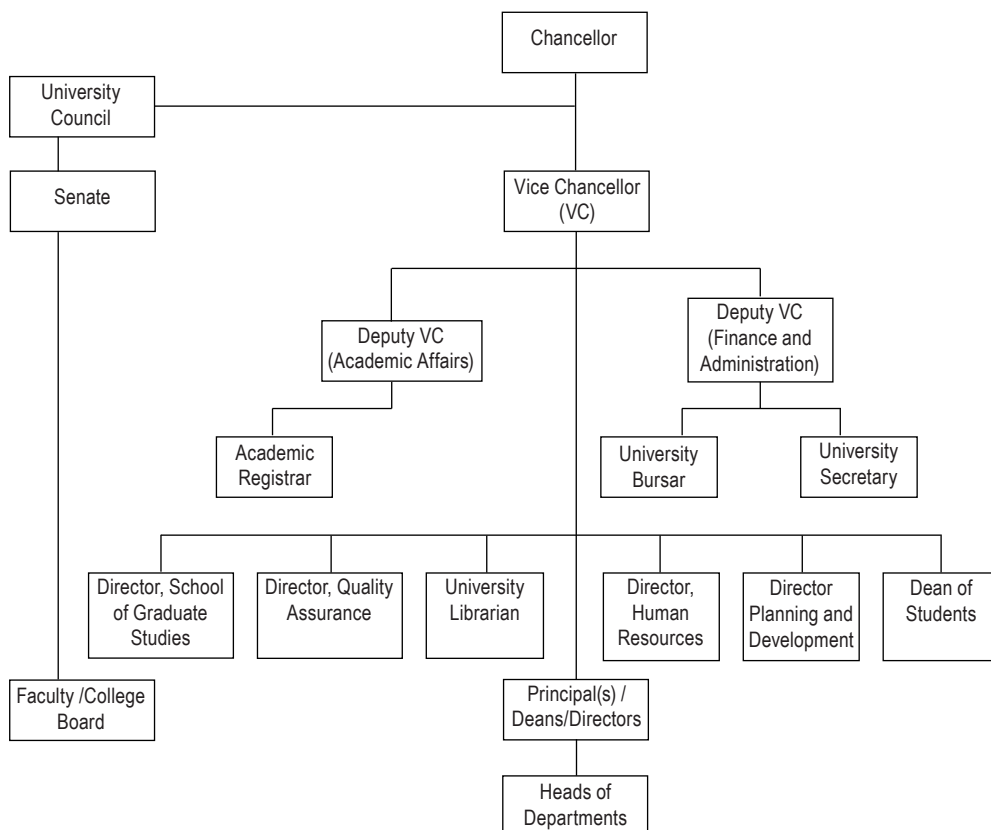
Figure 5. A summarised organizational chart of Makerere University

Makerere University is the oldest and largest university in Uganda, established in 1922 and it marked the beginning of higher education in the East African region (Nyaigotti-Chacha, 2004; Ocitti, 1991; Sifuna, 1997). Its establishment marks the beginning of the five phases of the history of higher education in Uganda[24]. The university started as a technical college for training students in the East African region that included Uganda, Kenya and Tanganyika (now known as Tanzania). The academic provisions were aimed at building a workforce to support the colonial government and hence concentrated on certificates in fields such as agriculture, medical care, teacher education, and veterinary science. The De La Warr Commission report in 1937 provided the foundation for the start of degree studies, but it was after the Asquith

23 This is a representation based on what existed at the time of the study.
24 For details see Musisi (2003 p. 614–616)

Report of 1949 that the college became affiliated to the University of London and started to offer degree-level courses. At this point, the emphasis of education shifted to the Africanizing of the civil service structure. In 1963, Makerere became a college of the University of East Africa along with constituent colleges in Nairobi in Kenya and Dar-es-Salaam in Tanzania. Overall, the underlying focus of higher education was the "synergistic contribution to national and regional development" (Musisi, 2003 p. 614). Moreover, new academic programmes were developed in the fields of technology, librarianship, forestry, law, and commerce (Eisemon, 1994 p. 88; Musisi, 2003 p. 614).

Nevertheless, the University of East Africa was disaggregated in 1970, leading the emergence of independent institutions in the respective countries and direct government control of higher education by the state, which was a departure from patterns that were relatively inclined to the professional oligarchy. But dissolving the University of East Africa was unacceptable to the donor fraternity and it led to a steady withdrawal of financial support (Eisemon & Salmi, 1993 p. 159). However, these independent countries had to focus on national development as Eisemon (1994 p. 90) notes:

> Established to stop wasteful duplication yet achieve a balance in the academic programmes of its constituent colleges, the University lacked the authority and resources to do either. In the end, the University was unable to resist the pressures brought upon it to proliferate programmes in fields like veterinary science by the university colleges in Dar-es-Salaam and Nairobi…
>
> [Most important,] institutions of higher education needed to be made more directly accountable to government to ensure their responsiveness to national human resource development priorities.

The Makerere University Act 1970 was the legal instrument that subordinated the university to state control with the head of state as the chancellor. Ocitti (1991 p. 820) recounts that although "at the institutional level, the development of universities [is] guided by their respective plans which are normally initiated by the faculties…", the process was constrained by the fact that "implementation of such plans, of course, [would] vary largely depending on the willingness of the government (in the case of public universities) to release funds". While partial financial autonomy had been granted in 1988, the university remained entirely responsible to the Ministry of Finance for its budgetary transactions since the government was the main financier (Eisemon, 1994 p. 95). In fact, the influence of government in the financial decisions at the university was seen in the transition from block grants to line-item budgeting in 1988 to which the university had to adhere. Yet prior to the 1990/91 financial year, the budgetary proposals by the university to the Ministry of Finance were speculative because there was no budget ceiling while the revenues of the university from its

on-campus small scale endowments were remitted to the central bank where the university had its only bank account (Eisemon, 1994 p. 99–100; Eisemon & Salmi, 1993 p. 164–165).

In the late 1980s, a government commission that later culminated in the White Paper of 1992 recommended that there should be continuity in academic freedom with respect to student selection, appointment of academic staff, the teaching content, and selection of areas of research and dissemination of the results of that research. In addition, each institution was to interface systematically with both the public and private sectors and "the local communities, through extension activities beyond its campus" (Education Policy Review Commission, 1989 p. 83–84). But there had been less involvement of academic staff in "planning, decision making and financial management" as the university had been predominantly run by administrative staff. It was recommended that this be revisited and that academic units become engaged in the governance arrangements of the university (Visitation Committee to Makerere University, 1991 p. 20). Public sector reforms in higher education triggered curricular reviews, privately sponsored students, and legislative changes that granted institutional autonomy. Indeed, autonomy necessitated the strategy of devolution of administrative and financial decision making to the academic units as further elucidated in Chapter 5.

4.5   Selection of the academic units

The selection of the academic units was based on Biglan's (1973a, 1973b) typologies and classification of disciplines (Becher & Trowler, 2001). Although this stratification is increasingly becoming blurred, its application to this study was to ascertain opinions from a representation of all the disciplines in the university. Stratified sampling was preferred because the selection made would most likely reflect the proportions of subunits with certain characteristics of the population (Creswell, 2003). In the same way, purposive sampling was done within each categorization, including the hard-applied (technological fields), the hard-applied (biological fields), and the soft-applied (social science/arts fields). Nine subunits were selected comprising three from each disciplinary cluster because these were considered information-rich cases that enabled the researcher to answer the research questions in addition to being within the constraints of time and other resources (Patton, 1990 p. 181). The findings based on the opinions of the deans from the nine subunits are presented in Chapter 6.

4.6   Methods of data collection

According to Yin (1989), data collected from several sources elicits triangulation. This study used documents, archival records and semi-structured interviews as sources of evidence to interpret the responsive capacities of the university. To obtain institutional data and trends in responsiveness, documents including strategic plans, visitation committee reports, legislation, financial reports, annual reports and institutional policies were reviewed and selected. These documents contained accurate and authentic data used to ascertain the changing trends in academic and financial management (Bryman, 2008 p. 296; Yin, 1989 p. 87). Indeed, understanding of the environment and the essential elements for survival of the university were explicated from the second strategic plan of the university. Moreover, the requirements that the changing conditions presented for the organization as an entity were seen in the change of the mission statement in the strategic plan and other reports. On the whole, the strategic plan was analysed in terms of how it was developed, the presumed basis of its mission statement, and the emphasis it put on academic and financial management, in order to understand the organizational dimension. The reports that were studied illuminated the extent to which the university had accomplished some of its strategic intentions. To ascertain whether the views expressed in the documents were actually what obtained in reality, the researcher conducted semi-structured interviews with key informants in the central administration of the university. Moreover, these informants provided some of the relevant documents and also identified other (technical) personnel who were more conversant with certain aspects of the phenomenon[25]. This enabled the researcher to obtain sufficient data and organizational information in the process of data gathering.

Conversely, in order to pay attention to the disciplinary dimension or the nature of the academic organization, interviews with the faculty deans were conducted to ascertain the responsiveness of the academic units. Semi-structured interviews were used and they entailed a list of issues and questions to be covered, but the researcher was sometimes not able to deal with all of them in every interview. Instead, additional questions that were not part of the interview guide were asked as interviewing progressed. In fact, as one of its advantages, the semi-structured interviews enabled the researcher to probe the informants on the basis of their responses to the interview questions, providing opportunity to broader views on the phenomena and how they were related to the evolving theoretical framework (Gray, 2004 p. 215–217).

The opinions of the deans were ascertained according to the salient changes in the environment of their subunits, the new requirements that these changes presented, and the responses of the academic units concerning academic and financial management. Equally important, the use of information and management information systems

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25   Details on the opinions of these informants and those of the technical personnel they identified are integrated with findings from the document data and presented in Chapter 5.

was explored as an integrating element for anticipated fragmented responses of the subunits. These interview data were then analyzed with regard to their congruence with the learning organization concept. Before the actual interview process, the researcher sent an e-mail to the deans requesting an appointment to interview them on the research topic. It was also stated that in cases in which there was a delay in replying to the message, a visit to the office would be made and an appointment made with the dean's secretary. Out of the eleven subunits from which data were collected, data from two subunits were used to pilot the interview guide whereas data from the other nine subunits were analysed and reported in Chapter 6. At the time these interviews were conducted, during the period January–February 2008, there were 22 academic units at Makerere University (see section 4.4). Each interview lasted about one hour on average depending on the available time that the informant had and the extent of data saturation within each cluster or category of the disciplines. Field notes were taken during and after the interview to ensure that the effect of the setting of the interview on the actual perceptions could be understood. All interviews were recorded and transcribed verbatim.

4.7   Data analysis

Cognizant of the dangers of turning words into numbers, it was better for the researcher to concentrate on the text in order to obtain the "qualitativeness" of the phenomena studied (Miles & Huberman, 1984 p. 54–55). In some case analyses, a theme and a code were used interchangeably yet on other occasions, a theme was a product of grouping several codes. Thematic analysis was associated with repetitive occurrences of a specific theme. Although it varies from researcher to researcher, thematic analysis can be based on theoretical concepts. That is, it can be theory-driven thematic analysis (Bryman, 2008 p. 554–555). Accordingly, all the empirical analysis was grounded on the key aspects of the constructed learning organization. Coding was found to be important in the classification of words derived from the conceptual framework and research questions. As Miles and Huberman (1984) note, the codes may be descriptive where they are used as devices for organizing the text, interpretive where an emerging theme could already be stratified, and explanatory when the themes, patterns or causal inferences are captured from the narratives of the key informants. In this particular study, descriptive and interpretive codes were used most during data analysis, which commenced as more data were being collected. Transcribed data were organized according to specific patterns that emerged from the disciplinary clusters of the informants. Essentially, the codes were applied at different levels of analysis or at different times during the analysis and therefore permitting the researcher to collate the text thematically.

Rather than adopting either deductive coding or inductive coding, the researcher used a 'mid-range' approach. During the earlier processes of data collection and analysis, it was possible to generate inductively an emergent code for more concrete analysis. At the same time, a generic code not tied to the context of the study was developed, grounded on the theoretical thinking that guided the study. In essence, analysis was iterative and coding was also a continuous process, implying that it was done before, during and after data collection (Miles & Huberman 1984 p. 57). Getting to the identification of an emergent theme was based on the already existing codes that were aggregated according to the recurrence of an aspect. In practice, it meant that within a given categorization to which the informants had been assigned, any emerging theme alluded to at least twice was considered core for subsequent concrete analysis (Rubin & Rubin, 2005 p. 232). Of course, the danger of limiting one's focus to the pattern already identified and ignoring equally important dimensions should not be discounted. But as Miles and Huberman (1984 p. 68) opined, "the trick here [was for the researcher] to work with loosely held chunks of meaning, to be ready to unfreeze and reconfigure them as the data [shaped] up…".

4.8   Validity and reliability

Case study researchers within the qualitative domain put less emphasis on the aspects of validity, replicability and reliability although they underscore the importance on external validity or generalizability (Bryman, 2008 p. 55). In this study, three types of validity were emphasized. *Construct validity* emphasizes explicit elaboration of how a phenomenon being studied is constituted. It is the validity of concepts as they are applied to the phenomena (Maxwell, 1992 p. 291). In this process, the researcher may address the dilemma of defining concepts by breaking them into several measurable indicators, exploring multiple sources of evidence, and using appropriate data gathering instruments (Gray, 2004 p. 136). One of the concepts in this study was a responsive university. This research was guided by its earlier definitions and conceptions before choosing four aspects to constitute it. These were the university environment, the institutional strategy, the nature of the academic organization, and the use of institutional research. It was assumed that since the environment was diverse and complex, it was necessary for the university to identify what it considered essential for its survival. These essential variables are often expressed in the institutional strategy.

In the same way, cognizant of the fact that the university is a professional organization that is fragmented according to its disciplines, the researcher elucidated this construct. It was based on the belief that the responses of the discipline-based subunits would most likely differ. In the same vein, even within the broader framework of the institutional strategic plan, it was possible that certain clusters of disciplines

would focus on certain aspects of the strategy. Finally, the use of institutional research was discussed with respect to its capacity to regulate and integrate the operations of the university. Specific to this was the relevance of institutional research, information needs of the academic managers like the deans etc.

Empirical evidence was explored on two fronts. First, institutional documents such as the strategic plan, financial reports, and visitation committee reports were examined. The validity of the documents was confirmed through interviews with key informants in the central administration responsible for financial, academic and research coordination. Extracts and meanings of the interview data from these informants were integrated into the descriptions of the findings from the document data. In terms of external verification, as Creswell (1998) notes (see Section 4.2), follow-up discussions were held in April 2010 with some of the additional (technical) informants that had been recommended by the key informants in the central administration (see Section 4.6). The discussions were aimed at ascertaining whether there had been any changes concerning financial management and to what extent these would significantly affect this study's line of argument. This also enabled the researcher to sharpen the descriptions made about financial management in addition to understanding the changing conditions it confronts.

Furthermore, in line with Creswell (1998) views on external verification as outlined in Section 4.2, recently, in February 2011, a research seminar related to the study was held at Makerere University moderated by a senior researcher and member of the academic staff. It lasted for over two hours and the audience comprised academic staff that had completed their doctoral studies and those who were working on their doctoral degrees. In addition, graduate students who were not members of the academic staff also participated. The disciplinary backgrounds of the seminar participants were quite diverse. From the presentation, questions and discussion, the researcher was able to clarify some of the key issues in the study as well as obtain constructive feedback to improve on its coherence and its general practical implications. To highlight construct validity further, the interview guide used to collect data was divided into four themes with each theme representing a construct of a responsive university. The responses from the interviewees (i.e. the deans and the key informants in central administration) were presumed to shed light on the features of a responsive university as discussed in Chapter 5 and Chapter 6.

Internal validity refers to the relationships among the concepts (Maxwell, 1992 p. 291). As Gray (2004) argues, internal validity can be assured through pattern matching as an analytical method where predictions on the dependent variables are made. Conversely, different independent variables or several mutually exclusive factors may have varying explanatory power for the phenomena (Gray, 2004 p. 139–140). In this study, the former dimension was adopted by elucidating the oscillations in the dependent variable. In essence, the openness of the university and its subunits to the external environment, the identification of essential variables or elements for survival, the responses of disparate subunits and the use of information and

management information systems as regulative elements were to be understood by using the tenets of the learning organization concept.

Changes in the operating environment explicated from the strategy and interviews with key informants in the central administration and the deans implied that the university was an open system. The mission statement, the strategic goals and the new requirements in the changed environment could be evidence of changes in the essential variables in tandem with changes in the environment. Responses of the academic units or the organization as an entity were presumed to be within 'limits' on behaviour or performance empirically expressed as mission statements, and theorised as a cybernetic organization. The use of information and management information systems was interpreted using elements of the organizational learning framework (see Chapter 3).

External validity concerns the extent to which case study findings are replicable to other settings other than those directly studied. Generalization in qualitative studies is often linked to theory on the assumption of its applicability in similar contexts (Maxwell, 1992 p. 293). Obviously, the data used in case studies may not be representative of the population (Gray, 2004 p. 137). Nevertheless the remedy in this lies in trying to identify the connections between the sample and the population studied, and systemically selecting the cases for the study that have characteristics of the population (Gray, 2004 p. 137). This has been categorized as internal generalisability, which is often the focus for qualitative researchers. On the other hand, external generalizability entails generalizing to other institutions or communities (Maxwell, 1992 p. 293–294). Generalization in case studies may be addressed through having a dependent variable that varies within the cases and by concentrating on the independent variable to explain the changes (Gray, 2004 p. 138). In this case study, data on the university and its different academic units were examined. Variations in what different discipline-based subunits considered essential for their survival was an antecedent to internal generalizability. Of course, it is not certain that interviews necessarily provided certainty in internal generalizability because the limited time spent with the informant by the interviewer is insufficient to assume that it actually shows the informant's perspectives (Maxwell, 1992 p. 294).

Clearly it is difficult to authenticate with precision data analyzed in qualitative research, rendering some of the findings questionable (Miles & Huberman 1984 p. 234–235). However, validity of interpretations in this study was enhanced by *triangulation*, which is "the combination of methodologies in the study of the same phenomena" (Patton, 1990 p. 187). Patton has categorized triangulation as: a) *data triangulation* – this involves the use of multiple data sources in the same study b) *theory triangulation* – this is the use of multiple perspectives to interpret the data set c) *methodological triangulation* – this entails the use of multiple methods to gather evidence and d) *investigator triangulation* – where different researchers are involved in data analysis and interpretation of findings (Patton, 1990 p. 187, p. 464). This case study was grounded on multiple methods and data sources. Interviews

were conducted with the dean in each academic unit that was selected and key informants in the central administration. Documents such as strategies and reports were reviewed and analyzed (see Section 4.6). Theoretical triangulation was used as evident in the constructed learning organization concept comprising the open system theory, cybernetics, and organizational learning. In fact, constructs of the concept were applied in data analysis and interpretation. Therefore, theoretical triangulation was adopted although it was not done by multiple investigators as discussed by Stake (2005 p. 113–114). Investigator triangulation was definitely not used in this particular study.

Reliability can be measured by the extent to which the findings and conclusions in a given case study can be obtained in similar contexts and under similar conditions. For a study to be reliable, the instruments used should be able to elicit intended responses consistently, hence reducing the margin of error and bias (Gray, 2004 p. 219; Yin, 1989 p. 45). In conducting case studies, consistency in these procedures is supported by case study protocols, which contain, among other things, case study questions, templates for data collection and informants from whom information will be gathered to answer the questions. Before data collection, a set of interview questions was drafted, based on the preliminary conceptualization of a responsive university. In addition, the researcher documented all the activities during the research process and notes were taken as data collection took place. Each script of the transcribed interview for each category was compared within the group of academic units and between groups of academic units to ascertain the common themes on each of the questions included in the interview guide. This was similarly done for the informants from the central administration aligned to the views expressed in the documents.

5

Organizational responsiveness of Makerere University

This chapter presents the first part of this study's empirical perspectives. The chapter explores the responsiveness of Makerere University as an entity, based on data from documents and semi-structured interviews conducted with key informants in the central administration. It is aligned with the perceptions elucidated in Chapter 6 as well as the connections to the frameworks discussed in Chapters 2 and 3. First, there is a review of the significant changes in Uganda's higher education environment. Second, the requirements that these changes have necessitated for the university are articulated by analysing the second strategic plan of Makerere University. This gives some insight into the changing conditions in academic and financial management that Makerere University, as a whole, has considered worthwhile to ensure its survival. Third, the responses that the organization has made with regard to academic and financial management are explained. Fourth, the use of information and management information systems is described to illustrate its prevailing regulative role. The quotations used in this chapter represent some of the opinions from the perspective of the central administration[26] labelled as CA1, CA2, and CA3.

5.1   Salient changes in the higher education environment

Changes in Ugandan higher education are a factor of "their sociopolitical and economic context and policy framework from which they emerge" (Musisi, 2003 p. 612). Uganda started its revitalization process in 1986 after two decades of political and economic crisis (Brett, 1994). This process involved macro economic reforms like the privatization of state enterprises, decentralization of political governance and administrative duties, and economization of public servant expenditure. Financial

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26 At the time of this study, the top management under the leadership of the vice chancellor and deputy vice chancellors was the first senior management group at Makerere University not appointed by the President of Uganda.

and administrative accountability was transferred to local district administrative units and the ministry's role became supervisory, with the intention of promoting public sector effectiveness. Higher education was no exception.

5.1.1 Changes in legislation

Until the beginning of the 2000s, higher education institutions were under strict state control. The most noticeable changes in university legislation occurred between 1930 and 1975, typified by excessive direct involvement of the government (Oloka-Onyango, 1992). It was the *Universities and Other Tertiary Institutions Act, 2001*[27] that granted institutional autonomy to the universities. Indeed, the law empowers the universities to determine their institutional leadership and to manage their academic and financial affairs. But even with this legislation, there was government interference as one of the key informants noted:

> In the years we have been here, we have been subjected to a lot of interference from government. The University Council takes a decision, and then somebody from government stops the process. You are summoned to State House… The interference affects the running of the university. I can give the example of the previous chancellor. From time to time he would be ringing the vice chancellor trying to tell him to do this or that and some of the things were even operational (CA1).

Yet at the same time, two government-instigated accountability mechanisms are evident. First, the 2001 legislation provided for the establishment of the National Council for Higher Education (NCHE), a government quality assurance and accreditation agency (Republic of Uganda, 2001). This was premised on the view that it had been increasingly difficult to run an efficient and effective higher education system (Education Policy Review Commission, 1989 p. 73–74). The NCHE is a regulatory body that monitors and evaluates universities. The NCHE assures the quality of the academic degree programmes and the courses at different universities in Uganda by accrediting those that meet the acceptable minimum standards (Republic of Uganda, 2001 p. 11–12).

The NCHE publishes details of all the accredited academic programmes offered by all the recognized or authorised universities in Uganda. In the same way, new academic programmes and courses that have been proposed by the academic units and scrutinized by respective university organs are supposed to be recommended to the NCHE for accreditation before students are admitted. However, in its infancy, such a practice has met with non-compliance from some public universities. Such

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27 The 2001 Act became operational in 2003.

tendencies, it has been argued, occurred because the NCHE had 'sticks' but was without any 'carrots' that is, its responsibilities were not linked to the allocation of funds to public universities (National Council for Higher Education, 2006a p. 47). Second, the Department of Higher Education within the Ministry of Education and Sports (MoES) has been mandated to monitor and supervise the running of public universities and provide policy frameworks within which university governance functions (Liang, 2004 p. 6; Musisi, 2003 p. 619). Moreover, the MoES makes decisions concerning funding for the public universities while the Ministry of Finance, Planning and Economic Development (MoFPED) allocates the funds. Financial accountability requires that the university council submits annual statement of accounts to the Auditor General for auditing by government and a report is presented to the NCHE and the Minister of Education and Sports for presentation to the Ministerial Council (Cabinet) and Parliament (Republic of Uganda, 2001 p. 50).

5.1.2   Decline in funding for higher education

In congruence with the global patterns of declining or inadequate funding from governments for the higher education sector, similar or even severer trends have been noted in Uganda. Indeed, the MoES and MoFPED determine the (arguably deficient) budgetary allocations to higher education with little, if any consideration for what the universities actually propose and submit as their budgets (Liang, 2004 p. 74–75; Musisi, 2003 p. 619). Government funding has been split into two categories: recurrent and development budget allocations. The recurrent budget is financed through a block grant or 'subvention' from the MoES, based on the number of students on a government scholarship and estimations of 'unit cost' per student. Disbursements are then made to the university to finance its budget. The subvention from government is mainly used to pay staff salaries, provide university amenities and to ensure the welfare of the students (Liang, 2004 p. 68). The key informants in this study corroborated this in addition to providing views on certain emerging patterns and their effects.

> Previously we used to have general subvention from the government, but they are now insisting that we operate a line budget. So the funds which are given are supposed to be earmarked for specific activities. Essentially, we end up using it on [staff] salaries. (CA1).

> In many cases, the money is not enough to meet the university's obligations. So the university spends most of this money on maintenance of students, and very little money is voted for such activities like research and if you are not going to support research in higher education institutions, overall the quality of teaching will go

down, the quality of output will go down and also the quality of outreach will go down (CA3).

An exploration of the trends in funding in the late 1980s shows that the government was the main actor in higher education provision. Faced with increasing demand, it could not contain the expanding financial costs (Eisemon & Salmi, 1993 p. 160; Eisemon, 1994 p. 97). However, since the government was still the main source of funds for higher education, it meant that Makerere University was even more responsible to the MoFPED for its budgetary transactions (Eisemon, 1994 p. 95). Incidentally, all the revenues that accrued to the university from other sources were remitted to the single account that the university had in the central bank (Eisemon 1994, p. 99–100; Eisemon & Salmi 1993, p. 164–165). It has to be noted that in 1988, the government ceded some of its power over financial decisions by granting limited autonomy to the university (Passi, 1994 p. 19).

However, it was not until after the coming into force of the 1992 White Paper on Education that financial autonomy became more evident especially with the liberalization of higher education in Uganda. The financial autonomy led to the enrolment of fee-paying students and actually boosted the income of Makerere University and at some point fees accounted for 30 per cent of its total income (Liang, 2004 p. 68; National Council for Higher Education, 2006a p. 35). However, the university had not fully exercised its financial autonomy from the point of charging realistic tuition fees partly because stakeholders like the government had found prioritization regarding spending revenue from the tuition fees questionable. But still, the existing fees structure had been overtaken by external changes related to the national economy.

> I think in the past year or so or since we came into office, when we tried to raise fees based on the unit cost, the, let us say, opposition to that attempt to raise funds was that we have sufficient funds but we are not using them well. Of course, some people now give the example of [name of an academic unit] where sometimes money is used for non-academic activities like buying buses and so on and so forth (CA1).

> Government needs to give to the university the latitude it requires to raise fees in addition to what the government gives. For example, the University Council wanted to increase fees but the government said 'no', and yet the government cannot adequately fund the university. The fees that the students are paying now were experimental. Makerere was experimenting with private sponsorship and so the fees were not realistic. I think people thought that this was a public university and said let us keep the fees low but we have realized that the fees can't work and they are too low (CA2).

Yet, it ought to be stated that the benefits that could accrue from revenue from private sponsorship have been affected by unsystematic, delayed and in most cases partial remittances from the government (Liang, 2004 p. 6; Mamdani, 2007 p. 9; Musisi, 2003 p. 619; National Council for Higher Education, 2006a p. 46; Visitation Committee to Public Universities, 2007 p. 5). In essence, even what the university collects as internally generated funds has been channelled to address government fiscal obligations.

> Government subvention is about 38 billion [Uganda] shillings a year but which is only about 25 per cent of what we require, then we have internally generated funds which comes to about 40 billion [Uganda shillings] depending on the enrolment because there are people we admit who eventually do not come. Although they give us 38 billion [Uganda] shillings, we end up having to top-up with the internally generated funds (CA1).

It is quite surprising that while the 2001 Act has been considered internationally comparable (Saint, 2010 p. 20), it remains implicit on the allocation of funds by government to public universities. This illuminates the systemic inadequacies that can curtail the transformation of higher education institutions into strong actors in the national innovation system since the fiscal resources are uncertain.

5.1.3 Liberalization of higher education

Uganda had only one public university until 1988 when the first private university was established. Ocitti (1991) has noted that private institutions had initially concentrated on theological or business studies, and that their funding agencies or organizations in most cases influenced their activities. This partly explains why some private institutions have had comprehensive missions to cater for the various stakeholders while others were commercially conceived (Lejeune, 1999 p. 20). By 2008, there were 27 universities in Uganda (National Council for Higher Education, 2010), of which over 80 per cent were private. As illustrated in Table 4, the expansion of private universities has been considerable. It is clear that it took more than a decade after 1989 to establish two other public universities while in the same period, nine private universities had been established.

Table 4. Expansion of public and private universities in Uganda since 1922

	1922	1988	1989	1992	1993	1994	1997	1999	2000	2001	2002	2004	2005	2006	2007	2008
G	1	1	2	2	2	2	2	2	2	2	4	4	4	4	5	5
P	0	1	1	2	3	4	5	7	8	10	10	11	16	17	20	22

G – Public P – Private

Source: Compiled by the author basing on National Council for Higher Education (2010)

Despite the high number of private universities as illustrated in Table 4, the public universities had the majority of the enrolments (National Council for Higher Education, 2006b p. 12). It is an indication that perhaps the private institutions are not as competitive as the public ones in the African context because they are a recent development and have yet to build a reputation that can transcend national boundaries. "And most of these other universities cannot run graduate programmes so they all look to Makerere to help them to produce the [university] teachers they need" (CA2). At the same time, public universities in the new liberalized context have had their curricula subjected to the currents of the market discourse through revision of academic programmes and courses as well as anchoring the courses in national development trends (Amonoo-Neizer, 1998 p. 306; Bloom, Canning, & Chan, 2005; Ministry of Education and Sports, 2003 p. 1–4). In addition, the delivery options have been diversified to include day, evening and weekend sessions, and the introduction of the semester system (Katunguka, 2005 p. 15; Musisi & Muwanga, 2003 p. 25; Musisi, 2003 p. 617).

Enrolments have increased due to liberalization. As shown in Figure 6 (for actual figures, see Appendix 5), there was an annual increase in enrolments of 12 per cent in the period 1994–1999 and it has been projected that there will be a rise in enrolments of 92 per cent in the period 2008–2015 (Kasozi, 2002 p. 127–128). The increase in enrolments was more significant from the mid-1990s to 1999, perhaps due to the inception of private sponsorship at Makerere University in 1992.
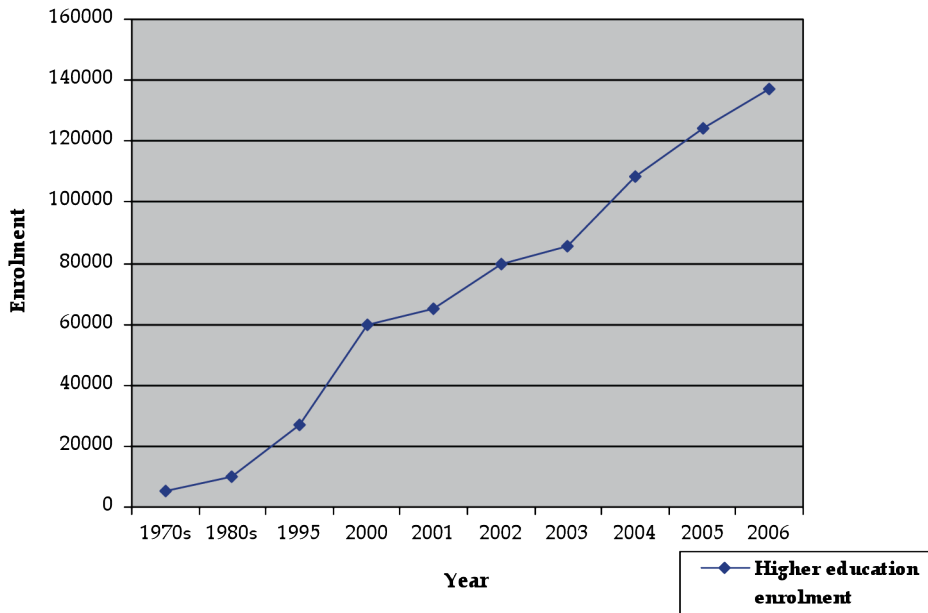
Figure 6. Uganda's higher education enrolment from the 1970s to 2006
Source: National Council for Higher Education (2007 p. 13)

5.2   Requirements necessitated by the changes

Coinciding with public sector reforms in higher education especially in the early 1990s when institutional autonomy was being adopted, universities had to start defining what was essential for their survival in their changing contexts. It should be recognized that strategic planning in higher education at both system and institutional levels has been elusive especially since the late 1970s. According to Eisemon and Salmi (1993 p. 160) there was a University Grants Committee (UGC)[28] that provided expertise in drafting strategic plans every three years for the University of East Africa (UEA). Even after the dissolution of the UEA, the UGC scrutinized all budgetary projections and proposals made by Makerere University before a decision for funding could be made by the government. In 1973, a UGC was constituted by the Minister of Education and the university was represented by three deans. Despite the important services it provided, this UGC had no legal framework backing its establishment and was consequently disbanded after drawing up the last three year plan for Makerere University for 1976/77 to 1980/81 (Eisemon, 1994 p. 93).

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28 This can be compared to the University Grants Committee (UGC) in the United Kingdom that was a "buffer" body established in 1919. It was responsible for channelling public financial support to the growing number of universities. This UGC ensured that universities were autonomous and collegially determined the internal financial allocation because institutional management was not very strong at that time (Dearlove, 1998 p. 63–68)

As an institution, Makerere University embarked on its first strategic plan in the period 1992–1995. However the process involved very few consultations with the stakeholders and in fact, the strategy was not adopted because it was considered unrealistic (Makerere University, 2000a p. 1). It was in the academic year 1996/1997 that the University Council adopted a three year strategic plan drafted by the Planning and Development Department (Musisi & Muwanga, 2003 p. 18). In designing the second strategy (2000/01–2006/7), the process involved several stakeholders as outlined below. Different units developed their strategic plans informed by the general guidelines from the Planning and Development Department and these plans were consolidated into the strategic direction of the university. Such a process had the advantage of ownership by the units and its implementation could have been effective since there was maximum participation in its development. A detailed discussion on the second strategy to be implemented in the history of Makerere University follows[29].

The 2000/01–2006/07 strategic plan

This strategy was initially for the period 2000/01–2004/05 but was amended to 2000/01–2006/07. Unlike the first strategy, the development of this strategy was participatory involving several stakeholders including the deans, directors, students, and other stakeholders. It started with the formulation of a Makerere Strategic Framework within which all the other planning units had to anchor their strategies (Makerere University, 2000a p. 1).

5.2.1   Academic management

Relevance of the graduates and competition from newer universities

The broader thrust of this strategy was to contribute to the realization of the needs of society that would accelerate sustainable development, especially through provision of quality graduates in a diversified environment (Makerere University, 2000a p. 1). Overall, the strategy stated that: "Makerere University needs to develop its capacity and performance in order to meet changing demands and increasing challenges and competition" (Makerere University, 2000a p. 4). Clearly, the external context was typified by rising demand for university education and liberalization, limited institutional autonomy, and likely competition from newer universities (Makerere University, 2000a p. 6–7).

Indeed, it was observed that one of the requirements for the university was to revise its curriculum to meet the changing demands of the employers and competition from the newer universities simultaneously in certain specialties.

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29 The third generation strategic plan 2008/2009–2018/2019 (Makerere University, 2008a) was at its initiation stage during data collection and therefore not discussed here because it was outside the time scope of this case study.

I think we have tended to stick to what was bequeathed to us by the former colonial rulers. Interestingly, the colonial rulers have moved somewhat ahead in making their education relevant to the environment and we seem to be slow in that respect. And a critical factor is to identify those aspects in the curriculum which will advance the society (CA1).

From the employment sector, what we have noted as a university is that most employers now want university products that have the relevant skills. You know in the past the university was only supposed to give knowledge, ability to think and the products were supposed to go out and gain these skills in the field. But today, virtually in all aspects, the employers want a university graduate who is ready to start work immediately (CA2).

This meant that the university was required to redefine its interpretation of the environment complementing the documented strategic choices. A summary of the strategic goals concerning academic and financial management is outlined in Table 5 below.

Table 5. Summary of 2000/01–2006/07 strategic plan of Makerere University

University Mission	To provide quality teaching, carry out research and offer professional services to meet the changing needs of society by utilizing worldwide and internally generated human resources, information, and technology to enhance the University's leading position in Uganda and beyond
Academic management	– Decentralization of administrative responsibilities such as academic and staffing functions – Carry out periodic curricular reviews in order to produce graduates who are relevant – Incorporate internship in all academic programmes – Involve external professionals or practitioners in curriculum reviews, teaching and management – Strengthen research coordination and evaluation – Increase on the utilisation of research results by improving on the dissemination of research – Contributing to public policy through local functional research centres and creating networks – Improvement of the research skills of the academic staff
Financial management	– Devolution of financial decision making to the academic units – Allocation of financial resources based on academic unit plans – Performance-based and priority-based allocation of funds – Change the university budget system to reflect unit costs – Development of proposals for funding from development partners or donors – Policy development on income generation by the subunits

The strategic goals in Table 5 illuminate what the university considered essential for its survival in its changing context. According to the learning organization, behaviour or performance within these parameters was acceptable in order to

maintain equilibrium with the external environment. In addition to those strategic goals, the key informants in the central administration gave more insights.

New demand for human resources
As student enrolments increased (see for example Figure 5) and new academic units emerged, human resource demands were noticeable.

> Many people want to come to the university. The expansion of students' numbers and courses offered has had a tremendous effect on the way we do things. Until the 1991/1992 academic year, we only had about 7000 students in the whole university but since that time the number has kept on increasing [and] now we have 35,000 students. And if you include our affiliated institutions, the number goes to about 40,000. So I think we are overstretched, we really have to work long hours to make sure we satisfy our clients (CA2)

> We need more academic staff. We have some rules about staff -student ratio. For instance the medical fields are supposed to have a ratio of 1:5, in the social sciences it is 1:15 while in law it is 1:10. So if you were to adhere strictly to that ratio, you [would] need additional academic staff (CA1).

The situation has been compounded by the limited number of qualified academic staff to teach in the privately-owned universities after the liberalization of higher education. Because the goals of the university are vague, and individual and institutional interests are overriding, the core activities of the university can be affected by such external pressures. Goals like teaching can be pursued at the expense of other goals like research and outreach although they complement each other.

> There has been proliferation of new universities. We now have over 25 universities. We have five public universities and the rest are private. But they also lack staffing and as a result, you find that most of the people teaching in those universities are from Makerere University. We sort of have to share academic staff (CA1).

> You may wish to know that actually Makerere University is the one that trains people in Rwanda. [Academic] members of staff fly to Rwanda to lecture over the weekend and then come back. So there is a lot of teaching, and of course when there is a lot of teaching, research suffers [and] even teaching…is not informed by research, it is not informed by wide-scale reading… So that comes down to quality and it has a big impact if we cannot really impart quality on these graduates (CA3).

In essence, shifts in the 'limits' on performance or behaviour demonstrate adaptations which are actually aimed at maintaining or restoring equilibrium

between the organization and its unstable environment. Obviously, some of these new requirements or parameters are difficult to address in the short run.

5.2.2 Financial management

Devolution of financial management functions was deemed crucial in order to improve efficiency and effectiveness. Although outsourcing for donor funding for research was explored, starting new academic programmes that would attract fee paying students was the easiest way of diversifying financial management. Yet, as diversified resources increased, there was need to rationalize the allocation of those resources basing on performance and approved plans of the academic units (Makerere University, 2000a p. 19).

In the next section, the implementation of the strategy is examined by elaborating the organizational responses and the subsequent outcomes (Makerere University, 2006a p. 2, p. 6–10; Makerere University School of Graduate Studies, 2007 p. 3; Visitation Committee to Public Universities, 2007 p. 10).

5.3 Responses to requirements the changes present

5.3.1 Academic management

Decentralization of decision making
After the 1992 White Paper, Makerere University transitioned from a purely public to a public-private university by admitting students on a private sponsorship scheme. The management capacities prior to the public-private mix were not adequate for the ensuring the responsiveness of the academic units and the university. On that basis, a strategy of decentralizing academic and financial management was adopted to accelerate adaptation (Clark, 2004 p. 105; Court, 2000; Epelu-Opio, 2002; Kasozi, 2002; Mamdani, 2007 p. 175; Mayanja, 2001)[30]. As a result, some departments evolved into institutes and institutes into faculties directly responsible to the central administration (Mamdani, 2007 p. 183-184). At the same time as new academic programmes were being introduced and existing ones revised, enrolments increased (Musisi & Muwanga, 2003 p. 33). New academic management structures of deputy deans were created and administrative roles were also diffused to the academic units (see also Bisaso, 2010 p. 348).

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30 Financial management is discussed in more detail in Section 5.3.2

University authorities particularly the Senate decided that unlike in the past when all activities to do with academic administration were done here at the centre, we embrace decentralization where faculties, schools and institutes help. In each faculty, school and institute, we have one faculty registrar and in larger units we have two. There are also committees at departmental level and at faculty level that handle academic matters before they come to us here (CA3).

Strengthening the academic deanship

The academic deanship has become more crucial in contexts where funding has declined, and accountability and demands for quality have increased. In fact, "[abandoned] by government, the university was increasingly at the mercy of its revenue-earning units, which were increasingly driven by the corporatised vision of deans and directors… backed by Faculty Boards" (Mamdani, 2007 p. 205). Yet contrasting evidence reveals that this has accelerated the extent of role conflict within the deanship, affecting the pursuit of the basic mission by some of the academic units, as elucidated by the Visitation Committee to Public Universities (2007 p. 2):

> …at Makerere, the traditional roles of the deans have dramatically changed. Some deans have assumed the roles of accounting officers and paymasters, especially for faculty-controlled [Internally Generated Funds] IGFs. They seem to have become too pre-occupied with approving payment vouchers, signing cheques and fulfilling other financial chores for the good of their faculties instead of concentrating on academic leadership, planning and research.

Additional dimensions of role conflict have been associated with the expectations of the central administration of the deanship. In attempting to serve the interests of the central administration, the deans remain mindful of their disciplines and thus, the ambiguity of the goals of the university organization epitomise this situation. At the same time, the deans belong to at least two coalitions at a time, namely the central administration and the academic units. As representatives of the subunits, they negotiate in the best interest of the discipline but they are also accountable to institutional leadership. Balancing the interplay between the two coalitions is a challenging task that is further constrained by the inadequacy of the available policy or legislative frameworks.

> I think the [Universities and Other Tertiary Institutions] Act needs to change. I don't strongly believe that elections are the best way to choose administrators in higher education institutions. Universities like [a university in East Africa] started it, it worked for 10 years but they saw it was not the right way to go and they abandoned it. In Makerere, we still have these elections where you have deans who are held to ransom especially if they want another term [of office]. They are not

able to enforce any regulation for fear of being voted out. I still believe much as elections may be good, you cannot democratize administration (CA3).

Yet again, the deans have been confronted with role ambiguity. Without clear guidelines on expenditure patterns, misallocation that affects the other core activities can result. Moreover, where financial management has lacked clear internal controls and where allocations to the academic units have not been based on particular budget items, the activities and functioning of the university as an entity have been curtailed (Mamdani, 2007 p. 182; Visitation Committee to Public Universities, 2007 p. 16).

Curriculum restructuring to address societal needs

Given the liberalized contexts driven by the public sector reforms and typified by diverse external constituents and the quest for relevance, curricular restructuring was aligned to societal demands. After decentralization of administrative functions to the local governments in line with the Structural Adjustment Program of deregulation, the shortage of skilled human resources conversant with the operations became more noticeable in Uganda. Yet owing to the previously supply-led nature of the Ugandan higher education system, it was clear that the academic provisions needed realignment to the changing human resource demands of the local governments (Eisemon & Salmi, 1993; Liang, 2004 p. 87; Musisi, 2004 p. 126). Demand was greatest in the disciplines of medicine, agriculture, computer science, engineering, community services, and physical planning among others.

The internship or the field attachment component was first piloted among undergraduate students belonging to these disciplines (Katunguka, 2005 p. 15; Musisi, 2004 p. 128). It was premised on the need to produce "practically oriented graduates [that] meet the required job-related competences of their future [employers]" (Makerere University, 2007 p. 3). Indeed, institutional guidelines for field attachment had been approved for all undergraduate degree programmes and were being enforced as an informant remarked: "we have come up with a field attachment policy and we are encouraging all deans and directors and all academicians to make sure that there is a component of field attachment in their academic programmes" (CA2). It worth noting that the deans played crucial roles in the implementation of this innovation as they comprised 50 per cent of the 14 member Innovations at Makerere Committee (I@ Mak.Com)[31]. The rest of the members were stakeholders from government ministries of finance, education, and local government as well as the Economic Policy and Research Centre. But the deans were largely responsible for decision making (Musisi & Muwanga, 2003 p. 21). Clearly, "the university's contribution to the nation in this sustained effort could be a major and lasting – and, again, a model for what could be done in other countries" (Clark, 2004 p. 107).

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31 It initiated and monitored the impacts of field attachment in the decentralised districts.

Strengthening research management

Concerning research management, considerable strategic emphasis has been placed on coordination and dissemination of results (Makerere University, 2000a p. 14–15). However, a management structure for monitoring and evaluating on-going research still needs strengthening, and the dissemination in terms of publications has been depressingly low (Musisi, 2003 p. 620; Visitation Committee to Public Universities, 2007 p. 51–52). Moreover research vitality in the subunits had been inadequately addressed during organizational reform (Musisi & Muwanga, 2003 p. 57). Nevertheless, corrective action strategies to rectify some of these anomalies had been initiated. For instance, the Makerere University School of Graduate Studies (SGS) established in 1994 is an organizational unit that has been instrumental in coordinating the master's and doctoral research done in all the academic units within the university.

In addition, the SGS coordinates research funds in the form of "external assistance" from development partners. These financial resources have been used "mainly for research and sometimes staff development" (CA1). As earlier pointed out, this could be a response to a need for qualified academic staff to meet the standard staff ratios in view of the competition for academic staff with the private universities. Similarly, improving the research mission was one of the goals of the strategic plan especially after it had been overtaken by concentration on teaching. As a response, the university focused on capacity development of its academic staff using funds from its development partners.

> Carnegie supports us with funds for postgraduate training and as a result, some members of staff can be supported to do their PhDs. They also provide money for training courses [(i.e. capacity building)] in research proposal writing, research management, scholarly writing and these members of staff appreciate because they acquire skills to write proposals and compete for money (CA3).

In the same way, research funds accrue from the internally generated funds where each privately sponsored student makes a contribution of as little as approximately US$11 to the research fund. This is deducted from the students' annual tuition fees (Bakibinga, 2006; Makerere University, 2006b p. 25). This initiative is an innovative way of reducing resource dependency on development partners as the university tries to find complementary ways of raising funds that can sustain capacity development initiatives of its staff members.

> Of course when I mentioned the sharing ratios I did not mention the other allocations made specifically to the library which is two per cent [of the tuition fees paid by each student] and the school of graduate studies which receives three per cent [of the tuition fees paid by each student]. For whatever funds have been received in terms of tuition, these percentages are worked out automatically (CA1).

> The university sets aside about 800million [Uganda] shillings from its money – internally generated funds for staff development. This has helped academic staff still at masters [level] to upgrade to PhD (CA2).

As part of its work, the SGS vets research proposals from the academic staff and keeps records on the progress of accepted projects with funding through the school (Bakibinga, 2006 p. 2)[32]. In addition, the coordination of research was enhanced through creation of a position of deputy director in charge of research in the school of graduate studies (Makerere University School of Graduate Studies, 2007 p. 9). More still, the recent focus on dissemination of research results through commercializing innovations has been boosted by the research and innovations policy, and the intellectual property management policy (Makerere University, 2008b; Makerere University, 2008c).

Emergence of interface structures

Interface structures have been established starting in 1992 with Technology Consults Limited (TECO) at the Faculty of Technology as the first university-industry interface at Makerere University. Its main aim is to create synergies among the different engineering fields within the faculty so as to interface synergistically with the environment. This has been guided by a board of directors that includes department heads and the faculty dean as the chairman (Musisi & Muwanga, 2003 p. 27; Tibarimbasa & Lugujjo, 2000 p. 244–246). Structures with similar or related functions are operational at some of the other units such as the College of Health Sciences, Faculty of Computing and Information Technology and the Faculty of Agriculture (Baryamureeba, 2006 p. 11; Ekwamu, 2006 p. 9–10; Luboobi, 2004 p. 14; Luboobi, 2005 p. 21; Luboobi, 2007 p. 11; Muhumuza, Daly, Farley, & Crawford, 2005 p. 56–57; Ssebuwufu, 2003 p. 17–18). As one of the strategic goals, through the Makerere University Private Sector Forum (MUPSF), more integrated institutional engagement with the environment is evident at least at the level of memoranda of understanding between the university and various organizations in Uganda (Bakibinga, 2006 p. 10–11; Bakibinga, 2008 p. 11; Kiganda, 2009 p. 11). In addition, the university created honorary professorial and senior research fellow positions affiliated to different academic units in order to foster linkages with the public and private sectors (Visitation Committee to Public Universities, 2007 p. 67).

Corrective measures to restore academic quality

Academic quality had steadily declined as increases in enrolments in the soft-applied disciplines outstripped the capacity of the university (Carrol, 2007 p. 86–88; Court, 2000 p. 12; Musisi, 2003 p. 619; National Council for Higher Education,

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32 The SGS is supported by two University Senate Committees: the Board of Graduate Studies and Board of Research and Publications (Bakibinga, 2006 p. 9).

2006a p. 1–2)[33]. Consequently, as one of the measures to restore quality, institutional management sought to reduce undergraduate enrolments in the soft-applied fields illustrated in Figure 7. It has to be understood that the figures used to illustrate the patterns are a summation of the enrolments for all the academic units in the discipline-based clusters. Therefore, some of the subunits in a given cluster may have more enrolments than others but even then, these trends in enrolments shed light on the general reduction in enrolments in the soft-applied fields and an increase in the hard-applied technological disciplines especially for the undergraduates (details in figures for the period 2004–2008 in Appendix 3).
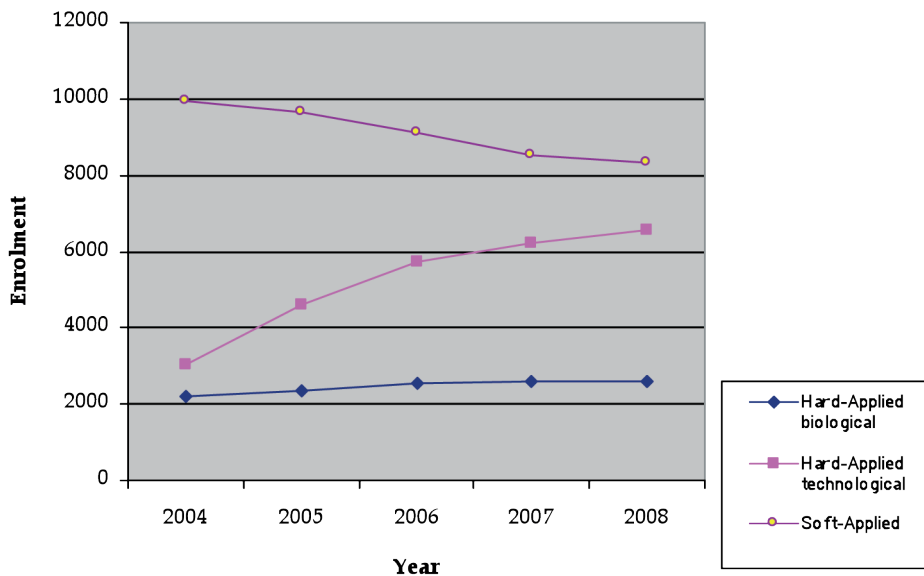
Figure 7. Undergraduate enrolments in academic disciplines in the period 2004–2008
Source: Computed using data from the Planning and Development Department, Makerere University

Contrary to the undergraduate enrolment patterns, postgraduate enrolments in all disciplines had several oscillations as shown in Figure 8 (details in figures in Appendix 4). It is evident that the soft-applied disciplines registered a decline perhaps as a measure for providing adequate supervision to the graduate students and allowing academic staff time for all missions of the university. The hard-applied disciplines had an increase in enrolments but their enrolments stabilized from 2007.

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33 The science academic units were limited by the capacity of the infrastructure e.g. the laboratories (Musisi, 2003 p. 620–621), except for the technological or physical disciplines as shown in Figure 7.
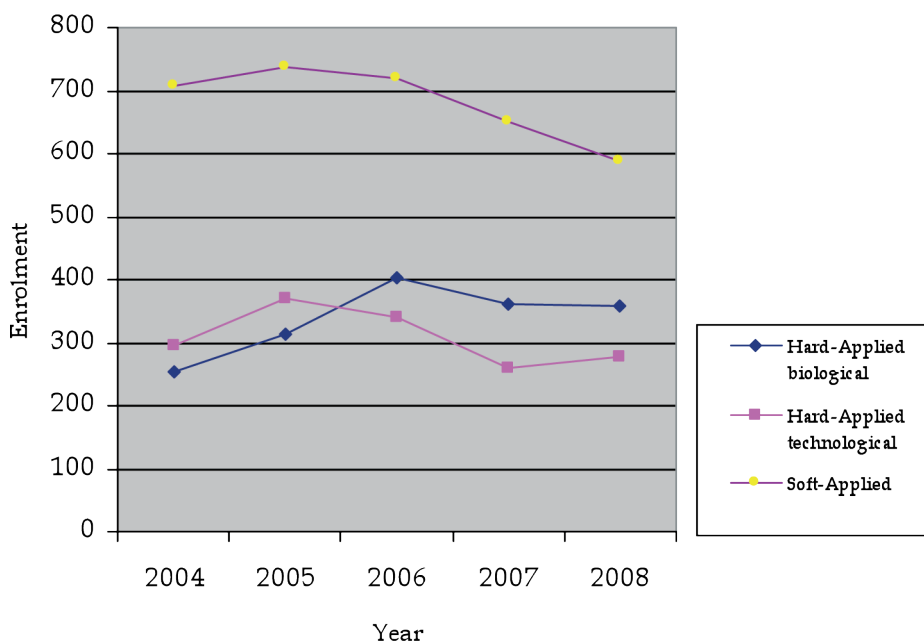
Figure 8. Postgraduate enrolments in academic disciplines in the period 2004–2008
Source: Computed using data from the Planning and Development Department, Makerere University

Organization-level quality assurance mechanisms can be traced back to 1997 with the establishment of the Academic Quality Assurance Committee that was upgraded into a standing committee of University Senate (Musisi & Muwanga, 2003 p. 26). Nevertheless, for a long time quality was mainly monitored through external examiners and without much variation in the quality standards across the academic units.

> We have a system of external examiners, which is a very extensive endeavour. Every end of the academic year, we fly in external examiners to sample at least the quality of our syllabus, the quality of our exams, and the quality of our marking for all the programmes. We normally tell the heads of departments to look around [for experts] and propose to us who should come and external examine their students (CA2).

Recent organizational responses have entailed the setting up of a University Quality Assurance Committee (UQAC) as a subcommittee of the University Council whose function is to promote a quality culture within the university. Moreover, the UQAC approves the courses or programmes that have been recommended by the University Senate. The approval occurs after an onsite inspection of the facilities at the academic unit that proposes the programme or course to ensure that the quality of the academic

provisions meets the requirements for accreditation set by the National Council for Higher Education.

> Now we have the National Council for Higher Education [(NCHE)]. Before we run a programme they have to accredit it. In our case, they first demanded that we give them details on all the existing programmes. We sent them and they have accredited them. Since then, for any new programme approved by our university council, we have to send it to them [(i.e. the NCHE)], then they will look at it and grant permission to run it (CA2).

> The quality assurance committee that the university put in place is a good committee; it should look at the quality issues of the programmes in the units. At one time, every unit wanted a programme; people in science were called 'lazy' and so they came up with programmes which may not be very good for them. In the arts, there was scramble for developing new programmes and a number of programmes are overlapping. There is need to produce an academic audit together with the quality assurance committee. We should look at the type of programmes we offer and develop new programmes that are going to push this country forward (CA3).

This is a corrective action to assure that the graduates can meet the needs of the stakeholders and society (Bisaso, 2010 p. 349). Meanwhile, at the academic unit level, there are Faculty Quality Assurance Committees (FQAC) in charge of all quality matters at the faculty level whose efforts are "supplemented by the heads of departments through their administrative responsibility of managing and monitoring the quality of academic programmes within their departments" (Bisaso, 2010 p. 349). New approaches to quality assurance show some changes in the organizational practices and once these changes are entrenched, double-loop learning is presumed to have taken place. This is because the previously held 'mental models' have been challenged by external environmental pressures and in the process the norms are likely to be steadily altered.

5.3.2 Financial management

Devolution of financial decision making
Financial management responses of the university entailed devolution of financial decisions regarding the internally generated funds from the university council to the academic units hence several decentralized budgets (Mamdani, 2007 p. 175). Each academic unit received disbursement as a percentage of the tuition fees paid by students on private sponsorship who were duly registered or affiliated with that unit.

Essentially we had a bit of decentralization of financial management. That means each of those income generating units has a budget and it has its accountant. Each unit is expected to account for all the funds which are received. The funds are centrally collected but disbursed using a formula [of percentages] (CA1).

However, this is not as systematic as could be assumed owing to the unstable environments in which the university operates. It has to be noted that whereas computations for financial transfers are made every month, it is not always the case that the academic units receive what accrues to them.

While we calculate these figures for a particular month, the money to be disbursed to the units may sometimes not go. For some months, money coming from government is so little that we have to use internal funds to pay staff salaries. In other words, the figures may be reflected but the money is not disbursed to the units (CA1).

But even with these anomalies associated with the disbursements, at the subunit level, significant decisions on budgets and financial allocation were made at the discretion of the faculty planning and finance committee chaired by the dean and comprising deputy deans, heads of departments, and the subunit accountant. The accountant is a technical person recommended or assigned to the academic unit from the university's finance department "to provide professional expertise to the faculty deans as they make financial decisions" (Bisaso, 2010 p. 348). Meanwhile, it is important to note that the university has three sources of funding: from the government, development partners, and the internally generated funds mainly from tuition fees. Additional emphasis in this case will be on the internally generated funds because distribution of these funds between the central administration and the academic units has been clearly defined. Table 6 illustrates the distribution ratios. The rationale for this dimension was to accelerate the transformation from a purely public university to one in which public and private practices sit side by side (Mayanja, 2001 p. 11).

Table 6. Distribution of tuition fees at Makerere University, 2006[34]

	Day programmes (%)	Evening programmes (%)	Graduate programmes (%)
Central administration	49	41	25
Income-generating units i.e. faculties	51	59	75

Source: Visitation Committee to Public Universities (2007 p. 54)

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34 The ratios might have been revised but the essence is the logic or principle not absolute figures.

Reconsidering allocation and reallocation decisions

As a procedural safeguard, the central administration has been approving all expenditure by the academic units. Even then, this procedure was limited in its capacity to check expenditure on non-core academic activities and items. Moreover, the pattern perpetuated a dichotomized institution according to revenue accruing to the academic units from fee-paying students as illustrated in Appendix 2 (Carrol, 2007; Mamdani, 2007). On realizing that organizational anarchy was creeping in, it has to be recognized that the university had embarked on several measures to restore equilibrium in the institution especially with respect to academic and financial management. Apparently, the central administration that had ceded its authority to the academic units had unsuccessfully opted to use a top-down approach to reverse this process (Makerere University, 2000b p. 27–28). Moreover, newer parameters or 'limits' on behaviour and performance to restore equilibrium have continued to emerge as one informant noted:

> An ad hoc committee was set up by the Finance, Planning and Development Committee of the University Council to examine ways of changing the formula. It was to emphasize expenditure on the core activities of the university. There are suggestions for outsourcing some of the [non-core] activities but it means to restructure and lay off non-core staff. It is one way of ensuring that may be the money spent on non-core activities is now directed to academic activities like paying academic staff and so on, which will enable us to retain them here. Actually our salaries are some of the lowest in the region (CA1).

Yet, even with such plausible measures, "…there [was] no uniform or consistent management of [Internally Generated Funds] IGFs from faculty to faculty and the central administration [did] not even know exactly how much income is generated by the units, or how it is spent!"(Visitation Committee to Public Universities, 2007 p. 54). Thus, the Visitation Committee to Public Universities recommended that any disbursement to the subunits ought to be based on academic activities rather than sharing as a matter of principle. In the same vein, interviewees in the central administration gave valuable insights into the effects of the sharing ratios on academic management.

> So really what one would have wanted if we had not gone down this road of apportioning percentages would be for all the money to come to the university and then the university sits down and pays members of staff. This would be according to how much work they are doing and in relation to the research they are doing so that it is more equitable and you don't have these differences between faculties. But now, it is a disincentive – some people feel they don't belong to Makerere especially people in the sciences and it seems nothing is being done to address that problem (CA3).

Mainly because of the limited facilities, the science faculties do not admit as many people as other faculties so they get less money and yet you may find that they do a lot of work. If you were to go to the Faculty of Agriculture, Faculty of Veterinary Medicine and the Faculty of Medicine [(College of Health Sciences)], there is a lot of research and other activities going on (CA1).

Certainly, this shows the entrenched coalitions within the university as a political system based on the resources that are generated by the disciplines. In fact, the rationale for sharing revenue was that "those faculties which are said to be generating a lot of money, generating in the sense that they have high student enrolment and therefore more fees paid, should be motivated" (CA1). Obviously, changes in the status quo may not necessarily address this problem but instead trigger new coalitions since the central administration may be interpreted as increasingly being skewed to the science disciplines.

Now there are so many government [sponsored] students who are admitted in the sciences and very few students who are admitted in the humanities or arts. So you have people for example in the arts whose workload is low regarding government students but they have a high workload regarding private students. So they are able to generate a lot of money to improve their welfare which is not the case in the sciences. This creates some imbalance in people's revenues in the humanities and in the sciences (CA3).

One dimension that has been surprising is that the humanities subsidize the hard sciences. This is the reverse of the situation in universities in Europe and the United States (Clark, 2004 p. 104). Interestingly, the central administration seems to have sidestepped the revenue that accrues from research when analysing revenue redistribution. Obviously, the academic units that concentrated on doing a lot of research as already noted constituted another coalition. It is therefore highly likely that those subunits benefit from research funding provided by development partners.

Our development partners like Sida/SAREC [(Swedish Development Agency)] support research in a number of faculties and that money is available for members of staff to write projects and do research and publish and grow academically and that is very good. And then also through other development partners like Carnegie we write projects and this money also goes to independent research. We want to encourage competitive research and members must write proposals and compete for money and I think it is going in the right way (CA3).

The influence of this research-based interest group that has access to competitive research funds in the university can be easily overshadowed by the sharing ratios of the tuition fees. Of course, it can be argued that the influence of that interest group is

implicit or less evident because such research funds are directed to specific research areas or topics and are based on strict timeframes. But it has to be borne in mind that financial management processes of donor-funded projects are stricter and more reliable compared to funds from other sources like the internally generated funds.

> We get funds from development partners mainly for research and sometimes staff development. The funds from development partners are specifically earmarked so you cannot play around with them. I think the area where you can sort of try to adjust is internally generated funds (CA1).

This implies that any skewed reconsiderations of revenue sharing based on tuition fees would certainly elicit more unbalanced tensions that would fragment the university into perpetual disequilibrium. Certainly, changes have to be made in the allocation of internally generated funds following the recommendation in the Government White Paper on the Report of the Visitation Committee to Public Universities in Uganda 2007 (Ministry of Education and Sports, 2008 p. 24). But the advantages this may have for one interest group against the other needs to be carefully considered. Obviously, it can be argued that the ethos of sharing revenues would take some time to change owing to the premise upon which they were introduced at the advent of public sector reforms (Bisaso, 2010 p. 347).

5.4 The use of information and management information systems

5.4.1 Relevance of information and management information systems

Given the complexity emanating from devolution of the functions to the academic units, more sophisticated forms of allocation, control and monitoring are needed. Indeed, with an increase in enrolments triggered by liberalization, and the emergence of new academic fields, departments or even faculties, the necessity for integration has become more vital (Bisaso, 2010 p. 347–349). Unsurprisingly, there have been demands that accountability should go beyond the procedural formalities and paper documentation requirements and embrace the use of computerized management information systems (Visitation Committee to Public Universities, 2007 p. 15).

In the early stages of the decentralization, it was stated that "[c]entral to [the] restructuring exercise, to internal efficiency, to maintaining momentum and to sustainability itself [was] the development of a management information system that generates the information required by … [Makerere University] for its own governance, as well as data useful to donors, the government and other partners" (Court, 2000 p. 15). Nevertheless, there has been a "… lack of well processed data

on financial, academic, personnel and other matters … [which was] a sign of high levels of mismanagement" (Visitation Committee to Public Universities, 2007 p. 11). It ought to be acknowledged that organization-wide computerization is a recent development at Makerere University (Tusubira, 2005 p. 88–89). However, efficiency and effectiveness in the organization and management of the university has been a priority that has been strategically conceived in the use of information technology in the various functions (Makerere University, 2000a p. 16; Makerere University, 2008a p. 16). At the institutional level, the Directorate of Information and Communication Technology Support (DICTS) was established as the central coordinating unit (Musisi & Muwanga, 2003 p. 29). Other central units with institutional research roles include the planning and development department, the academic registrar's department, the finance department and the human resource department.

It is important to note that the use of an integrated information system has been rolled out after the decentralization of decision making hence delaying computer-based control and monitoring function (Bisaso, 2009 p. 91). Indeed, an integrated computerized information system incorporating several modules including the Academic Records Information System and the Finance Information System was formally commissioned (Luboobi, 2007 p. 5). This has played a crucial role in ensuring that academic and financial management are streamlined and incidences of financial liability are reduced. In addition, it was anticipated that authentic and accurate information would be provided to the deans to inform their decision making.

> It was never possible to find out how much a student had paid and what the balance was. It would take us to call a student and say, bring your receipts and when the student brought his/her receipts, we could add them up. We could then tell the student that you were supposed to pay this [amount], you have paid this [and] the balance is this, using receipts from the students. And the students used to forge right, left and centre. I am very sure that very many students studied without paying any tuition (CA1).

> When you talk to the deans they will tell you that they teach full classes, but when it comes to exams, there are no students and they ask where the students they teach are. So we don't know who our students are. That [information] system would allow us to follow through to know who our students are and then for the finances, it would create a certain level of transparency (CA3).

However, the organizational information system was a vendor product that needed to be adapted to the context and in the process caused additional delays. In fact, the computerization that had been initiated as an integrative mechanism required further alignment to the decentralized functions and more time for customization (Greenberg & Versluis, 2005 p. 20). Consequently, supplementary information systems were created in the central coordinating units (Bisaso, 2009 p. 89).

But we have faced challenges especially with the operation of ARIS [(Academic Records Information System)]. It is partly a managerial problem and partly the provider did not cater for certain peculiar requirements of the university for instance, graduate students. Managers of the school of graduate studies find it difficult to use ARIS for their purposes (CA1).

The school of graduate studies has been trying to develop a tool to be able to trace students – those who are still on the programme, those who have fallen out, and student results from the faculties but we are not yet able to bring it to completion (CA3).

So my colleague made his own system which links to the integrated system and transfers bio-data of a registered student and his/her photograph. He also made a separate 'results management system' which calculates the Cumulative Grade Point Average (CGPA) the way Makerere University does. This is a small system we are also giving to the faculties to help them process results faster (CA2).

With respect to the competence of the institutional researchers, it was evident that they are at the lowest tier of organizational intelligence with much emphasis on the mundane processes of automation and generating data using the Academic Records Information System (ARIS) and the Finance Information System (FINIS). In fact, the institutional researchers in the central coordinating units had provided training to the subunit institutional researchers in the basic knowledge and skills needed to perform the task concerning academic management (see also Magara, 1999; Nakabo-Ssewanyana, 1999; Zziwa, 2001).

To talk specifically about ARIS, there are personnel in the deans' offices. We ask the deans to identify competent people who can be trained in the use of ARIS and our technical people here go there and train them in what we expect them to do when it comes to capturing data on students and when it comes to entering marks. Once they are trained, they start this work but they are monitored by our staff here. The faculty registrars are the immediate supervisors of the secretaries who capture students' data and from time to time they link up with our offices here. The dean is the overall academic supervisor in the faculty (CA2).

Meanwhile, institutional researchers in financial management were deployed by the university finance department to subunits to perform basic operations and transactions.

What has happened is that FINIS enables the bursar to print out the status of revenue received and the distribution made and he sends this to the units. But of course units have accountants who are seconded by the finance department and

it is expected that these accountants should be able to access the [information] system to be able to see how much money has been paid by the student and what is due to the unit (CA1).

Yet institutional research has been affected by external conditions. For instance, because of the intermittent subventions from the government, academic units "would not fully get what the central administration owes [them] but rather the bursar may make adjustments depending on the prevailing fiscal circumstances or requirements" (Bisaso, 2009 p. 90). In the same way, payment of tuition fees is in most cases by instalments and this partly delays student registration which is a prerequisite for financial disbursement to the subunits. In essence, the activities of the academic units that thrive on the transfers computed from the information system are constrained. It is also important to recognise that finances from development partners have been highly segregated because each partner has specific requirements and their financial calendars may be inconsistent with the context of the university. Amidst these challenges, little or no research has clearly dealt with the integrative capacity of information to improve the responsive capacities of the university or its management (see Bisaso 2008; Bisaso, 2009 p. 84). In the following subsections, the use of information as a regulative element concerning control, feedback and hierarchy within the university as an entity is elaborated.

5.4.2 Control

Information use in regulating academic and financial management has focused on correcting the anomalies that were associated with the manual system. The controls in the academic records information were strengthened by its interface with the finance information system. It was increasingly evident that deviations from the set regulations on student registration after payment of tuition fees were detected and corrected. Such anomalies could be detected at the subunit level and corrected by the central coordinating unit for academic management as one informant remarked:

> Under normal circumstances, we expect that a student will register individually from wherever they are. We also expect that a lecturer would enter students' marks from their offices. Now, from our side, there is a mechanism for access levels. For capturing data on students, there are levels which can be opened for the secretary who captures data in the faculty when registering students. One time there was an abuse in [name of academic unit]. Our officer there was actually not doing things well and they blocked her [access into the system]. She was conniving with students who had not fully paid fees to be registered on the system. So we were able to detect it from here and we blocked her and we are going to discipline her (CA2).

Financial management entails controls based on the three sources of revenue: government, internally generated funds and development partners. Structural parameters for financial decisions especially expenditure were used.

> All payments go through the internal audit of the university. They must look at all payments. Nothing can be paid before it goes through the internal audit. In the university, there is a lot of segregation of duties and particularly at the centre. No one person can handle two activities on a payment (CA1).

In other words, information requirements at each level provide the governing variables or values within which any financial transaction is found acceptable. The university provides periodic financial information to the government on the revenue and expenditure of the university. "Every month the university must show how much money it has collected and what has come from government and the details are sent to the Treasury" (CA1). There are variations in the case of the development partners and these entail specific restrictions concerning the use of funds.

> Payments using funding of development partners have various conditions depending on the development partner. For example, one development partner like NORAD [(Norwegian Agency for Development Cooperation)] says [that] for anything beyond 20 million [Uganda shillings], the Embassy has to be notified by seeking a 'no objection'. These kinds of conditions are given differently by different development partners (CA1).

These organizational parameters illustrate the 'limits' on financial performance or behaviour that the university has to adapt to for its survival. It envisaged that the university interprets the limits as much as it internally enforces them across the subunits.

5.4.3 Feedback

Earlier responses to the reform process entailed both formal and informal information exchange between central administration and the academic units. According to the governance arrangements at the time, the university secretary had more powers before the enactment of the 2001 legislation. As a result, the university secretary initiated quarterly discussions on the state of the university by bringing together deans, heads of department, staff and student leaders. During such meetings, the central administration had the responsibility to present the state of university activities regarding finance and managerial steering whereas faculty deans presented their unit reports and deliberated on the vice chancellor's presentation.

Additionally, the university secretary used to make visits to the units to establish their progress on the strategic and operational objectives of the university. This supervisory arrangement reduced the gap between the central administration and academic units nurturing the organizational dimension within the university and the overarching role of the vice chancellor and university management was to facilitate change (Court, 2000 p. 11; Musisi & Muwanga, 2003 p. 29–32).

Another avenue through which the university obtains informational feedback from its external stakeholders has been the vice chancellor's monthly media briefings at which senior officers present any developments and activities at the university to the media for further dissemination (Luboobi, 2007 p. 4). Recently, this has been expanded to include academic deans and staff from academic and other subunits within the university.

In addition, information exchange between the university and the environment has improved owing to conferences involving external stakeholders. The strategic direction of the university has been evaluated, its future priority areas presented, and ongoing activities, inventions or innovations exhibited. Stakeholders have provided feedback concerning the strategic direction and activities (Makerere University, 2006a p. 18–19). This may influence what the university considers essential for its survival to the extent of redefining its governing values or variables.

5.4.4 Hierarchy

The introduction and use of management information systems reflects both a top-down and bottom-up dimension. Several academic units had earlier secured funding and installed unit-specific information systems (Musisi & Muwanga, 2003 p. 28). This is a sign of learning where unit after unit acquire unique information systems, which implies a shift in the mental models - from manual to computerised information systems. Conversely, the organizational information system has been dispersed hence downplaying the strict hierarchical structures. At the same time, the possibility of access to information such as results by students is consistent with a flat hierarchy of the learning organization.

> And one thing we have already achieved is that our students can now view their results from any part in the world. We have made a website where the students can access their results even if they can't get their transcripts, they can at least see their results (CA2).

However, it is crucial that an integrated information system is used as widely as possible for purposes of regulation (see Section 3.3.3). Moreover it was still clear that some of the faculties were hesitant to embrace the innovation that originated from the central administration. This form of resistance to institutional initiatives was

politically motivated by some of the subunits that had embarked on related initiatives and therefore had wanted to remain dominant in the university.

> So those faculties have accepted but as you know, not everybody accepts. Some faculties like [(name of an academic unit)] refused our system. They have their own which is giving them headache. We were giving them what the whole university has bought and they have refused (CA2).

The factors behind the dispersion of institutional research namely the "limited attention argument" and the "informational legitimacy argument" (see Section 2.4.2) may account for a subunit's resistance to adopting a university-wide information system. Of course, it can be deduced that this is a consequence of the power of that academic unit within the university.

5.5   Conclusion

This chapter has outlined the responsiveness of Makerere University as an entity. It focused on the broad organizational trends concerning the phenomena studied, namely the major pressures in the higher education environment, the requirements that the pressures have arisen, the patterns in the responses concerning academic and financial management, and the general use of information and management information systems. The pressures include changes in legislation, declining fiscal resources to higher education and liberalization of higher education. In order to understand the requirements that the pressures have presented, the emergence of strategic planning has been elaborated and the 2000/01–2006/07 strategic plan of Makerere University analysed.

It is clear from this analysis that the University is an open system that has been continuously adapting to the changing conditions by redefining the essential variables for its survival. The changes in the strategies illustrate the extent of responsiveness in this university. The strategic goals and mission highlight the defined 'limits' on performance or behaviour (governing values or variables) within which the subunits have anchored their action strategies.

The responses to the requirements concerning academic and financial management have been diverse and changing. There was devolution of decision making concerning academic and financial management in order to accelerate market-driven reform. In addition, there was diffusion of administrative roles to strengthen the responsive capacities of the academic units. The deanship was strengthened although it has been characterised by role ambiguity and role conflict especially regarding financial management roles. It is also evident that as enrolments increased in the soft-applied disciplines following the inception of private sponsorship and development of

demand-driven academic programmes, there was decline in quality. As a corrective measure concerning quality, there was reduction in enrolment. Along similar lines, new quality assurance structures were created within the organization. This sheds light on the continued capacity of the university to maintain equilibrium through positive and negative feedback as elaborated in Chapter 3.

Curriculum reform to meet societal needs as elucidated in the second strategic plan was extensive and the deans were critical of decision making by the organizational interface structure responsible for implementing the reform. Research management has been strengthened although it is can be argued that it is mainly passive since most of the funding is externally generated (see Taylor, 2006 p. 9). New research management structures and policies have been introduced to coordinate and regulate the outputs of the disciplinary units that involve commercialization. Another response has been the emergence of interface structures in the hard-applied disciplines and the subsequent creation of an organizational interface structure. The role of this organizational structure is to systematize engagement of the university as an entity with various organizations and government agencies. It is however uncertain whether such an objective can be achieved since the subunit structures seemed detached from it.

The use of information and management information systems to regulate academic and financial management focusing on the information requirements has taken various forms. Minutes of committee meetings have been the major regulatory control loops against which incomplete information has been used for management. Information feedback in earlier periods of reform was through dialogue between the academic unit heads and the central administration. This process generated single-loop or corrective feedback that maintained equilibrium in the university as an entity (see Section 5.4.3). Recent feedback has concentrated on the interface with external stakeholders through monthly media briefings and stakeholder conferences. Such feedback has the capacity to alter the governing values of the university and its subunits incrementally and create a double-loop learning organization. Using management information systems has been within the strategic foci of the university for a long time although its realisation has remained uneven and hesitant. Most of the academic units had acquired or used supplementary systems parallel to the integrated system giving insight into the relatively flat hierarchies of learning organizations. Moreover, this in itself showed learning since computerisation was slowly becoming entrenched into the managerial activities of the subunits. Nevertheless, it is crucial that the integrated information systems are used to systematize regulative and integrative functioning of the university as an entity.

6
Responsiveness of the academic
units at Makerere University

This chapter is grounded on the view that differences between disciplines will create different patterns of responsiveness. The analysis is based on the elements of the learning organization – the broad emphasis on the open system, that is, the *external threats to learning*, and the focus on system thinking and the use of information and management information systems to reduce the *internal threats to learning*. In the following sub-sections, the perceptions of the academic deans with respect to their conceptions of the salient changes in the environments of their academic units, the requirements this presented for academic and financial management and the responses of the academic units are outlined. This is premised on the hypothesis that the deans' opinions would have some correspondence with the broader institutional strategic plan that was discussed in Section 5.2. More still, the use of information and management information systems is explored by using the concepts of control, feedback and hierarchy. It is envisaged that regulation and integration of the responses of the academic units and the links between the university and its environment can benefit from the regulative potential of information. The quotations used in this chapter represent the deans' opinions in the various academic units. The hard-applied (technological fields) are represented as HAT, the hard-applied (biological) as HAB, and the soft-applied are indicated by SA. Each of these categories had a dean identified as 1, 2, and 3 for each category.

6.1   Salient changes in the environment

Uganda's higher education environment has been constituted on the basis of interpretations by the deans participating in this study. Their understandings identify the university organization as an open system as it functions in its broader

context. Several aspects were considered and based on the frequency with which the informants identified a change, the researcher decided to categorize them under the following sub-headings.

6.1.1   Changes in legislation

Legislative changes that granted public universities autonomy from the state were highlighted as one of the key factors that had influenced the operations of Makerere University. It was discernible from the views of the informants that this had enabled the university to enjoy reduced interference from the government although this was yet to be fully realized. In fact, the university still depended heavily on ministerial directives even when the university was presumed to be legally autonomous. The implication is that the government is a major stakeholder to which the university is accountable in terms of organization and management decisions. Institutional leadership has been largely determined by internal university organs such as the university council and university senate as embedded in the legislation, unlike the arrangement where the head of state appointed the top managers. Nevertheless, it has to be noted that the government had been instrumental in influencing the decisions concerning who became the executive leaders of the university despite the existence of a legal instrument. As was stated by one of the informants:

> Government has a very heavy hand which influences the policies, the way that this university is run and the operations … You also see government hands when it comes to issues of top administrators, who should be appointed or elected to the top administration, government comes in – they always want to get someone who shares the same political leaning as they do… so that kind of influence (SA1).

It was also revealed that the establishment of the National Council for Higher Education (NCHE), a regulatory body for the university sub-sector, was significant in the higher education environment. The mandate of the NCHE emanates from the legal framework of 2001 and it had an oversight role on behalf the government. The university had grown in size both in terms of its enrolments and its academic programmes. But this unprecedented growth was incongruent with the capacities of some of the academic units. On that basis, the informants noted that the NCHE was to accredit all the programmes that existed and actually it had given partial accreditation for a period of two years within which they would assess each of the programmes and decide whether to accredit them or not. Accordingly, this accountability mechanism was a significant shift that would require the university to have all proposed changes in the existing programmes or all new programmes first accredited before admitting students. Interestingly, despite the importance of this process to improve the quality of the academic provisions by the university, it was evident that the mechanisms that

had been used in deciding which subunit should house a multidisciplinary academic programme were not acceptable to some of the deans. This clearly shows that the tensions anchored in the market discourse were still alive and would therefore take time to alter. Indeed, this demonstrates that there was virtually no consideration for interdisciplinary arrangements and thus the NCHE was a timely alternative.

> And like for example, in the area of duplication of academic programmes, Makerere University has really failed to reform itself. So you need a policy directive either from the ministry or the National Council for Higher Education (NCHE) to say we cannot accredit your programmes.… Personally if I have a programme I am supposed to be running in [my faculty] and somehow a committee of the university says let it go to another faculty, I am concerned because I am not sure whether those people will deliver. That is where like some of these policies we feel they are going to help us as a university (HAT2).

6.1.2 Declining funding to higher education

Funding was a critical aspect as it elicited different perspectives from different categories of informant. Unsurprisingly, the declining total amount of funding from the state treasury was noted as a key factor that influences the operations of the university. Clearly, some of the deans were conversant with the occurrence of shifts in government priorities in the funding of higher education as a result of external actors like the World Bank. The World Bank shifted its emphasis towards the lower levels of education. Although this was then changing, the previous scenario was evident in the declining subventions from the state to the university sub-sector. Moreover, this had been further exacerbated by the increase in the number of public universities yet the government was not adequately funding the already existing ones such as the case institution.

> …. higher education is a sub-sector of the entire education sector and one needs to look at the whole education sector to appreciate the changes as they relate to the university. And one of the major policy shifts has been the support of the primary education sub-sector and that has meant that government has laid more emphasis on primary education and sometimes one would say at the expense of the higher education sub-sector. If you have a higher education sub-sector majority of which is public, a policy shift of that nature does affect the operations of a university because financing is affected (SA1).

Another dimension about the funding was the interference of the state in the decision by the university to levy a realistic unit cost for training a graduate. Several proposals from the university council to revise the fees structures informed by research

findings on unit costs of graduate education in Uganda had been rejected by the government. This had been interpreted as state interference on the autonomy of the university. In fact, because of the large numbers of students on private sponsorship, it seemed that this stream of funding had subsidized the insufficient resources from the state. Although the tuition fees were lower than the actual costs, it was clear that the economies of scale in the soft applied disciplines, mainly the humanities and social sciences, were actually salvaging the institution from its fiscal deficits.

> So it is a public university on paper but the fact is it is really run by the funds that are generated from private programmes. But because of [being a public university]… there is a lot of influence from government. For example, when Makerere University Administration decides to administer a realistic tuition fee, a fee that reflects the reality of educating a student, then government will come in and intervene using political reasons rather than economic or realistic reasoning. I think that is the number one, for me the premier influence of this university which has affected it adversely unfortunately (SA3).

6.1.3 Liberalization of higher education

Embracing liberalization in the higher education sector was emphasized as another key aspect of the Ugandan higher education environment that had significantly affected the functioning of Makerere University. This had led to competition within the university sector. In essence, the academic units had to compete for students and the training they offered had to be of high quality to ensure that their graduates were able to compete in the inelastic job market. In addition, the proliferation of new universities had pushed the university to rethink its role in the society and consider making operational all the tenets of its mission rather than when it had been the only university in the country and "everybody studied and sought to come to Makerere University" (SA1). Even then, there was still some complacency and a general feeling that the university still had a strong reputation. However, some of the deans noted the fact that private institutions also had the capacity to compete and even overtake the public institutions in certain spheres or disciplines and hence have more marketable and employable graduates.

> [Private universities] have come up and they are doing things differently. In terms of management I think they are better than public universities; in terms of utilization of resources they are better than public universities; and if some of them get focused like [University A] they are likely to overtake [us] because [here] at Makerere University we are still living in the shadow of the oldest university in Uganda, the 'Harvard of Africa'. You know that kind of stuff? So I think we have to get to the reality and look at where we are strong and where we are weak otherwise I

will not be surprised if one of the best universities in Uganda is a private university, like in the United States and other places (HAT2).

This had coincided with the changing needs of the labour market where the private sector had expanded. It certainly required the universities to revisit their academic programmes and made them not only attractive but also relevant. The down-sizing of the public sector was noted as a trigger for the growth of the private sector that also required the public universities to reorganize their academic provisions to suit these changing demands. Of course, the rhetoric of producing job creators was evident in the perceptions of the informants. But it was in fact the capacity of the academic units to orientate their students through provision of training that suited the prevailing circumstances both nationally and regionally that was most important. Indeed, one interesting pattern in the opinions of the interviewees was that the focus was not only on the country's manpower demands but also the regional needs for the workforce especially in the hard applied biological disciplines.

> … I think what is very critical now is how we fit in the liberalized education sector where a lot of competition is coming up. Now it puts us in a very delicate situation. We have to compete and we have to live to our expectations. We have to remain very relevant, especially the training needs of Uganda and the region as a whole. So I think we have to ensure that we provide programmes that are very relevant to the employment industry, the country and also in the region. We have to ensure that our products are well trained to face the challenges in the employment industry, and also be able to further their career path (HAB3).

According to the opinions of the informants, admission of more students under the private sponsorship scheme had actually affected the general quality of graduates that some of the academic units were producing. This was because the entry scores required by the private students were lower than those required by the government sponsored students. Obviously, this had stratified the student population within the same academic unit, and would ultimately necessitate rethinking the approaches to the delivery of content.

> There are so many other things. The students … the calibre of students that we have today is very different from the calibre of students that we had 20 years ago. Many of them work as well as study so there are many absent students. They only come to do coursework and exams, they don't attend classes, they will only copy notes from fellow students, and that is not the idea that we have when we talk about educating a [professional…]. So that too is influencing for example, the products that we shunt out from here (SA3).

In a nutshell, whereas the opinions show the different dimensions of the liberalized higher education sub-sector, it was importantly noted that whereas privatization was crucial, its manifestation within the formerly public university led to the evolution of a public-private institution in which the two were sitting side by side. The implication of this was that the university had to rethink options to academic management to suit the two 'worlds' that had combined in the same institution.

The deans' interpretation of environmental pressures as elucidated above illustrates their capacity to decipher the conditions under which they operate. According to the competing values framework, the deans perform innovative and broker roles as they interface with their unpredictable contexts. Clearly, the opinions of the deans further show an inclination to resource acquisition and different ways of enhancing growth across disciplines after the liberalization of higher education in Uganda. At the same time, legislative changes as already highlighted created tensions between the academic units regarding multidisciplinary fields. Owing to these changes, a responsive university has characteristics of a learning organization especially related to its openness and its continuous adaptations that the deans alluded to as means for organizational survival.

6.2 New requirements for the academic units in the changed environment

In this section, it is argued that changes in the environment elicit changes in existing practices or create new sets of requirements for the internal functioning of the organization. These changes represent new values or variables or parameters which keep behaviour or output within acceptable ranges. It could also be speculated that the requirements are complementary to the institutional strategy or even vary in the extreme since the disparate academic units may consider different variables in their environments as essential. Cognizant of the fact that the academic units are held together by certain cultures or beliefs, emphasis is put on the similarities in goals or values at least for those in the same disciplinary category.

6.2.1 Academic management

External pressures for quality
Generally, strengthening the regulatory role of the National Council for Higher Education had an impact on the internal processes of the university by creating a new set of requirements to which the academic units had to adhere. The procedure for accreditation and assuring quality meant that the institutional mechanisms had to be altered in accordance with the external changes in order to ensure integrative

functioning to deal with this emerging trend. Accordingly, a new set of procedures had to be followed before a course or degree programme could be approved. Although it was referred to as another layer of bureaucracy, the University Quality Assurance Committee (UQAC) was basically an adjustment to the changing external demands for academic accountability.

> The main challenge with regard to the National Council for Higher Education (NCHE) is that we are in an environment where bureaucracy is the order of the day. Bringing in another level also creates difficulties – we were just looking at new programmes and originally say we would go through faculty boards, research and higher degrees committees, board of graduate studies, senate and then council before a programme is approved. But today with all those institutions still in place and with the coming in of NCHE, the university has also put in place another requirement that one has to go through the university quality assurance committee and this committee works hand in hand with the NCHE. So that means two other levels – the UQAC level and the NCHE also must come in before a programme can start (SA2).

Yet on the other hand, this parameter was envisaged as an avenue for restoring or stabilizing the deviations that emanated from the earlier strategic emphasis of establishing degree programmes responsive to the market. This shows that the feedback from the environment to the institution was corrective in the sense that new parameters for quality in academic management were defined. At the same time, it was argued that whereas the external demands for restoration focused on the previously violated disciplinary mandates as a result of market demand, it also had an effect on the allocation and optimal utilization of the limited resources with the implication that multidisciplinary specialties might have to be merged. Moreover, the informants noted that the requirement had also triggered another fiscal challenge since it recommended that student intake per academic programme be reduced in order to improve on the quality.

> But now with the coming on board of the NCHE and UQAC, it means that the number of private students coming in will definitely have to be reduced… they have recommended that they have got to be cut down. For us in our faculty, we used to take on 2000 new students every year but we have been told we should take on 500 students. That is a challenge because what will happen when government does not release money and there is no money also coming from the private students. …And of course that does not only affect the faculty but also affects other day to day management of the faculty because the money is used for buying scholastic materials, chemicals etc and also paying workers who are not university employees. Because [the] university does not have money [to hire permanent academic staff]

academic units now have got to get money from their privately generated money to recruit [part-time academic staff] (SA2).

The reciprocity of influence between the different essential variables was observable in this case. Actually, the demands for quality improvement had necessitated a reduction in the number of students enrolled, which subsequently led to a decline in the revenues accruing from private sponsorship. It could be anticipated that high quality would certainly require sufficient resources for the university to pursue its entire basic mission. This implies that an external pressure that had been channelled into the activities of the subunits of the university with the aim of integration would offset some of the previous processes in the academic units that thrived on disbursements from fee-paying enrolments.

Any attempts to maintain the quality standards, even in the short run, meant that the affected subunits had to rethink their approaches to generating financial resources so that they could restore or keep their internal processes in a state of equilibrium. This highlights the competing values that academic managers face that are associated with the goal ambiguity that characterises university organizations. While the deans would strive to address financial demands as one of the goals, their quest for resources downplays the realisation of the desired academic quality which is another goal. Such dynamics illuminate the significance of systems thinking and the interconnectedness of the organizational elements. Therefore, there is a need to understand the degree of wholeness as a condition for building integrative responsive capacities.

Emphasis on all the missions of the university

In the hard-applied biological disciplines, there were considerable shifts in their activities and they were a reflection of some of the views in the strategy of the university. Given the difficulty faced by these fields to engage in the processes of academic and financial transformation especially through student enrolments, the academic units responsible for these fields focused on equally important dimensions that enhanced their relevance. It was thus no coincidence that when the academic deans in these disciplinary units were interviewed, their responses indicated an inclination to consider all the missions of the university rather than over-focusing on the teaching function alone. Even when they discussed teaching, there was often a tendency towards development-oriented instruction of the students after synthesizing feedback from the environment and in relation to the perceived external changes.

[My academic unit] I think is a unique unit within Makerere University… I think a few government universities that have been initiated are also taking up [the discipline]. Now, that means that many private universities are not venturing into [it], so our core staff functions have not been affected so much. The unit has also been lucky that it has had staff members who are, I think more research-oriented

and I feel very proud that [my] faculty … has taken leadership in conducting research in this university…(HAB1).

Insufficient resources have made us to think differently. Universities have three traditional roles or three fundamental core functions. The one of research – generating new knowledge, and another of passing on that new knowledge and new competences which are relevant … The third one is the development component – outreach [that involves] going out to other people who are not necessarily under what you take as the academic line of learning. That outreach component has been largely underutilised by universities and so Makerere is deploying it and as we deploy it, we think of new ways of [collaborating] to do that…. (HAB2).

I think here we have to prioritize seriously and also to make sure that the roles of the institution are upheld. If we are supposed to teach, surely there should be adequate financing to facilitate that. We are supposed to do research to solve the … problems of our people and others in the region. For advancement we need most of the funding to go into research. We need to do community service and the institution has to grow to catch up with the public demands (HAB3).

Similar trends have also been noticed in some of the hard-applied technological disciplines bordering on both of the patterns above. Two of the academic units in this disciplinary category had equally high numbers of students enrolled and were keen on the recent changes concerning the emerging emphasis on quality in response to external pressures. Similarly, these disciplines considered other missions of the university as equally critical. In fact, the first interface structure as discussed in Section 5.2.3 was established by an academic unit in this category and thus had closely partnered with the external stakeholders over a long period of time by contributing to other sectors that were closely related to the discipline. In addition, the opinions of the informants revealed that during the training of students in these disciplinary fields, emphasis had been put on the changes in the labour market demands that required practical skills from the graduates, and because the hard-applied non-living fields necessitate a strong practical orientation, they had an extensively entrenched internship component in all academic programmes.

In terms of academic management, the managerial roles of the deans as directors and producers have been dichotomized. The deans in the soft applied fields were confronted with competing values related to generating financial resources through ratios of tuition paid by students on private sponsorship and the emerging parameters for restoring academic quality. Such goal ambiguity would require the deans to have different competencies to deal continually with such occurrences. Meanwhile, the deans in the hard-applied disciplines had focused on all the missions of the university. But the means for the realization of the objectives or missions was not

necessarily homogeneous. Vagueness of the goals of the university can be observed in this dichotomy of the managerial roles of the deans across disciplines.

6.2.2 Financial management

Streamlining reallocation decisions by the academic units

It was evident that concerns that the resource allocation procedures of the academic units needed to be changed were not new. Following decentralized financial management in the earlier periods of the reform, as specializations developed, new subunits evolved out of existing ones. As would be expected, and as a survival strategy, the specializations were dependent on the student intake especially in the soft-applied disciplines. Subsequently, the university grew in complexity and became difficult to manage, at least hierarchically. Indeed, even though the institution as an entity was faced with the challenge of achieving total autonomy from the state, the academic units independently decided on the allocation of their financial resources received as percentages of tuition fees paid by privately sponsored students and disbursed from central administration. However, as one informant stated:

> …the public-private mix within the public university context came as a result and in response to survival; it didn't come as a management shift and because it didn't come as a management shift, we did not think through the management implication very much (SA1).

Indeed, the requirement for prioritization emerged amidst the continually dwindling fiscal resources from government and accountability demands from the stakeholders. It was argued that whereas the dean was an accounting officer in charge of allocation, reallocation and monitoring of the monetary resources in their respective academic units, role ambiguity evident in some of their allocation decisions was as questionable as their capacity to identify critical priorities in the allocation of financial resources, as one informant narrated.

> When it comes to financial management, it does not mean that actually we are mismanaging funds. You have to look at how these things are done. For example in some faculties, okay let us say all faculties, to be appointed as dean, they do not look at your capacity to manage finances, whether you can be an accounting officer, whether you have managerial skills and so on, whether you have planning skills. So you appoint somebody because he has a PhD in … to be a dean, at the same time you are saying you are decentralizing funds to that faculty, what mechanisms have you put in place to ensure that there is proper planning, proper utilization and so on. You have to have somebody to plan and see what is critical … you are buying a bus which is available but should you have bought a bus? So prioritization

[is necessary] when you have scarce resources, and that is lacking within faculties (HAT2).

The negative effects of financial allocation decisions by the academic subunits triggered the requirements for fiscal accountability. Certainly, the university had to realign its internal financial procedures for effectiveness in its responsiveness but that would also necessitate time for unlearning the ethos of liberalisation already entrenched in the operations of the academic units and the institution in general.

Mechanisms for financial control and monitoring

More structurally, this being a public university, it adheres to national financial regulations and guidelines that govern expenditure in state-owned enterprises. For instance, 'limits' with respect to the amount to be expended had been stipulated and in case the planned expenditure exceeded a certain amount, that transaction was to be contracted out or handled by the central contracts committee of the university. These new measures concerning financial allocation and procurement were aimed at reducing misallocations. Admittedly, integrative approaches were urgently needed to stabilize or restore the university to equilibrium. But such accountability mechanisms should have been adapted to the academic organization with some modification, owing to its peculiarities. In fact, the mechanisms had created inefficiencies associated with bureaucracy and thus slowed down transactions that the subunits had wanted to make[35].

> I think right now there is a lot of centralization … otherwise some aspects of administration could be decentralized to ease that bureaucracy – there is a lot of bureaucracy here. For example, if you are going to make some purchase, it is very difficult … I think the University should be tuned to ensuring that issues of bureaucracy are reduced and putting in place systems which are very fast and efficient to ensure proper accountability (HAB3).

Over-emphasizing the structural controls at the expense of the social controls, or the output controls and ignoring the behavioural controls was a necessary but insufficient condition for streamlining financial management, as one informant identified.

> But let me give you a very specific example. When … I got three quotations from our own Estates department and two others from pre-qualified firms … I knew that … all these quotations were not realistic. So I got my "jua kali guy" [cheaper service provider] … Now [the auditors] came when they were auditing, and they blasted me like I had put the money in my own pocket. I explained to them that we couldn't afford [the quotations from the pre-qualified firms and the Estates

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35 Projects funded by donors are time-limited and may also have specific financial guidelines.

department] because they inflate figures ... So this procurement law came trying to curb corruption but in fact there is a lot of corruption in these pre-qualified firms … and when you try to be practical and do something about it you are the bad guy! So I … you know it is so frustrating… (SA3).

Clearly, the structural mechanisms were inflexible to the contexts they were intending to serve and indeed seemed to envisage social parameters as rather inadequate. The negotiation skills of some of the academic deans even within the framework of the structural controls remained incompatible with these rather rigid standards concerning expenditure. Obviously, the structural or output controls took precedence over the social subsystem or the behavioural controls with a potential effect of perpetuating role conflict and role ambiguity in the academic deanship.

It is evident that the director and producer roles of the deans concerning financial management had been considered dismal especially regarding the issue of prioritization. But the deans alluded to the emerging focus on efficiency where new sets of structural controls had been instituted. This implies that the deans as directors and producers were being strengthened in the process. Of course, this had negated the viability of social controls. Nevertheless, it ought to be understood that the rational goal model focuses on productivity and efficiency as elucidated in Section 2.5.

6.3   Responses to the requirements by the academic units

As requirements emerge and changes continue, the organizational subunits may consider certain worthwhile responses in order to maintain equilibrium between their academic units, other units and the central administration as well as the broader environment. Variations across scientific fields with respect to their adaptability to particular phenomena explain the need to ascertain whether their responses correspond to the strategic direction of the university. Indeed, it is highly likely that there are differences in the emphases on the aspects of the strategy between the disciplinary categories. Such a dimension justifies the need to create regulative mechanisms so that the academic units function within agreeable measures especially on those aspects of the strategy they regard as being less significant.

6.3.1 Academic management

Compliance to external pressure for quality
As a result of the new external demands concerning quality, it was clear that the academic units opted for strict compliance by providing information that would

meet the requirements at all the stages prior to academic programme approval. This information was a regulative element that the faculty deans had to fulfil to reduce delays that would occur at the different hierarchical levels before the programmes were taken to the accrediting body. Indeed, in such a situation, the consequences of circumventing these procedural controls would mean loss of valuable time in the process, no new programme approved for the academic unit, no prospective students, and no additional disbursements, thus affecting the overall activities of the faculty.

> …. the only way out of course, is to make sure that whatever we do at faculty level is of high quality so that we don't spend much time because when you write a programme, you go to present it for approval, they throw it back saying go and put this one right. So the best way to overcome that and to reduce on the delays is to write high quality work, programmes. …Just yesterday we were trying to present a certificate course in …it was thrown back…we were told we shouldn't have taken it there, it should have gone through this channel and so we were disappointed because it had taken I think almost a year and when we presented it, it was thrown out. Now it has to go through the process once again (SA2).

Obviously, this response has characteristics of the double loop feedback where the governing values in this case related to quality had to be altered. Perhaps to anchor this in context, we need to emphasize that after the emergence of the external pressure for accountability, the university as an entity had to redefine its parameters within which the academic units operated. It has to be acknowledged that the soft-applied disciplines had been the major beneficiaries of the previous wave of reform typified by the proliferation of academic provisions driven by accelerating feedback from the markets. But these disciplines have now received stabilizing or corrective feedback to respond to concerns on quality. This pattern shows the pervasiveness of single loop feedback where organizational routines have the capacity to change the existing norms within the organization.

Unit-specific administrative structures
In order to deal with the challenges of increasing student enrolments, the deans in some of the soft- applied disciplines had established unit-specific structures in addition to the academic administrative structures of the university. As one of the informants noted, "…you know, you are talking about close to 6,000 students which was like the whole Makerere University 15 years ago" (SA2). Clearly, the subunits had expanded administrative structures in anticipation of improved efficiency and effectiveness. Offices of programme coordinators for undergraduate programmes and for each graduate programme were established in different departments at the faculty level. The coordinators reported to the deputy deans. The fact that these were unit-specific structures illuminates the strength of the disciplinary dimension in dealing with environmental signals.

We have decided that for each of the academic programmes, we have to appoint a coordinator right from the departmental level that the department will have the head of department and coordinators for the undergraduate and for the graduates. For each graduate programme we have a coordinator. So if a department has two graduate programmes there will be two coordinators. These are then brought either under the deputy dean in charge of undergraduate or under the deputy dean in charge of graduate studies. So that structure helps us to [have manageable] numbers for academic programme management in the different units rather than taking them as a whole. Then we also have management meetings and the rest of the thing (SA1).

In essence, this structural development illustrated responses that correspond to corrective or stabilizing feedback where the academic units sought to ensure that an equilibrium state was operational as changes occurred both in the environment and within the organization. And to stress that these were unit-specific structures, the costs involved were borne by the academic unit and not the central administration.

…it means therefore that that is an additional cost to the unit, not to the university, because it is the unit that pays for that micro level academic management process. So the more numbers you have the more costs. So at the end of the day you find that the responsibilities that you are paying for at the unit are sometimes even greater or bigger than the responsibilities paid for by the centre for the unit (SA1).

It is evident that, decision making was extensively diffused. Yet at the same time, the basic units were not mandated to hire the human resources they deemed necessary for efficient and effective running of the academic and financial activities within their units.

…what we did we hired [someone who] is not a university employee. In other words she doesn't have an appointment from the appointments board but we took her on a contract basis [as] an examinations officer, fulltime examinations officer. In principle, the faculty registrar is the representative from the academic registrar's office in each unit supposed to be the one to handle examinations in addition to a million other things she does. So we got an examinations officer whose work is solely and exclusively to process exams. Now they are also challenging these private contracts… they don't want to recruit [administrative staff] because there is no money on permanent terms. When we try to come in, intervene to solve very pertinent issues because exams are extremely important then again that too becomes an issue – how did you employ them, they didn't go through the appointments board… (SA3).

This implied that even though the subunit had received financial resources and wished to deal with a critical environmental pressure so that it keeps the subunit in equilibrium, it had to operate against an additional parameter at the central administration level. Whether this would increase efficiency and effectiveness in the responsive capacity of the academic unit was naturally contestable since this might create unnecessary bureaucratic delays common in centralized recruitment. In the end, there are delays because of the differences between error detection or need identification and the actual response by the academic unit, and therefore a scenario of role conflict on the part of the deanship.

Unit-specific interface structures

Equally significant was the coordination and running of the established interface structures in the hard-applied technological disciplines. Members of the academic staff within the academic unit were responsible for the operations of the interface structures. Whereas this was not an altruistic or disinterested service, there were more concrete synergies and "…greater collaboration with the private sector in student outreach and industrial training and … a lot of the industrial training [was] funded by the private sector" (HAT1). It is worth noting that the organizational controls concerning centralization of the human resource function in a way were circumvented because of the purpose for which the interface was established and the principal human resources needed for its effective operation. Obviously, in this case it can be anticipated that the feedback from the external experts in industry would be channelled directly to the academicians who coordinated the engagement within the faculty. The approach of engaging the academic professionals in the coordination of the unit-specific interface structures increased the effectiveness of feedback concerning the basic activities such as teaching and research within the academic unit. It would be beneficial if the university adapted similar arrangements for any similar and specifically centralized initiatives.

Emphasis on the research mission

The deans in the soft-applied disciplines noted that they had encouraged their academic staff to apply for research grants as the income from private students was becoming unpredictable. While research is an important activity that has been ongoing, its importance had been amplified by the restriction on the number of students enrolled in each programme following the external pressures and institutional requirements for quality.

> These days [student] numbers have been reduced and money no longer comes [*sic*] from the centre to the faculty. So what do we do, we have to cut out certain things and of course we counter resistance from members of staff. Maybe the other thing we are trying to do is to encourage members to write proposals and win grants or research projects that way. Perhaps then they can not only look at the faculty as

their source of income but also they can get some money from the research grants and projects (SA2).

Conversely, the hard-applied biological disciplines that had not been successful in attracting fee-paying students had concentrated on research as one of the key missions of the university. Indeed, by focusing on research, it was possible to generate resources for their survival in the uncertain contexts. Academic units benefited from this response by levying administrative fees on all the research projects that were initiated by the academic staff. This illustrated the strength of the disciplinary dimension in ensuring survival and what was even fascinating was the fact that the central administration had left this revenue accruing from research grant levies to the discretion of the academic units. It can thus be noted that this response anchored in pursuance of all the missions of the university was actually stabilizing feedback to the declining funding from government. At the same time, it emerged that the income gaps between the science-based and humanities/social sciences academic units were steadily regulated.

> For us in sciences we get limited funding from private students but as I have said we have developed a system now of raising funds from donors in support of research activities. What I do when my staff members get research support I always charge them minimal administrative fee which also helps me run the administration of the faculty and the centre doesn't interfere with that fee and so that is what helps run things in this unit (HAB1).

Yet this focus on research grant application was unpredictable owing to the absence of clearly streamlined and sustainable government research funding mechanisms. Indeed, it was argued that reputable government agencies should allocate the available research funds from the government. But these earmarked resources had continued to decline and what had emerged needed coordination at the system level.

> Once you have research funding predominantly donor-driven you can't say you have control. You can only have control as a public institution when the majority of the research funding is government then you know you know that every year government allocates so much and therefore you can manage your finances this way (SA1).

> Of course there have been uncoordinated initiatives under the Office of the President where they provide money for research but that money should be channelled through a respectable research institution like National Council for Science and Technology but not just getting money and giving to people when at times you don't know who is good at what (HAT2).

As external changes remain pervasive, it can be argued that mechanisms for integration are necessary to ensure effective and efficient resource mobilization and utilization. It would be worthwhile to strengthen the research management function to improve its coordination within the university as elucidated in Section 5.3.4.

Strengthening partnership with government

The hard-applied biological disciplines were in advanced stages of engaging with the government to acquire resources for research and reciprocating by contributing to national development. Given their focus on the other missions of the university, especially research at the time of entrepreneurial changes, these academic units had made scientific breakthroughs in their respective fields with funding from the donors. It was also clear that it had taken time for them to access government support for these valuable initiatives. Additionally, these subunits collaborated with both international and regional universities in their fields and this enhanced knowledge exchange through research. Such networks were vital in improving the profile of those disciplines.

> … I think in recent times we are even making a breakthrough, having had a change in policy in terms of the [national system for research in this discipline]. We now seem to be on the verge of getting resources from government because now we belong to the [national system for research in this discipline].… the government used to give funding to [a national research organization related to this discipline] leaving out other research players like ourselves but now I think that one is going to change (HAB1).

> …we think that as we continue to engage in the development component, addressing issues of strategic significance that are real hard problems for the government, then government has to find reasons to intervene in the university to capacitate and particularly this faculty because it is at the heart of national transformation (HAB2).

> …we have been open for collaboration with the North and these also bring in opportunities to facilitate training… But at the same time it is not only from the North, we are now forming networks within the region, for example with faculties of [this discipline], so there is already collaboration within the region, we encourage exchange of staff, especially in areas where we find we are lacking and that also helps in bridging some gaps (HAB3).

In this case, the academic management roles of the deans are facilitator and mentor. It is clear that the facilitator role has entailed building morale among academic staff to contribute to the transformation of their academic units into actors in national development in a more deliberate manner. Moreover, in some hard-applied academic

units it had been agreed that for each research grant, an administrative fee would be levied and it was used to run the subunit. Conversely, in the soft applied fields, the facilitator role was invoked to address the changing requirements for quality assurance where the academic units had to comply. It can be argued that the deans focused on reducing conflict and building cohesion among staff in order to reduce delays in approving academic programmes. Mentorship was noticeable in the emphasis on the research mission that entailed encouraging staff to write proposals and applying for research grants. However, because the deans cannot have all competencies in equal measure as argued in the competing values framework, they are supported by unit-specific structures such as faculty registrars, and coordinators of degree programmes and interface structures.

6.3.2 Financial management

Strengthened finance departments in the academic units
Given the scrutiny that the leadership of the subunits had been subjected to regarding their implied ineptness in financial management, the most significant response was to strengthen finance departments at the academic unit level. These departments comprise faculty accountants and accounts assistants who provide professional expertise and actually detect and correct errors in any transactions at the faculty before forwarding them to the central finance department for approval. It was also noted that these experts were knowledgeable about the institutional financial guidelines for handling finances and keeping books of accounts which was necessary for integrating the financial management practices of different faculties within the university. Some of the administrative functions of the department include issuing students with receipts after they have paid tuition fees, processing payments for the academic and other staff for work not related to their monthly salaries, and ascertaining whether the disbursements to the academic units have been made by the central administration. At the end of the month, the unit accountant submits a report on the transactions that have taken place in the academic unit to the university finance department. Of course, these technical personnel are responsible to the dean who is the overall accounting officer and makes financial decisions at the faculty level. It has to be emphasized that all expenditure made by the academic unit has to be authorized by the university bursar who is the overall custodian of revenue and expenditure within the university.

Strengthening the faculty planning and finance committees
As a response to the need for financial controls and monitoring, faculty planning and finance committee structures have been operational at each subunit. Such committees comprise the dean, heads of departments, deputy deans, a student representative at the academic unit level and the committee "tries as much as possible to come up with

a working budget every year that guides the financial management of the system" (SA1). The university council approves such budgets from the committees and the academic unit would strive to spend within its budget proposals. Equally important is that all financial decisions and transactions approved by the committee are recorded and these become the basis for approval at the next hierarchical level.

> We have what we call a planning and finance committee at all levels, which prioritizes financial issues. Minutes are taken and so if you say that this time you are going to pay for something, it is documented. This is a very helpful administrative mechanism (HAT3).

The limits within which finances are expended appear to be stipulated by the subunits through committee structures while output monitoring is done by the central administration and the governing board. By implication, behavioural controls have been underlined within the academic units by constituting finance committees and hence define their *modus operandi* according to the beliefs of the decentralized units. But at the same time, output controls may be determined centrally by setting the ranges within which financial allocations decisions may be accepted. Importantly, records of minutes of meetings from the faculties can evolve into output controls against which future financial decisions may be based or any changes may be tolerable. Moreover, "the finance committee has to sit every three months to review what has taken place. But the accounting officer of every unit is accountable in general" (HAT3). Clearly, regular financial monitoring is the responsibility of the faculty dean but the committee also has powers to monitor all transactions made as per the budgetary proposals or any probable deviations after a specified time when committees meet to examine the prevailing financial conditions.

The facilitator and mentor roles of the deans with respect to financial management were executed through closely working with the administrative personnel to minimise any errors in financial transactions. As the accounting officer of the academic unit, the deans ensured that the subunit create harmony in the finance committee whose membership included heads of departments who represented the interests of their departments. This meant that cohesion and collegial decision making sometimes prevailed as the faculty finance committee set budget priorities for the academic unit. Because of the lack of competence in financial matters, the deans were further supported by faculty accountants.

6.4 The use of information and management information systems

6.4.1 Relevance of information and management information systems

The increase in student enrolments in most of the academic units has necessitated the use of information and management information systems. Reliable information has become more crucial for the university as it interacts and responds to the needs of government and other external stakeholders. Indeed, authentic information for quality control as well as financial information for accountability was vital. The commonest use of information was closely related to institutional research where students' data were retrieved for the academic deans whenever it was required. The institutional research role had been extensively dispersed in an equally decentralized setting where the accountants could retrieve financial information that had been centrally entered into the information system. Perhaps because of the liability associated with financial resources, the use of the financial information system was fairly advanced, especially the allocation of funds to the academic units and retrieval of financial information on each student by the accountants. In the same way, the faculty registrars could access and retrieve information necessary for academic decision making processes within the academic unit.

Nevertheless, in reference to the academic information system, one of the informants narrated that "…we had to develop our own sub-system within the broader one because the bigger one had its tough times" (SA1). Although in certain instances some of the information systems in the academic units had interfaces that were compatible with the integrated system, it was difficult to harmonize all of them. Moreover, inadequate knowledge and skills of individuals performing the institutional research roles was advanced as one of the reasons behind the acquisition of supplementary systems by the faculties. Incidentally, the lowest tier of organizational intelligence, that is, the technical/analytical skills, was the one most urgently needed.

> So the human resource to manage the academic information system I think is probably a bigger challenge than the system itself because you could set up but to run it, troubleshoot and so forth need to be considered. Moreover, you find that faculties are doing their own small thing and then you have all these dotted systems that may not be very easy to marry (SA1).

> We bought information systems especially the financial and academic records information system with the hope that they are going to help us … but at the same time we have remained with the same structure or even increased it in terms of human resource which I think is a mistake. You need to either retrain those people or retrench them and get people that are conversant with technology to handle the

operations …To me I think … we need to really use these systems but we are not really utilizing them (HAT2).

It was evident that the deanship had seen the importance of the institutional research function and capacities of the institutional researchers. Additionally, information technology was acquired to improve on the decision processes but several constraints with the integrated information system within the university triggered the acquisition of supplementary systems by the decentralized units. The main challenge was how to deal with the competence of the information providers since the integrated information system had already been installed. Certainly the starting point would be to understand the information needs of the deanship in this context and focusing on all levels of organizational intelligence if the intentions of the information system and its value for institutional research were to be fully realized.

Given the nature of the integrated information system, it was apparent that the information needs of the deans were related to managerial roles. In fact, it was clear that the finance system provided information on the number of students who had paid tuition fees and therefore what accrued to the academic unit. Of course, the acquisition of an integrated information system was a response to the inadequacy of manual systems following the increase in student enrolments in all academic units and the need to streamline allocation of finances that were mainly internally generated from student tuition fees. Printouts from the information system were used by the deans to monitor students who had fully cleared their tuition fees and thus were eligible for sitting for coursework and end of semester examinations. One of the informants argued:

> …And for us to know who has paid and who has not paid, it would be very difficult but when we have got [information systems] in place it becomes very easy….and more so when it comes towards examinations and you want to eliminate those that have not paid it becomes very easy. And I think also the centre is helped in that they inform us via the [systems] about who has paid by a given time during a semester and who has not paid. So we keep monitoring how much money has come in and how much money has not come in (SA3).

Therefore, it was observed that the information needs of the deans were largely related to management functions such as budgeting. It has to be stated that the limited emphasis on other information needs for the deanship was perhaps a result of the limitations in the knowledge and skill levels of those who performed the institutional research function. Yet at the same time, it can be argued that the deans were less conversant with the use of information generated from the information systems in other related roles such as discipline-oriented, leadership or external relations. Of course, the concentration on management was due to the emphasis on access and

retrieval of financial information input by the centre that was crucial in the allocation decisions to the academic units.

6.4.2 Control

Information was crucial in detecting and correcting any errors in the managerial processes. It is perhaps important to state that the university as an organization was responsible for student admissions, charging fees and remitting percentages of the tuition fees to the academic units. When the student was admitted to an academic programme, he/she automatically belonged to the faculty that housed the programme and their personal information was entered into the academic records information system. Fee-paying students registered for every semester after payment of tuition fees and each academic unit would know its total enrolment on the basis of registered students. One preliminary control in this process was that the academic unit could only receive a percentage of the tuition fees that had been paid by a student belonging to that subunit once that student had been registered and data captured into the system by the faculty registrar or other assigned personnel. The information system kept academic records. The other set of data that was entered into the information system was the students' grades. Each academic staff member who had taught a course during a given semester presented a copy of students' results to an examinations assistant or registrar normally responsible to the faculty dean. The assistant or the registrar would then upload the results to the information system.

Once results had been recorded in the integrated information system, any changes would be detected and questioned by the department of the university academic registrar. This parameter ensured authenticity of the results. In addition to the controls in the information system, there were other forms like the board of studies (highest decision organ at the academic unit level). The board scrutinized results for any performance anomalies such as if large numbers of the students barely passed. It would be established whether inadequate teaching was responsible for the low grades attained by the students. This dimension symbolized the behavioural controls or social controls in the academic units whereas the output controls were for the organizational dimension.

With respect to the finance information system, and more specifically the internally generated funds, proportions of students' tuition fees were transferred to subunits on a monthly basis after computations had been made in the system. Concerning the expenditures, one control was that before payments could be made by the academic unit, the university internal auditor had to verify whether it was actually within the financial guidelines and policies of the university council. It was after this verification process that the university bursar would then authorize payment. Moreover, each unit had a planning and finance committee that agreed on the priorities and estimates for each item. In cases where there were any changes, the

dean would convene the committee and explain the deviations. Nevertheless, the use of these information systems was constrained by the peculiarities of the environment in which the university operated. For instance, it was common for students to clear their tuition fees when the semester was already in progress or was almost coming to an end. Similarly, if the government delayed its remittances to the university, the central administration would not allocate the agreed proportion of funds to the academic units, but instead it would identify priorities within the academic units and disburse item-specific funds or make across-the-board cuts to all disbursements. Thus, whereas the output and behavioural controls were evident, the context was typified by uncertainty, and thus was a crucial factor.

6.4.3 Feedback

The feedback function entailed information exchange between the academic registrar's department and the academic units. This was more often concerned with examination results where the academic units were required to submit both electronic and printed versions of the students' results perhaps as a measure of ensuring correspondence. In addition, feedback in the form of reports from external examiners was considered a valuable source of corrective feedback in cases where the internal examiners had made errors while examining and awarding marks to the students. It was noted that in certain instances examination reports were discussed in the departments within the faculties but monitoring the changes made as stated in the reports of the external examiners were difficult to ascertain. Yet, higher hierarchies like the senate and other coordinating units received similar reports and because such information was unlikely to be aggregated, there were possibilities of information overload.

Because financial disbursements to the academic units were based on the registration of students, it emerged that outputs of the academic information system were partly the basis for financial inputs to the subunits. The finance information system was used to compute and allocate funds to the faculties. On determining what was due to the unit, the bursar wrote a cheque that was required by the bank in order to transfer funds to the account of the subunit. The university bursar then monitored the expenditure and budget performance of the academic units. This process was guided by the minutes of the finance committee meeting. In the case of anomalies in finance-related transactions, the university internal auditor provided instant corrective feedback because he/she had to verify any expenditure before its approval. In addition, the faculty accountant prepared a monthly financial report for the finance department which was to be part of an aggregated report on university revenue and expenditure that the bursar presented to top management every month.

Transformative or double-loop feedback was evident when there was uncertainty in the environment regarding fiscal resources from the government or delays in fee

payments by private students. The central administration would then determine how much to send to the academic units without referring to the agreed proportions for distribution. In the same way, information feedback from external stakeholders such as government quality agencies on the quality of the academic programmes, was received in the form of new information requirements relating to accreditation and quality assurance. This meant that the subunits had to adapt to the emerging mechanisms for assuring quality and in the process, the governing values or variables were altered. It was observed that the changes in the parameters within which the subunits functioned corresponded to key elements of the strategic direction of the university. This implied that new governing values had evolved. Of course, the process had started, but entrenching those new values or altering the mental models of the academic units was to take time as the information requirements for the deanship were slowly changing.

6.4.4 Hierarchy

According to the deans, the use of the information systems was a combination of top-down and bottom-up hierarchical arrangements. The financial information system was mainly top-down when the financial information originated from the finance department stipulating the funds that had been allocated to the faculty. Despite this pattern, it was also possible for the faculties to ascertain the actual number of students who had paid and registered and thus to know the exact sum that was to accrue to them. This was during periods of relative fiscal certainty when subventions from the government and student payments were on time. Importantly, each unit had an accountant implying that the strict top-down flow was rather less evident and financial management was more dispersed to subunits. Perhaps this pattern reduced the information problem with respect to financial operations at the unit level. Indeed, although the accountants were accountable to the dean, they were equally accountable to the centre hence ensuring some homogeneity in financial management among the subunits in the university, at least in administrative matters.

Conversely, the use of the academic information system was considered more bottom-up. Student registration into the system was done at the academic unit level by the faculty registrar who was responsible to the academic registrar but also accountable to the dean. Matters associated with role ambiguity of the deanship were probably reduced since directives from the central administration were deciphered by the administrative officers representing the sources of information. The challenge of loss of information was presumably to be reduced since the officers who represented the centre were conversant with the information needs of the various hierarchical levels even though this might not have been the case. Indeed, situations of information overload were quite evident because the university coordination units received less aggregated information from the academic units, and this might have constrained

monitoring. For that reason, the loss of information that was likely to occur could have been as a result of "intentional distortions". It can be argued that since the patterns of information use were converging especially across the subunits, 'the middle-top-bottom' dimension to information flow was quite evident. Obviously, there is need to strengthen the institutional research function dispersed to the academic units, as much of the information seemed rather concentrated in the top hierarchy.

The managerial roles of the deans are as monitor and coordinator. The deans were supposed to ensure that there was a sufficient flow of information, especially about students who had paid tuition fees and were therefore eligible to sit for examinations. In addition, the deans were responsible for corrective or single loop feedback that originated from the higher hierarchies of the organization. Similarly, transformative informational feedback from the external environment was presumed to be first interpreted by the deans before being communicated to the academic staff in the subunits. Coordination roles entailed ensuring that the subunits met the output requirements and adhered to organizational rules. The deans focused on the use of management information that was in line with institutional academic and financial guidelines. Compliance to organizational parameters was ensured through diffusion of the central administration roles in academic and financial management to the subunits.

6.5   Conclusion

This chapter was based on the views of the deanship concerning their academic units. It elaborated the significant changes in Uganda's higher education environment including changes in legislation, declining funding to higher education and liberalization of higher education hence the learning organization being an open system. New requirements for the academic units in the changed environment have been highlighted and these constitute the essential variables that different academic subunits consider crucial for their survival. Indeed, disciplinary variations were evident in the emphases put on specific aspects of the institutional strategy. The soft-applied fields identified external pressures for quality as an important requirement resulting from changes in the environment. It was now clear that demands for quality and accreditation were to stabilize or correct the anomalies associated with market reforms like introducing new courses or programmes with no regard for discipline-based boundaries.

Conversely, the deans of hard-applied fields and especially biological sciences noted that the key requirement presented by changes in the environment was the need to focus on all missions of the university. These science subunits were less entrepreneurial in terms of developing market responsive degree programmes because of constraints related to infrastructure and other factors (see also Clark, 1998a; Musisi, 2003). At

the same time, these science units realized that all missions, especially research and the third task, would provide them with a competitive advantage. This trend resonated with the mission and some of the strategic goals that had been prevailing as shown in Table 5. It also has to be understood that this is what these hard-applied disciplines have considered essential for their survival, illustrating some of the ideals of a responsive university (see Hölttä, 1995b p. 239). This demonstrates the view that learning organizations are cybernetic or hinge on systems thinking to maintain equilibrium through cycles of stabilizing and accelerating feedback. Essentially, the values or variables represent the 'limits' on behaviour and performance that the subunits had chosen to focus on hence dichotomizing academic management.

With respect to financial management, the need to streamline allocation decisions by the subunits has been emphasised as a new requirement. It has already been argued that role ambiguity has affected the deanship and this has been compounded by their limited knowledge and skills in fiscal matters. At the same time, new measures for financial control and monitoring used in public sector organizations had been introduced to the university, its incompatibilities notwithstanding. Overall, the foci of all the academic units in this study were within the strategic foci of the university as an entity. This buttresses the notion of 'limits' on performance or behaviour (governing values or variables) which are embedded in the strategic plan.

As a response to the new requirements, there was compliance with external demands for quality especially by the soft-applied fields. The hard-applied (biological) academic units collaborated with some government agencies and were in advanced stages of acquiring research funding for research activities that have direct relevance to society or to government sub-sectors. While all subunits focused on the research mission, for the hard-applied (biological) it had been an essential variable especially in terms of competing for research funding. On the contrary, for the soft-applied disciplines, it was a new survival strategy due to declining financial inputs after the reduction in private sponsorship student intakes, which was a measure to improve quality. The academic units had also created unit-specific administrative structures aimed at improving efficiency during the period of increase in enrolments. The structures facilitated corrective actions for any errors or anomalies in the activities of the subunits. Furthermore, unit-specific interface structures had emerged in the hard-applied subunits. The responses concerning financial management at the subunit level were quite homogeneous and entailed strengthening finance departments as well as the faculty planning and finance committees.

Information and management information systems were necessary as quality issues and demands for accountability became more pronounced. Institutional research has been extensively dispersed to the academic units and faculty accountants and registrars retrieve management information the deans may use. This retrieval addresses the "limited attention argument" (see Chapter 2) on the assumption that centralizing institutional research is inadequate for meeting all the information needs of academic units. Similarly, information that is retrieved at the subunit level meets

the condition of "informational legitimacy argument" (see Chapter 2) since such information is presumed to be accurate and therefore trusted by its users. However, different management information systems were used by different subunits because of limited skills and knowledge to use of the university's integrated information system. The information needs of the deanship have been confined to management, especially budgeting aspects. The regulative use of information and management information systems was interpreted using elements in the organizational learning framework such as governing values or variables, feedback in addition to hierarchy. The eight managerial roles of the deans have been elucidated as innovator and broker with respect to the significant changes, director and producer regarding the new requirements, facilitator and mentor concerning the responses, and monitor and coordinator under the use of information and management information systems.

7
Discussion and Conclusion

The concept of building universities' management capacity has been tackled in various ways with a range of outcomes. It has hence remained conceptually ambiguous. In order to address this conceptual ambiguity, this study sought to proffer strategies for revitalising the responsive capacities of institutional management by utilising the *learning organization* concept. This was a single case study that used documents and semi-structured interviews with key informants in the central administration and academic deans as sources of empirical evidence. It was guided by two research questions:

a) *What is the nature of the responsive capacities of academic and financial management at Makerere University?*
b) *What interpretations does the learning organization provide for revitalising the responsive capacities of academic and financial management at Makerere University?*

These questions were based on the theoretical perspectives of a responsive university and the construct of the learning organization that were elucidated in Chapters 2 and 3 respectively. The conceptualization of a responsive university was drawn from four dimensions: the university environment, the institutional strategy, the characteristics of the academic organization and its responses, and the use of institutional research. It is on the basis of the four dimensions that the responsive capacities are based. This conceptualization was supported by the four quadrants of the competing values framework (CVF) (Quinn, 1988; Quinn & Rohrbaugh, 1983; O'Neill & Quinn, 1993). Conversely, the learning organization concept was based on its disciplinary origins of open system theory, cybernetics, and the related concept of organizational learning. The ultimate objective of the learning organization is organizational improvement (Garvin, 1993), which was the thrust of this study. In the rest of this chapter, the main findings concerning the interpretations that the *learning organization* concept can provide for revitalising the management capacities at Makerere University are

discussed, contributions to research on the learning organization in higher education are elucidated, and finally, propositions for further research made.

7.1   Findings

Table 7 presents a summary of this study's major findings.

Table 7. Summary of the key findings of the study

Main findings	Implications
Changes in legislation, decline in funding, and liberalization of higher education are the most significant changes in Uganda's higher education environment.	Understanding the capacity of management to understand the external contexts in which a university and its academic units operate is a prerequisite for management capacity building.
External pressures have made it necessary for the university or subunit to identify what is essential for its survival in order to restore or maintain equilibrium with the unpredictable environment.	Management capacity building ought to be systemic, highlighting relationships between organization-wide practices and unit-specific initiatives and how they complement each other.
Information and management information systems use is dispersed to the academic units but the capacity to use is still at the lowest level of organizational intelligence.	Capacity building is needed in institutional research at all organizational levels and for institutional researchers to enhance the regulative and integrative capacities of information.

7.1.1   The learning organization as an open system

First, the *learning organization* is an open system. The emphasis of the open system perspective is on the capacities of the organization or its subunits to adapt continually to changing conditions. In this study, perceptions of the deans illustrate adaptations that academic units make to changes in Uganda's higher education environment they consider significant. Salient changes identified included legal instruments that granted institutional autonomy, establishing accreditation and quality assurance agencies, the decline in funding for higher education and the liberalization of higher education. All these changes in the environment revolve around public sector reforms experienced across sub-Saharan Africa in form of World Bank Sanctions (Bisaso, 2009; Bisaso, 2010; Saint, 2009; Saint, 2010). Cognizant of the learning organization as an open system, these external changes have turned out to be the *external threats to learning* that the university and its subunits have had to confront. Therefore, understanding the management capacity to understand the external contexts of the university and its subunits is a prerequisite for management capacity building.

7.1.2   The learning organization as a cybernetic organization

Second, the *learning organization* as a cybernetic organization has capacity for self-regulation. External pressures are inputs to the university that trigger new standards or parameters in the form of mission statements or rules used to guide the operations of the academic units. Indeed, with direct government control in retreat in the early 1990s, universities embarked on strategic planning (Farrant & Afonso, 1997; Hayward, 2008; Luhanga, 2010). The second strategy (2000–2007) of Makerere University (see Section 5.2), had characteristics of an adaptive strategy (see Section 2.2.2), illuminating general empirical patterns in research on strategic planning in higher education (Dooris et al., 2004; Keller, 1983; Keller, 1999–2000; Mintzberg, 1994).

It is important to note that different subunits or disciplinary fields may choose what they consider vital for their survival. For instance, the fact that the first interface at Makerere University was created by the hard-applied subunits as early as 1992 when the soft-applied fields were beginning to focus on privately sponsored students shows the variation in responsive capacities of the subunits (see section 5.3.1). Similarly, as was elucidated in section 6.2.1, as the environment changed, new requirements emerged for the different disciplines. Whereas the soft-applied fields considered external demands for quality assurance as essential, they had to reduce the number of students enrolling on private sponsorship and in the process reduced revenue. Interestingly, other sources of revenue like research grants had been exploited by the hard-applied (biological) fields, which had fewer enrolments of students on private sponsorship in the liberalised environment. Obviously, coalitions or interest groups clustered according to emphasis on the teaching or research mission have evolved.

This means that management capacity building should recognize the essential variables or existing patterns within the academic units so that it is built into the consciousness of the disparate units. In other words, ascertaining the essential variables will contribute to an understanding of whether there is congruence between the academic units and the organization and this may trigger establishment or revision of parameters to control or integrate behaviour. Similarly, clusters of disciplines or academic units belonging to a disciplinary category may respond to a specific strategic item in a specific way or based on what they consider essential for their survival. This shows that any aspect of the institutional strategy may be pursued by at least a selection of academic units. Indeed, institutional leadership could learn from the operations of the existing structures or practices at the academic unit level before enforcing organization-wide parameters. This would perhaps deal with the challenges of 'defensive routines' pro-actively.

Such organizational improvement efforts can lead to organizational learning when new parameters are related to the norms or mental models in the academic units making it easier for behaviour unlearning. It is concluded that building capacities of institutional management should be systemic in approach and should

encompass prevailing external conditions as well as concentrate on creating self-regulative systems within the university and the academic units. This would entail paying attention to the peculiarities of the discipline-based units by not only overemphasising performance targets but also clarifying limits within which academic behaviour like research productivity is acceptable. In fact, the capacity of the academic leaders and managers to decipher anomalies and take corrective action is a prerequisite for adaptability.

In practice, capacity building for prospective and serving academic leaders and managers can be based on the eight roles expressed in the quadrants of the competing values framework (see Section 2.5). The *innovator* and *broker* roles were shown in the capacity of the informants to decipher the environments in which they operated. With respect to the *director* and *producer* roles, the views of the interviewees on academic management were clear that pursuing the missions of the university was not homogeneous among the academic units. The *mentor* and *facilitator* roles were evident in the partnerships with government by the hard-applied fields. Facilitator capacities were required during periods of compliance with quality assurance demands to reduce on the delays in the approval of academic programmes for accreditation by the national quality assurance agency. In addition, the dispersion of administrators e.g. faculty accountants and registrars would require facilitator capacities on the part of the deans. The deans were expected to perform *monitoring* and *coordination* roles by obtaining information from the academic unit accountants and registrars who performed institutional research functions.

Overall, the capacity of the deans in financial management as expressed in the interviews was dismal especially in terms of financial resource allocation. Yet, it was clear that the structural parameters were much stronger than the social parameters (see Section 6.2.2). Based on the complementary benefits of the eight roles outlined in Section 2.5, management capacity building should focus on all of them. It is paramount for the emphasis on capacity building to be on the contexts in which academic leaders operate because it is such contexts that determine the roles that they should invoke under certain conditions. This may cater for the relevance of the competence built among the serving and prospective academic leaders and managers.

7.1.3   Organizational learning as an integrative and regulative mechanism

Third, *organizational learning* is integral in the learning organization through the use of information and management information systems. Organizational learning can be divided into two categories: single-loop learning and double-loop learning. Single-loop learning entails detection and correction of errors that may curtail the realization of organizational goals. Double-loop learning concerns radical transformation in the university's processes to align it to the environment (see Kezar, 2005). The use of information and management information systems is a single-

loop action (Argyris, 1999 p. 152), which can evolve into double-loop learning if information-based decision making is infused into all organizational processes. The requirement for minutes to be taken at meetings and used as a basis for approving decisions about subunits at subsequent hierarchical levels is an organizational practice in which incomplete information is used for effective management at Makerere University. Moreover, since dialogue can be facilitated by information generated from information systems, continuous use of information might cause behavioural unlearning hence double loop learning.

In the case university, dispersion of institutional research has provided access to pertinent management information to the deans or academic units. This is premised on the fact that organizational learning is bound to occur when subunits acquire and act on information that they consider valuable to the organization (Huber, 1991 p. 89). It is assumed that if the responses of a subunit to information are understood by another subunit, then the creation of knowledge or change in behaviour is very likely to occur. However, knowledge transfer or transfer of learning is one of the challenges in university organizations (Anderson, 2005; Collie & Taylor, 2004; Dill, 1999; Portfelt, 2006). In fact, as a remedy to this challenge, these authors argue for the creation of horizontal structures also referred to as "intermediaries" or "brokers" that will ensure that knowledge is transferred across subunits (Dill, 1999; Hearn & Holdsworth, 2002 p. 137). Such scenarios would perhaps reduce the incidence of goal displacement where intentions may be pursued collaboratively (Patterson, 2001 p. 162)

Building on those earlier recommendations for integrating structures, the findings of this study show that knowledge transfer can also occur through other means. The presence of administrators (accountants and registrars) from the university's central coordinating offices of academic and financial management in all subunits presents an avenue for organizational learning. Information originating from coordinating offices can be accurately interpreted by the administrators deployed by those central offices to serve at the academic unit level. Diffusing administrative functions can reduce ambiguities in information because administrators will work closely with the deans and academic staff in the subunits. Indeed, the interconnectedness between the technical (academic) and administrative subsystems implies that information for decision making is more accessible and easily exchanged. Such a pattern has the capacity to improve organizational learning since administrative support is closer to the academic core (see also Hölttä, 1995b p. 239).

Even then, at the subunit level, the use of information for strategic management was minimal because the deans seemed to concentrate mainly on roles such as budgeting and management of academic programmes. This was perhaps as a result of the limited knowledge and skills of faculty accountants and registrars in institutional research since they paid attention to a limited scope of management information and were less conversant about the other information needs of the deans. Thus, whereas institutional research was dispersed to the subunit level, it was far from being

efficiently adopted as part of subunit strategic management. This shows the need for building capacities of administrators who perform institutional research roles within the academic units by focusing on all tiers of organizational intelligence by Terenzini (1993). It is likely that the responsiveness of academic units will be much stronger and informed if they make use of accurate information. In the same vein, the deans ought to know the information needs associated with external responsiveness and internal regulation roles. Because the deans ensure that academic units are responsive, paying attention to their capacities is critical and indeed, it can contribute to the pursuit of the university's strategic goals when identification of essential variables is information-based. It is therefore important that the deans' capacities are built in other areas of information needs related to academic leadership and externally-oriented roles.

7.2 Contribution to research on the learning organization in higher education

The learning organization was constructed according to its disciplinary origins namely open system theory, cybernetics and organizational learning. Whereas earlier applications of the learning organization to higher education have been criticized for being non-cumulative, this study has argued to the contrary. It is often true that constructed models of learning organizations depend on researchers' interests, but research findings seem to draw attention to similar or related patterns, implying that theory is not necessarily an antecedent of practice. Rather, theory and practice are reciprocal. In fact, with the exception of Portfelt's (2006) case study where systematic acquisition and collection of information from within or outside the university was non-existent, this study and previous studies articulate the importance of information for internal processes and for interfacing with external constituents. Even then, distribution of information in the university remains uneven, curtailing learning (Anderson, 2005; Collie & Taylor, 2004; Dill, 1999).

External responsiveness entails demands for accountability, networks for partnering with external actors, cross-campus teams and involvement of all constituents (Anderson, 2005; Dill, 1999). In this current study, significant changes in Uganda's higher education environment were elaborated just as some of the previous studies refer to external environments. Similarly, mental models dictate whether subunits focus on all missions of teaching, research and service or any of the three. Anderson noted that even though organizational strategic plans espouse emphasis on all missions, academics rarely focus on all missions in equal measure (Anderson, 2005). Building on that finding, in this study the deans from hard-applied biological disciplines noted that the need to focus on all missions was one of the requirements that environmental pressures present for academic management. This shows the

variations in emphasis that have been imposed on teaching, research and service across disciplines in the university.

Meanwhile applications of systems thinking to interpret phenomena in higher education research and in building management capacities have been less evident. This case study contributed to the literature on the application of systems thinking by applying its elements of control, feedback and hierarchy to interpret the use of information and management information systems in higher education management. Although scholars argue that systems thinking is imprecise in elucidating relationships, conducting case studies and aligning system thinking to specific instances can circumvent that criticism (Moore, 2001 p. 253; Seymour et al., 2004 p. 49). Moreover, whereas systems thinking is appropriate for interpreting accountability to external constituents, it is imperative that data are translated into information relevant for informing strategy processes and institutional capacity improvement (Seymour et al., 2004 p. 52, p. 55). All in all, responsiveness of the university and its subunits takes an internal and external dimension. Ascertaining and interpreting the responsive capacities of institutional management have been found to be prerequisites for management capacity building from the perspective of the learning organization.

7.3   Proposition for further research

The aspect of management capacity building is complex. The constructed frameworks for this study are not conclusive. It is proposed that new frameworks be developed on the basis of empirical analysis by higher education researchers. This would not only increase the clarity of the concept of management capacity building but also yield frameworks that can be used in comparative perspective in both developing and transitional countries that are grappling with management challenges in universities. It has to be emphasised that management capacity building should focus on the contexts within which the academic leaders and managers operate rather than the mundane roles that they execute. Moreover, such frameworks could also elucidate how the layers of university management interact to promote efficiency and effectiveness. It is assumed that such extensive coverage would correspond with the increasing complexity of the contexts in which universities are situated, and the ambiguities that academic leaders and managers confront.

The responsive capacities of institutional management at Makerere University and how they correspond with the learning organization concept was explored. It would be worth extending the scope of this study in order to generate more insights into the responsive capacities of institutional management of other public as well as private universities in Uganda. This study focused on the oldest and largest university in Uganda in which public and private higher education sit side by side.

However, it is crucial that the management practices of other universities are explored so that comparisons between management capacities of universities in Uganda can be made. Such research-based comparisons are critical for proffering university management improvement strategies for Uganda. Moreover, in such future research, the perspectives of heads of departments, administrative staff and academic staff could enrich the empirical discussion.

Another dimension would be to adapt the competing values framework (CVF) and the learning organization to research on the responsive capacities of institutional management in universities in other sub-Saharan African countries. This is premised on the view that the management of universities in these countries is weak, inefficient and ineffective (Teferra & Altbach, 2004 p. 31). Because the concept of the learning organization focuses on organizational improvement, exploring its applicability could provide some elements for a management capacity building framework relevant for higher education institutions in Africa.

In the same way, it would be interesting to conduct a follow-up study on Makerere University to ascertain emerging changes and responses as it implements the current ten-year strategic plan. This follow-up study would be appropriate after carrying out capacity building for serving and prospective academic leaders and managers as recommended by the current study.

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Appendices

Appendix 1: Interview Guide

Interview themes

1. Significant changes in Uganda's higher education environment
2. Requirements the changes present for the academic units
3. Responses of academic units to the requirements
4. Relevance and use of information and management information systems

Interview questions

1. In your opinion, what changes in Uganda's higher education environment do you consider significant? Please explain.

2. Would you explain any requirements that the changes in Uganda's higher education environment present for
   a. Academic management in your unit?
   b. Financial management in your unit?

3. From the perspective of your position, would you explain some of the ways through which you deal with the requirements presented for
   a. Academic management in your unit?
   b. Financial management in your unit?

4. What is the relevance of academic and finance management information systems as the academic unit responds or proactively repositions itself in view of the changes in Uganda's higher education environment?

5. Would you please explain how the utilization of academic and financial management information systems controls the academic and financial activities in this university and/or your unit?

6. How does the utilization of academic and financial management information systems enhance the feedback function between different units of the university and your unit?

7. Explain your views on whether the utilization of academic and financial management information systems in academic and financial activities in this university and/or your unit is either top-down or bottom-up?

Appendix 2: Revenue from private tuition fees disbursed to academic units

Academic unit	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009
Faculty of Agriculture	299,719,404	578,914,213	417,357,694	315,975,368	277,329,692
Faculty of Veterinary Medicine	287,973,180	402,731,947	264,214,920	337,545,960	265,302,020
Faculty of Medicine*	538,286,090	585,815,360	460,462,764	333,941,228	328,271,660
Institute of Public Health*	82,089,604	183,048,397	177,910,024	189,409,030	286,411,637
Faculty of Technology	476,381,370	928,236,802	701,638,919	1,054,736,634	789,902,907
Faculty of Computing and Information Technology	2,675,144,017	5,224,687,461	5,505,129,767	4,750,557,618	5,096,362,494
East African School of Library and Information Science	312,336,429	398,926,845	246,301,981	348,760,952	306,139,315
Faculty of Social Sciences	1,093,467,979	1,517,411,487	1,332,139,155	1,474,211,431	1,233,394,860
**Political Science	325,932,136	515,880,420	321,799,557	258,448,234	169,911,048
**SWASA	113,990,783	238,554,003	69,861,970	73,082,304	41,304,465
**Sociology	44,769,414	51,512,215	21,245,246	38,146,328	9,705,367
**Women and Gender	39,002,864	57,559,986	17,554,919	27,990,360	3,207,453
School of Education	2,443,900,143	2,501,148,092	1,293,772,303	2,043,800,608	1,071,903,244
Faculty of Law	1,021,531,318	1,152,258,626	1,035,995,566	859,414,800	864,902,942
Faculty of Arts	2,834,606,159	3,960,418,544	1,895,191,857	2,773,940,177	1,851,051,069
Faculty of Economics and Management	999,138,957	2,053,856,794	1,432,010,229	1,736,082,727	1,721,371,726
Institute of Statistics and Applied Economics	481,516,083	652,322,164	676,987,983	1,081,868,469	707,078,678
Faculty of Science	234,822,269	303,389,849	205,919,063	249,641,336	213,808,865
Faculty of Forestry	23,385,810	27,614,957	21,679,241	21,953,160	24,115,240
Institute of Environment and Natural Resources	77,876,066	229,742,142	138,106,245	122,647,510	99,647,435
Institute of Adult and Continuing Education	2,652,213,297	3,122,246,152	2,018,669,851	2,750,058,207	2,523,332,014
Institute of Psychology	392,155,913	693,229,194	369,298,231	923,734,967	500,887,693
School of Industrial and Fine Arts	201,164,901	211,296,815	153,100,927	258,797,550	163,488,955

*   Merged to form the College of Health Sciences
**   These units were under the Faculty of Social Sciences
Source: Finance Department, Makerere University

Appendix 3: Enrolments in undergraduate programmes according to academic units in the period 2004–2008

Academic unit	2004	2005	2006	2007	2008
Faculty of Agriculture	931	994	1,120	1,090	1,064
Faculty of Veterinary Medicine	500	540	553	594	609
Faculty of Medicine*	775	819	882	923	916
Institute of Public Health*	65	77	123	170	163
Faculty of Technology	1,042	1,310	1,681	1,875	2,064
Faculty of Computing and Information Technology	1,318	2,673	3,498	3,759	3,918
East African School of Library and Information Science	598	620	575	593	580
Faculty of Social Sciences	3,821	3,777	3,435	3,132	3,089
School of Education	4,551	4,285	4,234	4,004	3,997
Faculty of Law	1,569	1,597	1,465	1,393	1,255
Faculty of Arts	6,616	6,616	6,616	6,616	6,616
Faculty of Economics and Management	1,148	1,741	2,302	2,659	2,748
Institute of Statistics and Applied Economics	1,272	1,385	1,756	1,888	2,097
Faculty of Science	918	918	1,017	1,043	1,177
Faculty of Forestry	286	258	249	215	217
Institute of Environment and Natural Resources	104	187	224	237	195
Institute of Adult and Continuing Education	6,665	6,743	6,061	5,821	5,306
Institute of Psychology	821	1,030	1,205	1,287	1,119
School of Industrial and Fine Arts	577	513	501	501	496

* Merged to form the College of Health Sciences
Source: Planning and Development Department, Makerere University

Appendix 4: Enrolments in postgraduate programmes according to academic units in the period 2004–2008

Academic unit	2004	2005	2006	2007	2008
Faculty of Agriculture	90	121	150	85	45
Faculty of Veterinary Medicine	9	48	72	84	77
Faculty of Medicine*	126	145	180	165	195
Institute of Public Health*	140	125	147	175	162
Faculty of Technology	60	37	54	58	74
Faculty of Computing and Information Technology	226	312	253	168	167
East African School of Library and Information Science	9	22	34	34	36
Faculty of Social Sciences	339	366	370	331	327
School of Education	331	312	275	239	201
Faculty of Law	38	59	73	81	60
Faculty of Arts	358	355	458	318	285
Faculty of Economics and Management	124	488	471	386	385
Institute of Statistics and Applied Economics	113	110	135	103	95
Faculty of Science	918	918	1,017	1,043	1,177
Faculty of Forestry	3	8	21	21	12
Institute of Environment and Natural Resources	28	73	98	91	54
Institute of Adult and Continuing Education	-	6	12	6	4
Institute of Psychology	24	39	59	74	28
School of Industrial and Fine Arts	-	7	8	13	6

* Merged to form the College of Health Sciences
Source: Planning and Development Department, Makerere University

Appendix 5: Enrolment growth in Uganda's higher education since 1970s

Year	1970s	1980s	1995	2000	2001	2002	2003	2004	2005	2006
Students	5000	10000	27000	60000	65000	80000	85836	108295	124313	137190

Source: National Council for Higher Education (2007 p.13)