The Impact of E-learning Implementation on the Management of Private Higher Education Institutions in Malaysia: A Case Study

By

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Abstract

E-learning is a force to be reckoned with in education, where lifelong learning is taking on a significant presence now. As with all educational institutions, Private Higher Educational Institutions (PHEIs) too need to consider adapting and embracing e-learning with greater success and efficiency to compete in the marketplace. In investigating the extent of impact of e-learning on management structures of PHEIs in Malaysia, this research can potentially set the course for other institutions of higher learning in Malaysia to be able to successfully introduce and proceed with e-learning in their education agenda. For successful e-learning implementation, though, it is argued that the four factors which need to be addressed are Rosenberg's 4 Cs: the presence of an e-learning champion, the management of change (to include e-learning in the organisation), effective communication, and the organisation's culture, especially of learning. These affect the way e-learning is implemented. Furthermore, both e-learning and its arms of change have an influence on an institution of learning.

The methodology used in this research is the case study, with a three-pronged data collection format. The questionnaire was chosen to track the trend of practice and awareness, the interview to get a greater depth of understanding on the issues, and finally, documents and records to illustrate the current state of e-learning and management culture within the organization. It was found from the results of this research that e-learning implementation requires a democratic, devolved approach to holistic change. Much of the strengths and weaknesses of PHEI management structures are brought out to the open with the adoption of e-learning. A flatter organizational structure would help cope with the demands of technological inclusion and national needs within the private education setting in Malaysia. However, it is emphasized here that e-learning implementation requires a management of the transition in PHEIs that may bring about the redefinition of the identity of the institution itself.

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Abbreviations

ICT	Information Communication Technology
IT	Information Technology
MSC	Multimedia Super Corridor
PHEI	Private Higher Educational Institution
SITM	School of I.T and Multimedia
SYC	Sunway University College

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Chapter 1
Introduction

Rationale

Internet technologies have taken learning and communication to a whole new dimension. E-learning is a subset of the computer and internet revolutions. It is a relatively new phenomenon that is affecting the way organisations operate. This is true in business, education, and other industries, which have begun embracing this inevitable change. E-learning implementation is alluring for organisations as a way to keep up with world trends. However, many underestimate the changes that this implementation will bring about. One of the important changes that need to be recognised for effective planning of implementation is that of management structures. In this research the following definition will be used when referring to structure as the thesis seeks to ascertain both internal and external factors in e-learning implementation:

> The examination of organisational structure focuses on both the internal considerations which affect the design of management structures and also on the way in which organisations may be structured to enable them to respond to external demands..
>
> (O'Neill 1994, p.101)

Inevitably discussion of structures here also involve firstly organisational culture, which is reflected in structure (O'Neill, 1994), and secondly strategy, which is central to effective management (West-Burnham, 1994).

There has been no research done on the change management required in implementing e-learning in Malaysian Private Higher Educational Institutions (PHEIs). E-learning provides a level playing field that PHEIs may need to address in terms of their management structures to effectively reap benefits.

Order

Therefore, this research is a case study on the impact of e-learning implementation on the management structures of PHEIs in Malaysia. The literature review will first look at PHEIs, including their definition, functions and purpose. Before Sunway University College's (SYC) management as a model for PHEIs in Malaysia is explained, the nature of hierarchical organisational structures will be discussed. This will set the stage for the discussion on e-learning, namely its definition, studies evaluating it so far, and e-learning's impact on SYC's hierarchical structure. As a new strategy usually requires some adaptation, change management will be explained with emphasis on e-learning and technological change, and an introduction to Rosenberg's 4Cs. Finally, the conceptual framework, which is informed by the review, will then be laid out in its final form to be used for analysis of the research findings.

The structure of this research allows the investigation of the impact, if any, of e-learning implementation on the management of PHEIs in Malaysia. E-learning is such a dynamic phenomenon that is sweeping the world of education and training, that it is inevitable that higher education contends with it sooner, rather than later. Looking at how it is already making a change in countries having greater access to technology, it is also interesting to see how this phenomenon may have an impact in developing nations with much lesser access, and the processes that an institution goes through in trying to implement it. Management styles and cultures differ from nation to nation. Malaysia with its official multicultural stand, but unofficial segregation of races, has resulted in a system of education that is bipartisan at best, unclear at worst. With managers and administrators themselves fresh in this scene of a nation almost only 50 years out of colonial rule, the navigation of the sea of education is still trial and error.

The Malaysian private higher education sector arose from the need of certain racial sections of the Malaysian population to further their education, and the lack of resources from the public institutions to support this need. Coupled with the former prime minister's target for the country's growth to reach developed nation status in 2020, Malaysia's education horizon can do nothing but stretch with the opportunities offered through the incorporation of e-learning. Whether e-learning will democratise

education, or in fact swing it the other way is left to be seen. What is of greater concern now is how the people within the scene cope with the changes brought about by this phenomenon. Sunway University College was chosen as a case study for this research as it is one of the pioneers of private higher education in the nation, and has survived thus far in an industry that has a high turnover of institutions. It is a conservative institution and well respected within the sector. It has also achieved Multimedia Super Corridor (MSC) status, a position conferred by the government indicating that it has adequate technological capabilities as envisioned by the government, which can be important for e-learning readiness.

Significance Of The Research

The order of the research leads to the significance of the work. Educators cannot ignore the latest trends in education. Mass higher education in developed societies is already here and universal higher education in the twenty-first century will likely be the norm. Furthermore, knowledge workers have emerged as crucial players in economic performance and well-being. The 'graduate job' is disappearing, and nearly all worthwhile jobs will soon demand high level skills and qualifications. In lieu of this, lifelong learning is about investment in personal learning and growth, and this is compatible with corporate investment and growth. Older divisions such as the academic versus the vocational are dissolving, as are distinctions between further and higher education institutions. Local and global divisions are dissolving in many instances – a common culture of knowledge with shared aspirations is emerging. Part-time and work-related learning opportunities are moving from the periphery to the centre of concern for many individuals and their employers, and for the providers of education (Davies, 1998). This new environment for learning brings with it new forms of learning, such as e-learning.

Taking into account the latest trends, this research is significant for several reasons. Firstly, e-learning is a force to be reckoned with in education, where lifelong learning is taking on a significant presence now. Secondly, there has been no study on the impact of e-learning implementation on the management structures of PHEIs in Malaysia thus far. Third, the information here will help private colleges to adapt and

embrace e-learning more successfully in the future. Finally, the research will contribute to Malaysia's growth as the hub of education in the region by helping in the understanding of the issues which need to be addressed when embracing the inevitable, which is e-learning. As one of the greatest growths in the country in terms of education is that of the tertiary, private education sector, this research will focus on it. This external context for the research is important, and will be discussed next.

Private Higher Education Institutions

Introduction

Before looking at private higher education in detail, two definitions are useful to understand the nature of the subject of this study. Smart (1986) defines privatisation in general as the term used to describe measures that increase the role of private markets in the delivery of goods and services that were historically provided on a universal basis by the public sector. In the education arena, privatisation means almost the same thing. In higher education in Asia, privatization generally refers to the delivery of higher education by the private sector (Tilak, 1996). The private education sector is becoming an increasingly important area of education provision and commerce in the region. Malaysia's own boom in the industry is phenomenal. Lee (1999) explains that in Malaysia, privatisation of education has resulted in expanding access to higher education whilst alleviating pressure on governmental budgets. She adds that besides rapid expansion, another feature of private higher education is its ability to adapt to rapid changes in students' demand as well as public policies on private education. This is a distinction, which is significant between PHEIs and HEIs in Malaysia. The survival instinct of PHEIs forces it to respond to demands and market changes such as e-learning. This section will look at the functions of this industry, history of Malaysian society in terms of education, purpose of education and the introduction of SYC as the case study for PHEIs and e-learning in Malaysia.

Functions

According to one estimate, the worldwide higher education market now exceeds RM2.66 trillion and the growth of e-commerce has a strong impact on its development due to virtual campuses, demands for cheaper courses and flexible training programmes for working adults (Nair, 2001). Within this, private higher education is one of the most dynamic and fastest-growing segments of postsecondary education at the turn of the 21st century (Altbach, 1999). A combination of unprecedented demand for access to higher education and the inability or unwillingness of governments to provide the necessary support has brought private higher education to the forefront, and is one of its main functions. Further, against the scenario of the culture of PHEIs being more competitive as market players and therefore likely to provide industry-relevant education, the educational programs at state or public universities may seem unattractive to students seeking university degrees as economic investments.

There are of course weaknesses to privatisation. However, Tilak (1996) notes that full privatization, in this case a higher education system which is fully funded by the private sector, provides financial relief to the government, but has long term economic and non-economic cost to society. This is based on an examination of higher education in countries in Asia, Latin America and the United States. Further, Geiger (1986) claims that full fee dependent private higher education unavoidably causes a trade off between 'uniformity and diversity' of courses offered, and a development of 'credentiality versus academic integration'. He argues that the constraints of limited finance and resources force private higher education institutions to become primarily teaching institutions. Still, private institutions, with a long history in many countries, are expanding in scope and number, and are increasingly important in parts of the world that have relied on the public sector.

This is the same reality in Malaysia, and Sunway University College (SYC) in particular is part of the country's private education system. The educational system of Malaysia comprises four levels: primary, secondary (lower and upper), post-

secondary (sixth form or matriculation) and tertiary. Despite the rapid expansion of university education in recent years, competition for places, especially in medicine, dentistry and engineering remain keen (Chew and Lee, 2001). This reflects Malaysia's development as having reached a critical juncture (Ismail and Ismail, 1997). The structural transformation of its economy has placed Malaysia at the threshold of a fundamental social transformation into an information-based society and, beyond, into one that is knowledge-based. This is in line with the growth target the nation has set for itself, albeit with a different focus from industrial means to a knowledge economy.

Malaysia is perhaps the only developing country to have set itself the target of becoming a fully developed nation by the year 2020. To achieve this, it will depend on how well the nation positions itself, and how intelligently it continues to reassess its position, within the rapidly changing global economy (Ismail and Ismail, 1997). To provide Malaysia with its competitive advantage, it must fully utilise the creative capacities and potential of its diverse population to generate a more skilled and knowledge-rich society. This poses a formidable challenge that can be adequately addressed and dealt with by the universities and other institutions of higher learning in the country. However, only those universities that are contemporary in character and forward-looking in their views and actions will be successful in meeting these challenges. To understand how the Malaysian education system works, and hence to figure PHEI's significance in it, it will first be necessary to look at the basis and make-up of its society.

History - Society And Education

Having ended in 1957, British colonialism in Malaya was a period of economic exploitation and political reconstruction, which entirely changed Malaya from its predominantly rural base to one active in the economy of the empire. The root of cultural pluralism in Malaysia is associated with the development of a plural society in the late 19th and 20th centuries. This change was in line with British colonial immigration policy, which favoured the encouragement of Chinese and Indian immigration into Malaya. The immigrants provided cheap labour, and they were also

loyal and obedient to their British masters who brought them to this new Malaya through the promise of wealth and prosperity (Rashid, 2002). The British left behind a plural society, represented by a multiracial population mix: 61% Bumiputeras or Malays and other indigenous people, 32% ethnic Chinese, 8% ethnic Indians and 1% others (Tan, 2002). The British colonial economic legacy in Malaya has also created an economic dualism, whereby modern and traditional economic sectors developed side by side shaping and influencing the development of existing problems such as inequality and poverty. Most importantly these development patterns divided the ethnic groups according to economic power, social structure and class (Rashid, 2002).

After independence in 1957 an effort was made to resolve the division of Malaysian society through the formulation of the National Educational Policy (1960). The main priority has been towards national unity, social integration and nation building. However, as a consequence of the race riot of May 1969, the issues of inequality and disparity among the races (particularly the backwardness of the Malays) have been identified as a crucial element in undermining race relations in Malaysia. The subsequent two fundamental policies introduced by the government were 'Rukunegara' (National Ideology) and the New Economic Policy. It was argued that these policies are a necessary solution to achieve racial integration based on social and economic justice. The National Ideology has emerged from the 1970s' onwards as a framework underlying the formulation of a Malaysian education system and The National Education policy (Rizvi, 1997). Educational policy formulated in this period aimed to balance the Malay and non-Malay participation in education, particularly at tertiary levels. Quota systems have been introduced to ensure this.

One consequence of the New Economic policy was that, from 1971 onward, the Bumiputera were provided with a range of hitherto unforeseen educational opportunities, whilst the non-Bumiputera segment of the population largely had to fend for themselves. Certainly the government has indicated no formal intention to abdicate control of education at any level, for it has always been acutely aware of the political significance of schooling. What it has done is to shift funding responsibility to individual citizens (Leigh, 1997). The National Economic Policy was replaced by the National Development Plan (1990-2110), which is a master policy framework for several other policy plans to realise the vision of the country to become a developed,

industrialised country by the year 2020. One of the key sectors to contribute to this aim is the tertiary education sector.

The Government has made known its intention to reduce Malaysia's high tertiary educational outflow by promoting domestic higher education through a bigger role for the private sector while continuing to expand public sector institutions of higher learning (Salih, 1997). The impact of changes in the global environment and the emergence of a knowledge economy saw the establishment of the Multimedia Super Corridor in Malaysia in 1996. The Multimedia Super Corridor is an 'information superhighway' designed to facilitate the development of information technology as the next engine of growth for Malaysia. It is also a strategy to make Malaysia an information technology hub in the region. This project has involved 33 leading world information technology companies (including Sun Microsoft Systems, Microsoft and Oracle Corporations) and 200-300 local information technology companies, which called for a supply of 20,000 to 40,000 knowledge workers between 1998 and 2000 (Tan, 2002)

To cope with the new education trends and paralleling higher education reforms taking place in many countries in the recent era, the Parliament of Malaysia enacted five bills in 1995-96. These Acts represented a watershed in Malaysia higher education and led to the restructuring of not only the public but also private higher education. There are four national goals to be realised in the restructuring of private higher education, namely: (i) to produce the necessary human resources for the country, (ii) to export higher education, (iii) to stem the flow of higher education students offshore in order to reduce the outflow of Malaysian currency, and (iv) to enrol 40% of a student age cohort in higher education by the year 2020 to realise the aim to make Malaysia a developed, industrialised country (Tan, 2002). These reiterate the importance given to the higher education sector in the country.

The Education Acts 1995 and 1996 have sought to grapple with the consideration of objectives and issues of educational governance while acknowledging the importance of the sector. On the one hand, they have recognized the importance of institutional choice and initiative, and of letting the local leadership assume responsibility for the management of curriculum, pedagogy and resources. In thus seeking to corporatise

Malaysia's public universities, they have effectively acknowledged that the educational bureaucracy has in the past constrained the development of Malaysian higher education, and that greater devolution of responsibility will make public universities much more responsive to the changing social and economic conditions, and to the demands of the community. Yet the state has retained fairly tight controls over curriculum. It is already clear that the administrative policies prescribed in the Acts will not always sit easily with the rhetoric of institutional autonomy. Dilemmas of educational governance are also reflected in the Malaysian government's Private Higher Education Act 1996 as the Act permits the expansion of the private education sector in Malaysia, which by comparison with other ASEAN countries is already fairly large (Rizvi, 1997).

In addition to the large number of individuals who went overseas to study, private education in Malaysia has in the past taken the form of privately owned and managed colleges, many with twinning arrangements with overseas universities. The government now permits local private universities to be established, allow overseas universities to establish branch campuses in Malaysia, and upgrade several local colleges into degree granting 'university colleges'. This extension of private education creates a number of dilemmas for the Malaysian higher education system, for example around the issues of quality control, cultural matters, research, access and equity. From the point of view of the state, the question is how and to what extent private education should or could be subjected to a range of controls without making it unprofitable for private entrepreneurs to invest in education. As Salih (1997) surmises, for Malaysia to hold its own internationally, the emphasis in education would now have to shift in favour of post-secondary learning, the basic objectives of mass literacy and the equalisation of opportunities having been achieved.

Purpose

The purpose of private higher education in Malaysia is unique in relation to its history and society. The increasing expansion of private education is certainly the case in Malaysia. The external context for educational change in Malaysia is 'Vision 2020' which is the vision for the country to be a fully developed nation through deliberate

creation of new opportunities. This is why Nordin (1996) sees not 'crisis', but 'challenge', as the motivation for change. The internal context for change comes with the incorporation of the National Philosophy of Education placing emphasis on the student's development of a holistic mind, body, emotion and spirit. Both these external and internal factors provide a context for employee change, especially through expansion of employee role. The overall objective of the government is to create national unity by eradicating poverty and restructuring society whereby education has been given the task of achieving this objective. Schools are neutral grounds for racial integration, and production of graduates for the envisioned new economy. Yet it is not impossible for private education to pose contradictions with the national objective due to medium of instruction, curriculum, and courses irrelevant to national needs (Ismail, 1997). Rules and regulations have come into place.

The government has been very restrictive on the setting up of private institutions of higher learning for political reasons, despite higher education being an important pre-requisite to economic growth. In Malaysia, education has been politically important since independence and assigned a key role in the process of nation building. Further, even with all the restrictions imposed, a worrying trend was emerging. To prevent the emergence of a dual education culture, one National Language-instructed quota-system based on ethnicity, and another English language-instructed non-Bumiputera dominated, there was considerable pressure for the government to regulate the development of private education in Malaysia. Socially and politically, and even economically, this dual system is not acceptable (Salih, 1997).

The relationship between educational development and the socio-political and economic contexts is complex. This complexity stems from the implementation of Vision 2020 (Lee, 1999b), which establishes a tight developmental framework for higher education and yet allows a degree of liberalisation that facilitates the democratisation, privatisation and decentralisation of the Malaysian education system to promote school-based management and teacher empowerment. Furthermore, the private sector has been encouraged to play an active role in providing higher education. In Malaysia, private college market-oriented twinning programs with their flexible admission requirements, speedy completion and competitive cost, are generally considered good investment commodities. With the growing trend of

privatisation and even corporatisation of education in Malaysia, local institutions are adopting a whole range of symbolic trappings of 'corporate culture' like mission statements, strategic plans, Total Quality Management (TQM), right-sizing, multi-skilling, and staff development (Lee, 2000).

Hence, in studying the impact of any new phenomena on Malaysian PHEIs, it needs to be understood that the Malaysian government faces a dilemma in wanting to liberalise and privatise education on the one hand, and needing to regulate and control private education so as to ensure quality and equity on the other. The Education Acts 1995 and 1996 have sought to grapple with on the one hand the importance of institutional choice and initiative, and of letting the local leadership assume responsibility for, and champion, the management of curriculum, pedagogy and resources; and on the other hand to try and regulate these institutions (Rizvi, 1997). From the point of view of the state, the question is how and to what extent, private education should or could be subjected to a range of controls without making it unprofitable for private entrepreneurs to invest in education. Hence private institutions have had to contend with several legislations that benefited and complicated matters of their survival. Many developing countries experience frustrations when implementing education policies that fundamentally require efficient organisational supports (Abdullah, 1996). These institutions must consider policy structure, network and environment during interplay with the bureaucratic education ministry as the delivery mechanism.

A Case Study: Sunway College

One of the institutions that are an example of the history, function and purpose of privatisation of higher education in Malaysia is Sunway University College. The institution is a result of the need and vision of the nation to become an educational hub for the region. But it cannot be denied that higher education, even in Malaysia, is taking a different direction in the world today. Tertiary education access coupled with the advent of e-commerce and technology is charting new territory. SYC's participation in this new territory probably makes it the same as any Western HEI as

the combination of education, e-commerce and technology is a global phenomenon. Because of cultural and political context SYC may be lagging behind its developed nation counterparts, especially in terms of funding and technology access, but it is one of the more dynamic institutions among Malaysian HEIs (Lee, 1999). Rosenberg (2001) predicts that the combined public and private higher education e-learning market will explode and could easily equal or surpass the corporate e-learning market. A validation for this is a major finding of a study conducted by Tan (2002) showing that private higher education in Malaysia recently has changed towards a market model and a fully-fledged education marketplace. Information technology education has become a marketplace to the information technology multinational corporations and the local private colleges as a result of the government's strong emphasis to develop an 'edge' in the knowledge economy. Globalization, isomorphism and privatization are identified as underpinning forces influencing the Government and the players' responses. Within this context, the case study will be used as an investigation tool in this research.

There are several advantages of using the case study. Even though it can be argued that case studies provide little basis for scientific generalisation, the case study does not represent a sample, and the investigator's goal is to expand and generalise theories (analytic generalisation) and not to enumerate frequencies (statistical generalisation) (Yin, 1994). Furthermore, in examining case studies a large part of the onus rests upon the reader. Validity, both internal and external, is needed to counter generalisability but the reader needs to decide the value of the 'truth' being presented (Wellington, 2000). Hence, even though case study accounts can be decried as subjective, biased, impressionistic, and lacking in precision, they give appeal by providing human interest, good stories and a more humanistic mode of presentation than that of the traditional quantitative style (Burns, 2000). However, it can form the basis for designing more extensive quantitative studies, and help participants clarify their perspectives. Primarily, case study data is strong in reality, and allows generalisation either about an instance or from an instance to a class. However Burns reminds us that the focus of attention is on the case in its idiosyncratic complexity, not on the whole population of cases. Such a complexity would be the transformation of Malaysian private education from a colonial trans-national model to one making

Malaysian higher education a major export in the region, with the inevitable inclusion of e-learning, that is taking place.

The Research

Aims And Objectives

Having looked at the external context of Malaysian private higher education, it is now necessary to see how it fits the thrust of this research. The aim of the research is to ascertain how e-learning can be successfully incorporated within a PHEI, and to what extent e-learning implementation affects, if it does in the first place, management in the case study of choice, which is SYC. The questions which will be raised are as follows. Firstly, are there champions for e-learning in SYC? If so, what are their roles and functions? Are they effective? Next, how are the changes being dealt with within the management framework of the institution? Third, what is the communication strategy, if any, that is going into the implementation of e-learning? Finally, what is the existing culture that pervades the institution and management of SYC?

The Concept Of E-Learning

The aims and objectives of this thesis are very intertwined with e-learning. Rosenberg defines e-learning as that which "refers to the use of Internet technologies to deliver a broad array of solutions that enhance knowledge and performance" (Rosenberg 2001, p.28). Garrison expands on this definition:

> The essential feature of e-learning extends beyond its access to information and builds on its communicative and interactive features. The goal of quality e-learning is to blend diversity and cohesiveness into a dynamic and intellectually challenging 'learning ecology'."
>
> (Garrison and Anderson, 2003).

However, many institutions overlook change management when implementing e-learning (Gordon, 2003). In the excitement of trying something new, few companies manage the change required to successfully implement e-learning, which requires organisations to think differently about training. Some basic differences include the fact that e-learning makes training available anytime, not just at scheduled times. Managers can also be more actively involved in the development of employees and held accountable for their performance. Furthermore, data collected from learning events can be mined to assess the impact of training on the bottom line. Focusing on this, rather than attendance, course completion, and satisfaction, is a giant leap forward. E-learning also puts development tools in the hands of employees. Therefore, e-learning with all its inherent changes and evolutions provides a fascinating field of study.

Overview Of The Thesis

From the preceding discussion, it can be seen that private higher education in Malaysia has a history of nation building its identity with different races having a representative access to growth in the economy via education. As such, PHEI's have a unique culture in supplementing public education's provisions while playing within the rules set by the government. The organisational climate for management in these institutions has to be dynamic and versatile in balancing rules and regulations, and market needs that include new phenomena. Technology inclusions in education appear to be here to stay, and one of the shapes it takes is e-learning. How PHEI's in Malaysia deal with learning, and its impact on organisational climate can determine the success of change management strategies that the particular institution uses. The background to these issues will be further discussed in the literature review.

The literature review will cover the main issues and ideas within the field of e-learning, change, and management structures. Therefore, the literature review, or Chapter 2, covers the nature of hierarchical organisational structures. This will set the stage for the discussion of e-learning, namely its definition, studies evaluating it so far, and e-learning's impact on SYC's hierarchical structure. As a new strategy usually requires some adaptation, change management will be explained with

emphasis on e-learning and technological change, and an introduction to Rosenberg's 4Cs. Finally, the conceptual framework, which is informed by the review, will then be laid out in its final form to be used for analysis of the research findings.

Chapter 3 will cover the methodology of the research. Having analysed the existing state of knowledge in the literature review, this chapter will now look into the methodology of the research. The chapter restates the aims/objectives of the research and clarifies the key research questions, explains the research design and why it is appropriate for its particular purpose, discusses the validity and ethical issues in the study, describes the methods of investigation, justification of the methods according to the research literature while discussing their strengths and limitations, and finally explains how the data will be analysed. Therefore this section is divided into a discussion of the aims, objectives and questions, research design, validity and ethics, methods, strengths and limitations, and finally the data analysis framework.

Chapter 4 lays out the findings of the research. Data are grouped according to information relating to the champions who will lead e-learning efforts, an integrated change strategy to bring it all together, communications that position e-learning's value, and a culture of learning. The 4Cs are explained in the literature review. Being mainly qualitative in nature, the data consists mainly of interview material consisting interviewee quotes and their analysis. Triangulation is provided by a survey done among the management in the case study institution, and documentary analysis. Chapter 5 is an analysis of the results found in Chapter 4, and this will in turn result in the recommendations to be laid out in Chapter 6, the conclusion.

Chapter 2
Literature Review

Having discussed the context of PHEIs in Malaysia, the links to e-learning and organisational theory will be now explained in the literature review. This chapter will present a review of the relevant literature to study the impact, if any, the introduction of e-learning may have on the management of SYC. The first section presents an overview of organisational theory, with emphasis on bureaucracy and organisational culture, and how these may give rise to tensions and challenges for the introduction and development of e-learning. Next, e-learning is defined and explained in terms of implications and potential. Finally, the management implications - particularly the management of change will be reviewed. The integration of the effective management of culture and change through communication and champions are summarised in the Rosenberg model, and this is used as the basis for evaluating the impact of e-learning implementation on the case study organisation, specifically management. In conclusion, insights from the literature review are summed up in the application of a suitable theoretical framework that will be used to evaluate the impact. First, however, the concept of organisational structure will be reviewed.

Organisational Structure

Nature Of Hierarchical Organisations

One of e-learning's possible impacts, which this thesis investigates, is on hierarchical structures of PHEIs. Sporn (1999) suggests that the ideal academic organisation operates according to a change-oriented mission with collegial governance structures providing faculty support for adaptation. Hierarchical structures also have power issues. The exercise of power is a reciprocal relationship between the power holder and beholders. French and Raven (1968) describe power as the capacity to influence others and refer to

five bases or sources of power that a leader can utilize in motivating his/her followers. Reward power is the ability to persuade others to comply with the leader's wishes by controlling the rewards. Coercive power is the ability to exercise authority to impose sanctions on staff who in turn will try to avoid them by complying with the leader's directions. Expert power is where the leader has expertise in the core business of the organisation, enabling him or her to advice and guide staff. Legitimate power means the leader has legal authority for the position that is recognized by the staff. In referent power, the leader has ideas and beliefs and/or charisma that the staff admires and is happy to seek advice and adjudication (French and Raven, 1968).

Even so, Oliver (1994) stresses the need to build flexibility, a fluid and careful use of power, into planning in a way that reflects the aspirations and the key competencies of a company. Questions of culture may be far more important than those of structure when considering the future of universities. On the one hand, the argument is made that university management and administration can build more adaptive structures and processes. On the other hand, higher education research has to better understand the importance of university adaptation across countries, types of institutions, and specific environments (Sporn, 1999). In understanding organisations in their global contexts, personnel in leadership roles will be increasingly sought from less predictable backgrounds. Staffing demographics will be increasingly multicultural, transnational, and cross-sectoral, with movement in and out of the tertiary sector increasing (Drew and Bensley, 2001).

Having looked at hierarchy and power issues, present theories of management are still of little assistance in understanding the strategic implications of information/knowledge management, an inevitability of increasing use of information technologies in today's Information Age, because they are based on the notion of the manufacturing company (Sveiby, 1992). However, Webber (2003) has developed the following rubric as a mechanism for considering our capacity to link new technologies and educative leadership:

Conservative ICT Leadership	**Educative ICT Leadership**
Technology	Possibilities
Role rigidity	Layered participation
Resource acquisition and management	Vision building
Policy implementation	Problem solving
ICT manager	ICT user
Safety	Innovation
Hoarding	Open access
Compliance	Engagement
Isolation	Seamless integration
Reactive	Agile
Fairplay	Social justice
Demanding equity	Positioning for equity
Individual	Network
Professional deskilling	Enabling
Isolated in-service	Ongoing professional development
Recipient	Entrepreneur
Exclusionary	Boundary breaking
Powerbroker	Power builder
Privacy	Public demonstration of learning
Standard, predictable, change resistant	Flexible, fragile, high reward

(Webber, 2003)

It appears that the above model indicates that educative ICT (Information Communications Technology) leadership requires a leader who will not only lead, but champion through effective communication as well as can be seen through the concepts of problem solving, social justice and public demonstration of learning, among others. This is true of any new change that is introduced in an organisation. The nature of the organisation is perhaps better understood through an explication of the models of administration.

Summary Of Models

There are several models of administration. Administrative structure is the pattern of relationships between administrative/executive positions and amongst the staff within the organisation. The purpose of structure is the division of work amongst the staff and the coordination of these efforts towards the accomplishment of organisational goals and

objectives (Gamage and Pand, 2003), which inevitably contributes to the organisation's culture. An example of this view is Bush's (1995) education management models that vary in the extent of their applicability to the different types of institutions and, to a lesser degree, within any one section of education. The six models are formal, collegial, political, subjective, ambiguity, and cultural. These models help make the process of organisational decision-making a little easier to understand.

Gamage and Pand (2003) further the discussion on styles of organisational decision-making. Firstly, there is the autocratic style where the leader and/or manager on his or her own, without input or consultation from those affected takes the decision. Secondly, the persuasive style is where the leader and/or manager makes a decision without consulting those affected, and then sells the decision to them. Thirdly, consultative, where the leader/manager seeks the views of others, through a process of individual consultation or a brain storming session with the group affected and takes them into account in the decision making process. Finally, the leader/manager in the co-determinate style decides with the staff, either by consensus or majority, through a vote at a meeting convened for the purpose. This is not dissimilar to the formal model category discussed by Bush (1995), which can be applied to the case study of Sunway College. This is discussed in more detail in the following section.

The Case Study's Model

For the case study at hand, SYC has its own particular model of management. The development of the current management theory has occurred primarily in the 20th century. SYC falls under Bush's (1995) formal model category, within which it is a bureaucratic model. This is evidenced in SYC's organisational structure (see Figure 1), its *Human Resource Booklet* (2001) and also the Sunway Group's, which is its parent company, *Staff Handbook* (2001) that delineate the organisation's formal structures. The bureaucratic one is probably the most important of the formal models:

1. This model stresses the importance of the hierarchical authority structure with formal chains of command between the different positions in the hierarchy.
2. The approach emphasizes the goal orientation of the organisation. Institutions are dedicated to goals that are clearly delineated by the officers at the apex of the pyramid.
3. It suggests a division of labour with staff specialising in particular tasks on the basis of expertise.
4. Decisions and behaviour are governed by rules and regulations rather than personal initiative.
5. Impersonal relationships are emphasized between staff and clients. This neutrality is designed to minimize the impact of individuality on decision-making.
6. The recruitment and career progress of staff are determined by merit. Internal promotions, however, depend on the recommendation of the head or principal and there may be no formal process.

Of the influential schools of thought - job analysis, human relations and the structuralist emphasis upon bureaucracy - the latter seems the most appropriate for SYC (Sunway College, 2001) because the authorities that control the organisational members adopt the following five mechanisms:

- Hierarchical control of authority and close supervision;
- Establish and maintain adequate vertical communication;
- Develop bureaucratic rules and procedures to guide actions;
- Promulgate clear plans and guidelines to be observed;
- Addition of administrative positions to the hierarchy whenever the need arises.

(Gamage and Pand, 2003)

Livingston summarises, and appears to complete the descriptions given by Bush, and Gamage and Pand,

> Bureaucracy describes only the simple truth that as

> organisations grow and become more complex, more formal systems of regulation replace the informal understanding that is often sufficient for effective co-ordination in the smaller, simpler units.
>
> (Livingstone 1974, p.9).

Furthermore, in referring to Weber, Hughes (1985) opines that schools and colleges, particularly if they are large, conform to a considerable degree to the former's specification of bureaucracy, as judged by their division of work, their hierarchical structures, their rules and regulations, their impersonal procedures, and their employment practices based on technical criteria.

Hence, SYC's cultural features further reiterate its bureaucratic model, especially based on its mission statement and organisational structure. There are four interdependent elements of organisational activities that contribute to the prevailing culture: purpose, symbolism, network, and integration (Bush, 1995). With the growing trend of privatisation and even corporatisation of education in Malaysia, local institutions are adopting a whole range of symbolic trappings of 'corporate culture' like mission statements, strategic plans, Total Quality Management (TQM), right-sizing, multi-skilling, and staff development (Lee, 2000). One of the elements of the cultural model of education management is after all the goal or goals of an organisation. This vision is usually stated in a mission statement, which in turn leads to specific goals. How participants interpret it is important. But Whitty *et al.* (1998) is careful to remind us that all this has to be in line with the 'vision' of national education, especially after the legislation on private education control. There is then a rationalisation and wholesale redistribution of functions between center {government/state} and periphery such that the center maintains overall strategic control through fewer, but more precise, policy levers, contained in overall "mission statements", the setting of system goals and the operationalisation of criteria relating to "output quality".

How a local private institution for tertiary education balances the needs of the nation, legislation and need to make profit will now be looked at, to facilitate an understanding of its management style before analyzing the impact of e-learning on it. A multinational

corporation, The Sunway Group, established one of the leading private institutions of higher learning in Malaysia, Sunway College, in 1987. It is one of the pioneers in twinning programmes. As discussed above, private colleges are not allowed to confer degrees in this country. To circumvent this problem, "twinning" programmes were set up where local colleges forge partnerships with foreign universities. Students enroll in and are given all or part of their degree training by the foreign university via its local counterpart. Sunway College is currently linked with several universities in Australia, the United Kingdom and the United States. This college has a student enrollment of about 7,000 in a 22-acre campus at Bandar Sunway with good academic, recreational and hostel facilities. Sunway College was awarded the Multimedia Super Corridor (MSC) status – a government initiative to bring Malaysia to the 21st century through information technology - status in 1999 (Lee, 1999). Recently, the Ministry of Education has awarded Sunway College the status of a 'university college', which allows it to confer degrees.

Although it is a trust, SYC has very strong links with its parent company, especially in the important issue of payroll. Hence the vision of the corporation is also important to understand the vision of the college. The Sunway Group is involved in construction, property development and building materials. In a recent interview with CNBC Asia (2000), the CEO of The Sunway Group acknowledged the corporation as being a supporter of federal government policies. This is characteristic of many non-Bumiputera or non-Malay businesses. However, he affirms that it is not a family business unlike most Chinese businesses, as there is objective selection for roles within the corporation. As for treatment of employees, he keeps the 'door open,' especially during hard times, to help communication. The Sunway Group's mission statement can be found on its employee staff tag. In emphasising TQM, it states "we will involve all levels of our employees to focus on meeting customer requirements, be supported by effective systems and measures and make continuous improvement." The concept of quality is made clear as "meeting or exceeding customer's expectation." The statement is divided into the mission, pledge and staff. The mission is interesting as it incorporates the vision of the country:

> To grow with, and contribute to, the advancement of the nation as one of the most dynamic and well-diversified organisations among Malaysia's top conglomerates.
>
> (Sunway Group, 2001b)

The mission statement also goes on to encourage the commitment of every employee through an environment that promotes excellence and personal growth within a caring culture where all members strive together. The Sunway Group *Staff Handbook* 2001 has an interesting perspective on staff-management relationships. The *Statement of Corporate Purpose* states that the management of the Group subscribes strongly to the "open" management culture wherein problems and decisions are openly discussed. Overt and constructive confrontation is encouraged at all levels of the Group (this presumably includes SYC) to resolve problems and conflicts. Management is supposed to be self-critical. The Group's management is a balance between operating autonomy and flexibility on the one hand, and corporate input and direction on the other.

And now, this can be compared with the 'vision and mission' of SYC as found in the Human Resource Department's handout for 2001 (Figure 21). This mission literally incorporates the needs of the country with the goals of the organisation, both SYC and the Group. To understand how SYC operates, first of all one needs to accept the fact that East-West differences are wide and significant. According to Trompenaars and Hampden-Turner (1997), some historical roots of value differences are as follows. Firstly, there is the issue of supernatural religion versus secular humanism and enlightenment. Next, there is the dichotomy of belief and faith versus paradigmatic assumptions. Cartesian dualism versus 'The Way of Complementarity', and values as things versus values as wave-forms are further dichotomies. Other East-West differences are the treatment of cultures and values as mirror images, pioneer capitalism versus catch-up capitalism, and finite (competitive) and infinite (cooperative) games. What all this basically means, as with all developing nations, is that education in Malaysia is caught between the advance of the Western model of learning, and local understanding of knowledge.

Hofstede (1994) identified four cultural dimensions, which he suggests are universally applicable across all societies or nations. Along with the dimensions, he has also conducted several studies across cultures to identify the practice of these dimensions within different nations. The first is the concept of Power Distance (PD). According to Hofstede's study many Asian societies are high PD. So, in the workplace, hierarchy means existential inequality, subordinates expect to be told what to do and the ideal boss is a benevolent autocrat, a kind father figure. The second dimension is uncertainty avoidance. Most Asian societies, e.g. Singapore and Hong Kong, rank low on this. The third dimension is the masculinity/femininity dichotomy. Most societies lean to the masculine side and hence there is less of an East-West divide. Finally, Hofstede introduces the individualism/collectivism dimension. In the study, Malaysia is placed at the collectivist end. A fifth dimension was added later by Chinese scholars known as Confucian dynamism or short term/long term orientation. Long-term orientation characteristics include thrift, perseverance and willingness to make short-term sacrifices. Short term characteristics, on the other hand, include respect for tradition, fulfillment of social obligation and protection of one's face. Although associated with Chinese/Confucian values, the fifth dimension applies to other societies too (Dimmock, 2000). For example, the Chinese Contract is the concept of negotiation being about finding the best way for both parties. It is about the importance of compromise as prerequisite of progress – it is about investment. Handy (1990) discusses an example in South Malaysia; though this research will look at the relevance with e-learning.

In work and society, then, there are three layers of culture: outer layer that is explicit culture; middle layer that is norms and values; and the core that are assumptions about existence (Trompenaars and Hampden-Turner, 1997). In a survey discussed by Trompenaars and Hampden-Turner (1997b) on employee opinion of management styles in Eastern and Western countries the following are some interesting responses. The percentage of respondents opting for function rather than personality in a comparative study are: Malaysia 100%, UK 93%, USA 92% and Singapore 70%. To the question of what makes a good manager, the percentage of respondents opting to be left alone to get the job done in Malaysia is 63%. This perhaps indicates a greater need to be function

oriented. The figures are a useful description to understand the mindset when it comes to work in each of these countries, and with regards to PHEI management in Malaysia.

Cultures relying on power often create autocratic leaders and horizontal relationships that result in isolation. Vertical culture tends to have a long-term survival focus. It looks at potential and organisational flexibility, whereas horizontal culture is concerned with existing positions and facts (Cunningham, 1993). When it comes to education and structures, centralised accountability for curriculum delivery reinforces the need to maintain bureaucratic structures for enlarged but routine site-level administrative functions. Bush (1995) sees the basic dilemma in organisational design is the tension between differentiation and integration. Roles and interdependencies are co-coordinated vertically by authority and rules and laterally through meetings, task forces, teams and co-coordinators.

To take Bush's (1995) view that organisational structure is determined by the technology of the organisation and its environment, then the structure of Sunway College is very much role centered:

<u>Sunway College Organisation Chart:</u>

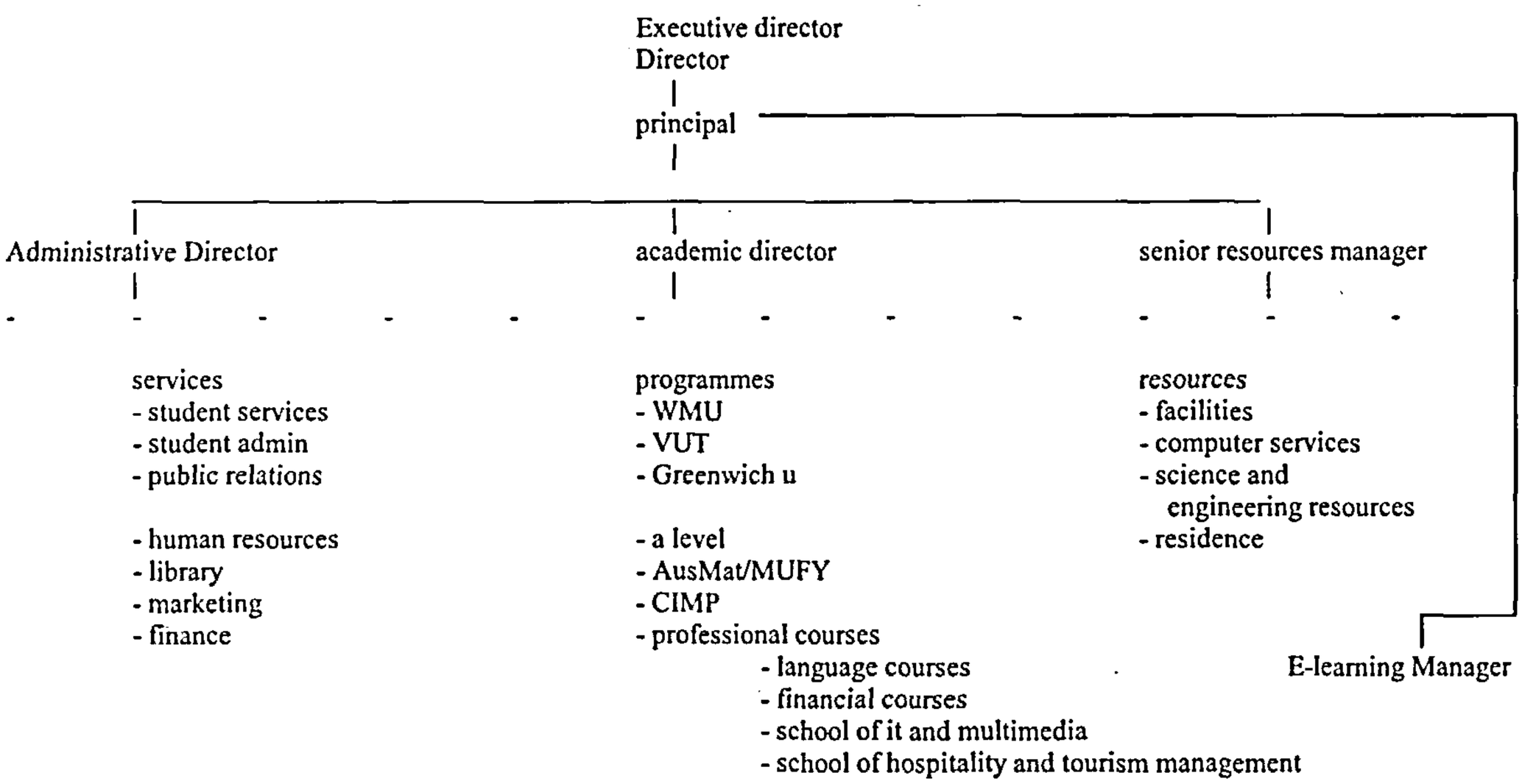

Figure 1. Sunway College Organisation Chart

The organisational hierarchy in Figure 1 falls in line with Handy's description of the organisation as a tribe. There are the club tribe, the role tribe, the task tribe and the person tribe. Sunway fits the description of the role tribe. It is made up of a pyramid of boxes where inside each box is a title, with an individual's name in smaller type below. This "box" continues even if the individual leaves. Communications are formal, and the organisation is managed rather than led. The role tribe refers usually to more mature concerns. Efficiency and fairness in routine tasks demand role culture. Furthermore, role organisations do not want too much independence or initiative (Handy, 1990b). A large institution, divided up into special functions, with requirements that the functions combine to produce a standardised product, is thus inevitably going to have a preponderance of role-culture elements (Handy and Aitken, 1986).

In summary, bureaucratic and cultural linkages refer to the formal enduring rules, procedures and authority relations, while cultural linkages include the system of collectively accepted meanings, beliefs, values and assumptions that organisational members use to guide their regular daily actions and interpret their surroundings. In the case of SYC, it is both bureaucratic and role centered. Dimmock (1993) explores the argument that principals need to use both bureaucratic and cultural linkages- the mechanism that coordinates people's activities- to build commitment among teachers to the goals of the school. Organisational culture is typically defined in terms of shared orientations that hold the unit together and give it a distinctive identity. But what is shared? And if it is shared, is it one or many cultures (Hoy and Miskel, 2001)? As explained earlier, bureaucracy is a theory in management that seems appropriate for Sunway College. What this research hopes to do is investigate how this model may give rise to tensions and challenges for the introduction and development of e-learning, especially in terms of the nature of relationships between staff.

E-Learning

At the turn of this new century, organisations in the private and public sectors face increased financial and business challenges. Belanger and Jordan (2000) contend that these challenges have created an imperative for distance learning as a practical solution that can lower the cost of education and training per learner. Distance learning will also increase education and training opportunities for all knowledge workers and provide lifelong learning opportunities for people of all ages, lifestyles, capabilities, and financial situations. If the higher education system, and in particular distance education management, is construed as a living ecosystem as Black (2003) suggests, one begins to understand the tremendous impact of interacting, dynamic, multiple forces that needs to be considered when managing and leading an organisation. Managers and/or leaders need to select appropriate approaches to management and leadership, since differing approaches are required in the many venues in which distance education now functions.

The Internet has redefined the boundaries and promise of distance education by enabling the simultaneous removal of time and place restrictions. The International Data Corporation (IDC) projects that the distance education market will grow at a compounded annual rate of 33% over the next few years. Moreover, internet usage will spread even further. It is expected that one billion people around the world will be connected to the Internet by 2005 (Onay, 2002). Distance education over the Internet entails much more than just a change in medium for the delivery of instruction. There are many stakeholders involved, each with a different perspective and set of priorities. Onay reiterates that change is one that deeply affects the university as an institution, and the instructor and the student as individuals. For the university, the transition to an internet based learning environment requires a restatement of institutional missions and priorities, a revision of conventional structures. For the instructor and student, online courses represent a shift in educational philosophy and instructional design as the emphasis moves from 'teaching' to 'learning', leading to a student-centered rather than an instructor-based system. The challenge for higher education is to find the best way to adjust to this paradigm.

Definition

Before analyzing the impact of e-learning on the management structure of the case study institution, it is useful to first define what e-learning is. The concept of online learning began with the education system (DeNigris and Witchel, 2000). The innovative concept that a quality education program could be delivered outside the classroom was truly a revolutionary concept. Prior to this, instruction was bound to four walls and a physical location. The thought that this did not have to be was heightened by the awareness that the Internet could effectively communicate information, instructional design, and the instructor's and student's personality for a mobile society. Therefore:

> E-Learning refers to the use of Internet technologies to deliver a broad array of solutions that enhance knowledge and performance.
>
> (Rosenberg 2001, p.28).

Asirvatham (2003) explores the concept that e-learning is learning in the digital age where technology is used to improve the learning, not just over the web but also in the classroom. With these definitions, e-learning is moving beyond just computer-based learning but includes connectivity via the internet. However, the concept and implications of e-learning are very wide. Collis and Moonen (2001) clarify several terms common to e-learning. Information technologies involve computers; and communication technologies will be taken as involving network systems, and in particular data networks running under the Internet protocol (IP). For the purposes of this research the concept of e-learning as a whole will be addressed.

When it comes to provision, e-learning is provided through a variety of ways, which Thorne (2003) elucidates. Firstly, there are online learning programmes incorporating activities and information that are very similar to other forms of distance learning. Second, there are online learning portals that take people through a variety of online and offline provisions. There are also websites that focus on specific product and service

offerings highlighting features and benefits in the same way as a corporate brochure. And finally, there are specific sites that allow download of articles and tools, either free or on a free trial basis prior to purchase. These different ways of e-learning provision highlight the fact that it is perhaps also important to transform perceptions of learning to understand the implications of the relatively new phenomenon of e-learning. According to Rosenberg (2001), following are the 5 major areas of transformation:

i) From teaching/training to performance (business value).
ii) From the classroom to anytime, anywhere (access).
iii) From paper to online.
iv) From physical facilities to networked facilities.
v) From cycle time to real time (speed).

Rosenberg's definition and suggested areas of transformation include both knowledge and performance. This is both at the academic and workplace levels. Continuous or lifelong education has become the differentiating factor in the worth of employees- the change in emphasis of power in knowledge. Therefore, the line between learning and training is continually blurring.

E-Learning At Work And Educational Institutions

According to Drucker (2001), the definition of electronic learning, cyber-learning, online-learning or web-based education is the use of the Internet to deliver and enable distributed learning. Learning at a distance becomes a convenient and practical reality through distributed learning. Schank (2002) predicts that the line between corporate education and university education will begin to blur. Institutional credentials will become less important than specific course certification. Universities were able to thrive in a non-virtual world because location was such a large factor in choosing one. When location goes out the window, which of course it does with any e-learning course, then quality is all that matters. The ultimate users of the product, namely the students and the employers, will assess quality.

The role of e-learning and its quality is important in the workplace as this is where time and place constraints do matter to employees and employers already responsible for results within their corporation. Workplace learning is the term used to describe learning when the bulk of the instruction lies within the workplace. It is an evolution of lifelong learning that appears to strike a balance between traditional teaching and work-based learning. In strengthening links with industry, universities have access to a virtually untapped market of potential students, meeting the educational development needs of employers and their employees (Rose *et al.*, 2001). A new study from ASTD and the MASIE Center provides relevant information for managers regarding the factors that motivate learners to accept and use e-learning. The study surveyed nearly 30 courses at 16 companies in the United States and over 700 learners to analyse the relationship between organisational efforts to market and motivate learner participation and actual satisfaction with technology as a means of providing learning. When learners were asked about their preferred time, 76% stated they preferred to take e-learning during working hours. This attributed to the fact that many learners do not want the technology training to disrupt their personal life, as today's workforce is striving for a good work-life balance (Masie, 2001).

Employers that provide their mandatory training during work hours will find they have a more satisfied workforce. There is an indication that voluntary e-learners, however, are more apt to take their courses at home, outside of regular work hours, as the study revealed that 39% of those surveyed preferred to take the course at home, with 44% actually taking the course at home. Presumably, when a learner voluntarily takes a course, they assume that training will most likely have to be completed on their own time. Many will accept this constraint as they report taking the course to increase their skill base for use in other jobs within or outside the organisation. Therefore, the skills learned for self-betterment outweigh the cost of intruding on their personal time (Masie, 2001).

Increasingly, to service this new market, an educational institution needs to take a look at its learning architecture. A learning architecture is the design, sequencing and integration

of all electronic and non-electronic components of learning to deliver optimum improvement in competence and performance. In other words, it is how everything is structured and integrated that contributes to that goal (Rosenberg, 2001). There is a possibility that there will not be, for example, a hundred different business courses to choose from. Eventually the field of business, rather than the individual universities at which economists happen to work, will control the content of the business courses. Similarly, corporations that develop high quality e-learning will be strongly tempted to sell those courses to the outside world and to establish themselves as the leaders in the disciplines in which they build the e-learning solution. The opportunities are great- higher education has the possibility, for the first time, of dramatically improving access to quality education (Luker, 2000). The solutions that internet technologies offer to enhance knowledge and performance refer to all levels of learning, whether in the world of work or academia. Along with the solutions, e-learning has its own set of implications which will be discussed in the next two sections.

The Hi-Touch And Hi-Tech Implications Of E-Learning

Organisations are realizing that they will not survive if they do not change. The result of this need to change is a push toward continuous learning for continuous improvement. One of the influences moving organisations in this direction is changes in technology that require learning new ways of thinking and working in order to fully use the computer and other kinds of new technology (Watkins and Marsick., 1993). Course design in online distance learning environments requires the re-conceptualisation of the structure of the course, the planning for educational and personal needs, the teacher's role, and the evaluation process. Therefore, when it comes to teaching in online distance learning environments, educators face specific challenges in moving from their comfort zone in traditional classrooms to teaching in online distance environments.

Faculty development in technical training, pedagogical training, and administrative support cannot be overemphasized in an online programme (Schrum and Benson, 2002).

Cox *et al.* (1999) report the findings of a small project funded by the Teacher Training Agency and Oracle through the MirandaNet project, set up to investigate the factors which have contributed to the continuing use of ICT by experienced ICT teachers in their teaching. The results show that the teachers who are already regular users of ICT have confidence in using ICT, perceive it to be useful for their personal work and for their teaching, and plan to extend its use further in the future. The authors conclude that these findings have implications for training other teachers to become regular users since many of the professional development courses focus on teachers acquiring basic IT skills. Perceived usefulness factors are probably equally important to teachers, therefore professional courses should increase the training of teachers in the pedagogical issues if teachers are to be convinced of the value of using ICT in their teaching.

In fact, one way educators can be retrained to teach with technology is through the use of technology itself (Kyriakidou, 1999). The learning organisation is one that learns continuously and transforms itself. The establishment of mechanisms to exchange and share what teams learn is a key element in creating the learning organisation. Electronic networks can do that (Watkins and Marsick, 1993). In productive and practical ways, computer mediated communication (CMC) can help teachers build and apply their knowledge, collaborate their learning with other fellow teachers, and reflect on their classroom practice. Son (2003) suggests that teacher development can be effectively promoted by CMC with interactive communication, professional collaboration and critical reflection in situated contexts. Implicitly or explicitly, teachers are requested to take responsibility for their own professional development. Influenced by the revolution in ICT, e-learning environments demand teachers to be aware of ways of using ICT to improve student learning. Barnett (2001) identifies ways network-based communications has influenced teacher professional development. It can reduce teacher isolation, foster reflection on practice, influence teaching practice and support the formation of communities of practice. The theory of selective adaptation proposes that teachers can be classified as 'technicians', 'strategists' or 'improvisers' according to the extent to which they selectively adapt their classroom practices (O'Donoghue and Chalmers, 2000).

Basically, what all this means is that both the educator and the learner in an e-learning programme need to develop some ICT capability. Kennewell *et al.* (2000) divide ICT capability into five components. Basic skills or routines are operations carried out without significant conscious thought. Second, techniques are procedures that still require a degree of conscious thought. One aspect of the learning of techniques is practicing in order to achieve automacity. Next, key concepts that underpin knowledge of techniques and processes are relatively few, and successful schools give careful attention to these and ensure that they are developed in a suitable wide range of applications and problem situations until they are well integrated into pupils' knowledge. Fourthly, processes are multi-stage procedures for achieving specified goals where the user needs an understanding of both the goal and the tools available in order to make appropriate choices. Finally, knowledge of processes and skills are not sufficient for successful application of ICT to problem situations: the user must also choose to use that knowledge, to monitor the progress being made, and to evaluate the solution gained. The effective use of ICT demands such higher order skills as recognizing when ICT use is appropriate, planning, conjecturing strategies, etc.

Other than the educator, the learner too goes through a re-skilling process in coping with e-learning. Schrum and Benson's (2002) research shows that learners face incredible challenges in adapting to online distance learning. For example, easy access to technology at home or at work, an important tool, is one of the most significant contributors to success in online learning environments. Furthermore, students with little technological experience delay learning new content while they learn the tools. It is important to recognize that when students learn off-campus, individual strengths and weaknesses may be amplified, and online instructors must have strategies that accommodate these learning preferences. Next, learners appear to appreciate the greater control over their learning, yet with that control come substantial responsibility for completing assignments and being prepared. A non-motivated student may experience difficulty in completing an online course, as motivation is one of the most significant factors in persistence in online learning. Lifestyle factors, too, are important in providing and creating an environment of support for the online distance learner. Finally, personal

quality assessment is also an important step toward successful online learning. Even, for example, older home-schooled children tend to take a significant amount of responsibility for their own education. This not only enables them to pursue their own areas of interest but also is useful where parents have a limited ability or knowledge in certain areas (O'Donoghue and Chapman, 2000).

Student participation methods have become more complex as larger numbers of older, nontraditional students have pursued higher education goals (Wallhaus, 2000). Therefore, DeNigris (2000) recommends students should have certain prerequisites before embarking on online/internet instruction. Students should master the ability to read and write well, the ability to express thoughts and emotions in writing, realistic expectations of the time commitment to learning via the internet or online, and sufficient training of the software before starting. This is opposed to the student's success in ground instruction, which is highly dependent on the ability to listen and comprehend what the trainer is saying. Furthermore, Collis and Moonen (2001) suggest a pedagogical model for flexible learning where the idea of the learner is as an active contributor to the learning experiences and resources of both him/herself and others. The choice for a theoretical basis for their pedagogical model is made around two key principles believed to be central to the focus of flexible-learning in today's participation-oriented society. The first principle is that learning situations should be designed for flexibility and adaptability; and the second principle is that learning situations should involve not only acquisition of skills and concepts but also opportunities to participate in and contribute to a learning community. Therefore, it can be seen that the retraining process for e-learning has several implications for the educator and the learner.

Aside from retraining and the acquisition of new skills in the world of e-learning, there are also hi-tech considerations to take into account. There is potential for internal networking (the intranet) as well as the internet to benefit both staff, students, and higher education as a whole, via e-learning. E-learning lowers cost and enhances business responsiveness. Messages are consistent or customized, depending on need, while content is more timely and dependable. Learning is 24/7 with no real user queuing time. E-

learning has universality, builds community, is highly scalable, leverages the corporate investment in the Web, and provides an increasingly valuable customer service as further benefits (Rosenberg, 2001). To reap these benefits, colleges and universities, like other organisations, have struggled to integrate information management. Kidwell *et al.* (2000) point out that e-business applications will once again highlight the need for integrated systems. Without seamless interfaces to administrative systems from web-based and internet applications, the processes of colleges and universities will once again require redundant data entry, confound data integrity, and hamper decision making. The key technology issue for application is how to get applications that are based on differing business technologies and with differing business processes and data models to work together in a common way on a network.

In general, integration methods that provide the highest level of functionality and the greatest degree of transparency also are the most complex to implement. It is matters such as these that require the management of resources to ensure adequate financial and material support is necessary for the effective implementation of any changes or developments in e-learning. Until quite recently technology investment has been driven primarily by administrative rather than academic requirements (Bates, 2000). In the last few years, though, the development of the Internet and especially the World Wide Web has led to a considerable increase in the use of computers and networks for academic as well as administrative purposes. These academic applications tend to use the same or similar networks and systems as administrative applications.

Bates (2000) explains that the use of existing networks for academic applications has some advantages and disadvantages. Infrastructure costs can be shared across a wide range of applications. However, as more and more use is made of information systems for educational purposes, capacity issues and conflict over priorities can arise.Also, the true cost of educational applications may be hidden because the time instructors spend developing technology-based education materials is not tracked or budgeted. Educational technology support costs may be under-budgeted because their importance is not understood or because such costs conflict with other funding priorities, such as research.

What is also not known is the impact of technology-based teaching on indirect costs or indirect benefits though there is some evidence that technology-based teaching could have significant potential advantages over face-to-face teaching. For instance, distributed learning could lead to reduced demand for new buildings, reductions in traffic to and from campus, and widening access to new target groups of learners. The technological and retraining contributors to e-learning implementation will be addressed in this research.

An Evaluation Of Research Studies On E-Learning

With e-learning defined, the issue of the research in hand will now be looked at, which is the implementation of e-learning. E-learning arose from the advent of Information Technology (IT). For most organisations the transition to electronic delivery will represent a significant shift. Inglis *et al.* (2002) predict it will involve major changes to the organisation: changes in staffing, procedures, infrastructure, and most of all to the culture of the organisation. Much research on IT emphasizes the rational aspects of IT use. However, cultural analyses have considered IT as a symbolic artifact open to social interpretation. Findings by Kaarst-Brown and Robey (1999) from ethnographic studies of two large insurance organisations illustrate how cultural assumptions about IT are implicated in IT management. They explain further that each of the archetypal cultural patterns identified reflects different assumptions about IT and those who control it. These patterns are similar to social responses to the unknown that have been found in human cultures for hundreds of years. It is suggested that organisations do not necessarily develop unified symbolic meanings of IT, but reveal even deeper interpretations consistent with contemporary theories of cultural differentiation and fragmentation.

On the education industry front, Korac-Kakabadse and Kouzmin (1999) have argued that IT has had an epochal impact on the development process of organisations including private higher education, as it punctuates the shift from traditional development to an emerging social totality with its own distinct organising principle. This shift is

exemplified by networked organisations, de-differentiation and an increased demand for symbolic goods- ones that may be consumed symbolically or gazed at, dreamed about, talked about, photographed; and handled, such as information goods, education, arts, culture, and leisure pursuits. Within a sociological context, IT influences social system continuity, control, identity and the integration of members, a role that education is a forerunner of. Under-estimating the impact of even subtle cultural differences on the establishment and maintenance of effective interpersonal relationships, especially in increased global networks, may undermine the strategies for an effective information search and hencde decisions, outcomes and organisational effectiveness - including in educational organisations.

Campus leaders today can develop and champion a shared campus vision. Luker (2000) stresses that it is critical for campus opinion leaders, decision makers, and other important stakeholders to understand and agree that a transformation is important and that it must be a central matter of campus planning and strategy. Further, leaders need to build consensus through a campus wide strategic plan. It is crucial to define a vision and craft a written strategic plan for networking and IT on campus that are understood and embraced far beyond the technical faculty and staff. This is a matter of campus culture, not just technology. Holt *et al.* (2001) suggest that the university's professed ideal is to identify narrowly defined corporate instructional technology solutions that can deliver the full range of educational, administrative and student support features to meet the organisational need to expand e-learning activities globally. The trend seems to be different from locally driven and controlled IT development and adoption towards investments in Instructional Management Systems (IMS). In reality, however, universities generally are developing and using a broader array of solutions to meet their needs than may be deemed desirable under a more centralised, corporatised IT approach. They highlight the ongoing need for innovative, dynamic organisational solutions to progress the e-learning agenda, and the thoughtful reconciliation of centralised and decentralised approaches to achieving desired ends.

The magnitude of the changes faced affects the whole culture of the university and cultural change implies a holistic approach to new methodologies and new thinking. There is continuous evolving changes in universities for example in headship (Smith, 2002), and several studies have explored, in practice, the transition from a traditional institution to include e-learning (Taylor, 2003; Simpson, 2001; Smith *et al.*, 2003). These researchers have begun to study the processes of implementation, even using a set diagnostic tool. However, none of them actually studied the change process that the institution goes through to implement e-learning. In actual implementation, Wilson (2001) notes that to permit some parts of the organisation to progress with the application of e-business to their operations but leaving other parts of a university's complex organisation using 20th century methodologies would be to introduce a discontinuity in the corporate profile of an institution. It is not possible for all to progress at a homogeneous rate, as certain areas of a university will embrace the electronic agenda with more enthusiasm than others. However no part of the university can be allowed to abdicate from the agenda of e-learning if a coherent corporate policy is to be sustained.

The potential application of information technology allows institutions to re-engineer almost every aspect of how a university operates, addressing every part of the organisation and challenging traditional functions and procedures. Such systematic changes are inevitably disruptive and require informed and creative leadership to deliver them successfully. To be successful the underpinning culture of the organisation has to adopt a new profile; and organisational culture is not a characteristic that is transformed overnight. It is the management of the transitional stages during this transformation that presents the challenge for higher education leadership (Wilson, 2001). Bates (2000) also notes that, the planning and the management strategies necessary for the successful implementation of new technologies really require a change in the culture of many institutions.

A laissez-faire approach to teaching and the use of technology becomes increasingly difficult or expensive as the application of technology to teaching spreads throughout an institution. The danger is that planning and rationalising the use of scarce resources may

lead to top down management and unacceptable restrictions on academic freedom. Again, one of the most difficult challenges will be to build a postindustrial form of organisation, with teaching and administration devolved to small and flexible units in an overall planning and management framework. It is interesting to see how this will be possible in the management of a Malaysian PHEI. Even for Malaysia, Gan's (1999) study shows that the transformation envisaged for IT and education in Malaysia necessitates the emergence of a new culture and a paradigm shift in education. Therefore, one needs to be aware of the subtle currents of influence within an organisation.

Having said all of the above about e-learning, an important issue is that universities do not see themselves as merely educational "content providers." A second issue is that higher education resists e-learning in the absence of many of the technical skills needed as well as an absence of experience in marketing and the customer service provision necessary to support and develop this new market. Funding for such initiatives at the university level is yet another challenge. Universities are also suspicious of the corporate side of e-learning as the former resist the "commoditisation" of knowledge (Cheese, 2003). To assist the university in implementing e-learning, Hass and Hamdan (2003) outline implementation recommendations intended to build and enhance a Malaysian university's own e-learning model. Restructuring the teaching methods to maximize the benefits of e-learning requires attention to basic policy foundations that influence the behaviours of faculty members, administrators and students (Hass and Hamdan, 2003). A blueprint or design document covers the training needs, instructional strategies, content and presentation. This document will be used to communicate with all members of the development team and is invaluable for keeping the project on track and focused. In the case of e-learning, proper planning and introduction of the institution's own guidelines is essential.

Guidelines are only as effective as the leadership that enforce and champion it. Effective leadership in ICT is often incidental rather than planned, with successful heads being commonly those who had a personal interest in ICT and a belief in both its educational and administrative potential. In exploring the nature of the relationship between

leadership and management, Comber and Lawson (2003) identify a contrast between the problem-solving and strategy developing function of leadership and the planning and organisational skills of management as a crucial dichotomy in dealing with conditions of stability and change. This contrast is highly pertinent to the attempt to integrate ICT into learning and teaching, as ICT use needs both innovation and robustness of provision to be most effective in raising standards. The authors report a potential model for the professional development of ICT leadership. Initial findings focus on the model of training, and the impact of the programme on the leadership of ICT. Early indicators suggest that it has had a significant and positive effect on many of the participants, increasing the knowledge and understanding of the potential of ICT for both managerial and pedagogic developments. This has manifested itself in a whole school approach to ICT development.

Another study shows that the strategy adopted by a school instituting such change and the resulting variation of pedagogical practices using ICT is strongly dependent on the school leader's vision and understanding of the role and impact of ICT in the curriculum, their goals and objectives for ICT integration, as well as the history, culture and background of the school and its general vision and mission (Yuen *et al.*, 2003). Other researchers echo similar sentiments. Many principals have not been prepared for their new role as technology leaders, and have therefore struggled to develop both the human and technical resources necessary to achieve ICT outcomes in their schools. There are several examples of these from North American, especially Canadian, schools (Flanagan and Jacobsen, 2003). But e-learning issues are not nation specific.

The global phenomenon of technology inclusion continues. In Mentz and Kobus's (2003) research, it became evident that principals surveyed in South Africa were frustrated because they seem unable to manage their schools in order to be in line with developments in the real world. The process of integrating technology into schools in a developing country should be managed at all levels, with the departments of education and school management constantly involved. Mentz and Kobus concluded it was evident from the survey that principals see themselves as fulfilling the role of mediator with the

private sector. If the integration of technology into schools is managed successfully, any developing country will reap the benefit not only locally, but also in becoming an integral part of the global economy. And as for Malaysia to move towards a knowledge economy, the government and private sector should deploy more e-learning solutions. The current obstacles for e-learning are the lack of digital content and mindset of the people (Asirvatham, 2003). And these are key factors to the success of e-learning implementation.

Change Management

Having looked at e-learning and its multifold implications, the final stage of review is change management which needs to deal with these implications. The culture of an organisation changes when there is disequilibrium resulting from the introduction of a foreign element. E-learning implementation is one of these elements. How this change is managed determines the success of the implementation. In fact, the challenge will be to use technology in ways that make lives and work simpler and more effective, instead of simply adding more tasks for to undertake; in providing not just more education but ways of prioritising and solving problems more efficiently and creatively (Knapper, 2001). The key to this is to work with change. Change management can be traced all the way back to Kurt Lewin. Lewin (1947) sees it as easier to change individuals formed into a group than to change any one of them separately. As long as group standards are unchanged, the individual will resist changes more strongly the farther he/she is to depart from group standards. Since at any level of unfreezing an existing situation, moving to a new level, and refreezing is determined by a force field, permanency implies that the new force field is made relatively secure against change. However, what do these concepts mean?

E-Learning And Technological Change

Levasseur (2001) describes Kurt Lewin's simple three-step change model as the most powerful tool for successful change enablers. According to Lewin, the first step in the process of changing behaviour is to unfreeze the existing situation. Only then can change or movement occur. To make the new behaviours stick, a third, refreezing step is necessary. In using Lewin's model to study technology change in organisations, Levasseur states that most failures in the introduction of new technology occur due to lack of effective communication at the beginning, coupled with the failure to involve affected individuals in the change process, which create barriers too great to scale later in the implementation phase of the project - they are not involved in the 'unfreeze' process. Step two, enabling change, depends upon leaders continuing to develop a sense of teamwork and active communication among those people in the enterprise engaged directly in the change effort and the other members of the organisation who have a stake in the outcome. Finally, successful refreezing requires a commitment from the change agents to remain actively involved until required new behaviours have replaced those that existed prior to the change. Therefore, refreezing is the final stage where change, in this case a management change caused by e-learning, becomes permanent.

Lewin (1951) originally developed the model for force field analysis, and it has since proven to be extremely useful in the context of analyzing and managing organisational problems. It is a relatively simple model, but one that is highly adaptable and easily expandable. In general the model depicts change as some intentional movement from a current situation (problem) to a futuristic, more desirable state (goals). The current state of affairs is maintained by an "organisational equilibrium" in which two sets of forces are observable. The "driving forces" represent the organisational and environmental factors that support the targeted change. The "restraining forces" might be characterized as barriers to the change, factors that tend to keep the organisation in a static condition. An equilibrium exists as long as these two sets of forces are maintained in some degree of static balance. Given this model, there are two basic intervention approaches, one consisting of adding driving forces and the other consisting of eliminating or reducing

restraining forces. Of course, the more powerful approach to facilitating change would be to add driving forces and eliminate restraining forces simultaneously. By so doing one introduces a state of disequilibrium. The disequilibrium remains as long as change is in progress. As the goals of the intervention are realized, the organisation returns to a state of equilibrium under the new conditions.

Lewin's influence can be seen in Schein, who shows how his own thinking has evolved from theorizing about 'planned change' to thinking about such processes more as 'managed learning'. He concludes that important changes inevitably involve deep cultural and subcultural assumptions:

> The ability to perceive and appreciate the meaning of such tacit cultural assumptions is enhanced by working across several cultures. If we want to enrich our understanding of these dynamics further, we also should become cross-cultural learners, to expose ourselves to different cultures and to reflect on what it means to try to change cultural assumptions. We may then discover why 'change' is better defined as 'learning', why cultures change through enlarging and broadening, not through destruction of elements, and why the involvement of the learner is so crucial to any kind of planned change or, as we might better conceptualise it, 'managed learning'. (Schein 1996, p.45)

Schein seems to be taking a democratic approach to change rather than a purely top-down initiative. He suggests organic change where participation is at all levels. Whitaker's (1993) model also suggests the same.

In looking at the concept of change with relevance to higher education, Kezar (2001) summarizes 6 models. Evolutionary models have gained popularity as researchers argue that colleges and universities are vulnerable to the external environment, which are perceived as playing a more direct role in higher education affairs. The themes that emerge related to the teleological models are mission, vision, strategic planning, focus on leadership, incentives, interrelationship among strategies, narrower efficiency and cost emphasis and limited success of models. There have been virtually no studies of life cycle or developmental change within higher education, making it difficult to assess the

viability of these models. Dialectical models, on the other hand, have strong explanatory power for understanding the way change occurs in higher education. An appeal of the social cognition model is that it accommodates the ambiguous environment of higher education, both at the individual and institutional level. Research on higher education change demonstrates the efficacy of cultural models for understanding the change process, but its potential for illuminating the change process is only partly fulfilled. Finally, multiple models are attempts to draw together the insights and principles from more than one approach.

On the other hand, Scott (1999) discusses key ingredients in the educational change process. A unique mix of external, system and local factors shape each change situation. Unlike Kezar (2001), Scott brings together the three elements in one model. They do not necessarily have the same amount of influence. External influences such as changes in technology, the economy, work or social values can, through government policy and funding guidelines, play an important role in shaping the overall change agenda for education. System influences, for instance the structure and decision-making process of a large education department, can also either help or hinder the management of continuous innovation and enhancement. At the local level, the culture, climate and quality of leadership in the workplace, along with the nature and expectations of the student body, the standard of equipment and available facilities, will also play a part. Therefore, effective change appears to be holistic change.

In dealing with the concept of change in tertiary education, Senge (2000) sees problems with the university as running deep. Universities and colleges have become the preeminent 'knowing institutions' in a world that increasingly favours 'learning institutions'. This means that a storehouse of knowledge has less value than organic, evolving organisations. For example, change management in the region's education front, hand-in-hand with its cultural peculiarities, offer Asia's own challenges. When Mok (2003) examined the most recent higher education reforms and restructuring in Hong Kong, Taiwan, and Mainland China, she made particular reference to the issues related to globalisation, decentralisation and marketisation in higher education. The findings

showed that there is a relevant concern in Mok's and other studies from different regions that suggest local factors were underemphasized (Deem, 2001; Herguner, 2000). For an institution to be organic and adaptable, local context cannot be ignored. Fullan (1993, p.109) perhaps summarizes it best, "Educational change is technically simple and socially complex." He identifies those factors that affect whether or not an initiated or decided-upon change happens in practice as the characteristics of change, local characteristics, and external factors. These are the interactive factors used to study the impact e-learning implementation has on the management of PHEIs.

As per the discussion above on technology and change, it can be seen that the technological age is far-reaching. One of the most widely attempted examples of change implementation in today's information society is that of technology, and more specifically internet technologies.

> Internet technologies have fundamentally altered the technological and economic landscapes so radically that it is now possible to make quantum leaps in the use of technology for learning.
> (Rosenberg 2001, p.xv)

Internet technologies have become a force to be reckoned with in learning too. Distance education has become more efficient, and rise of adult or workplace learning has increased tremendously. Institutionally, tertiary educational organisations find themselves inevitably having to go the 'e' way if they want to be a global market player.

Drew and Bensley (2001) discuss some of the new realities facing tertiary education organisations, one of which is a realisation that 'knowledge capital' is the lifeline of an organisation. This 'knowledge' is the key to success. To move towards being a knowledge rich organisation, IT needs to be embraced. Therefore, McCredie (2000) asserts that an effective IT planning process helps leaders determine an appropriate role for IT in learning, teaching, research, outreach, and management and predict how these might change over time. For example, Abbot's (2001) study examines the process by which IT, and in particular its role in relation to literacy, has become central to national

education policies. He proves this by tracing the history of computer use in schools and examining the concept of virtual learning communities using case studies involving learners, parents and educationalists. E-learning implementation itself requires leaders to do the same.

Further, Bates (2000) points out that the introduction of new technology is usually accompanied by major changes in the organisation of work. New technologies are associated with postindustrial forms of organisation based on highly skilled and flexible workers with a good degree of autonomy organised into relatively small and flexible operational units. In contrast, universities and colleges have been characterised by a mixture of agrarian and industrial forms of organisation, with hierarchical, bureaucratic, and relatively inflexible organisational structures and procedures, although the autonomy of tenured faculty maintains an element of flexibility, and in some respects, chaos. If new technology is usually accompanied by major changes in the organisation of work, then the introduction of new technologies for teaching will require a major shift towards postindustrial forms of organisation for universities and colleges. The planning and management strategies necessary for the successful implementation of new technologies really require a change in the culture of many institutions. As discussed earlier, one of the most difficult challenges will be to build a postindustrial form of organisation, with teaching and administration devolved to small and flexible units in an overall planning and management framework.

In this information age, Gumport (2000) argues that there has been a macro-trend whereby the dominant concept of public higher education is as an industry. This is probably the result of increased marketisation, as in Malaysia, of both public and private education. He identifies three interrelated mechanisms advancing this process: academic management, academic consumerism, and academic stratification. To cope, many local public institutions have embraced corporatisation or privatisation, bringing greater similarities to industry. Razik and Revelas (1997) appear to reiterate this point, stating that even while the purpose of colleges and industries may differ in their results, they are fundamentally similar in structure; in order to improve, both must become more open to

communication, action, change and learning. This includes careful management of change, and in most cases a champion of that change to communicate it, where wholesale adaptation to market pressures and managerial rationales could undermine traditional values. Therefore, the primary issue facing higher education is the need to initiate, implement, and manage meaningful, planned change (Lick, 1999). Managing change requires understanding that learning itself must change; adaptability is the priority, more than the change agent itself. Still, effective leadership and management of people will return as the touchstone for success (Drew and Bensley, 2001), the technological age notwithstanding.

Colleges and universities are just now crossing the threshold between modest experimentation with, and mainstream adoption of, information technologies. Even as instructional use of technology rises, institutional support for applications development has been dilatory (Van Dusen, 1997). Almost 70% of senior managers admit their enterprises have no e-learning strategy and more than 50% of senior managers say their business implemented e-learning without a formal strategy signed off at board level (Kanendran *et al.*, 2003). For organisational change, the essential principle in organisational development is to convert the organisation into a community of learners. The central purpose of development is to improve the knowledge and skills of organisational members to diagnose and solve everyday problems (Gamage and Pand, 2003). A socio-technical approach to reform becomes more apparent when it is believed that technology and innovations will play key roles in the schools of the future. What happens is the replacement of hierarchical rigid structures with new structures and procedures, which are flexible and adaptable to change, thereby enhancing staff participation and organisational development. This approach facilitates a more functional basis for task analysis, structural arrangements, selection and use of technology, and the selection and professional development of individuals and groups within the organisation (Gamage and Pand, 2003).

The socio-technical reform approach has been applied at different levels of research on higher education. In summarising and analysing the effect of external change on the

management of business schools within the higher education sector in Great Britain, Gore *et al.* (1998) look at the impact of technology as both the cause of change and a tool for its implementation. This thought is echoed in a local context by Bajunid (2001), who describes and explains the efforts of Malaysian society in transforming itself through technological advantage to attempt to become an information-rich "Knowledge Society" founded on positive universal values. Development in the educational sector is analysed in terms of the overall development initiatives of the nation. It is clear, according to the author, that the e-learning agenda is seen in the integrated and comprehensive context of human resource development, human intellectual and social capital development, the lifelong education agenda, the implementation of a policy of creation of opportunities for all, the creation of a global talent pool and the promotion of ICT competencies at the highest level. How the purpose and change implementation come together will be discussed in the next section, before application to the case study.

Rosenberg's 4Cs

In previous discussions it was seen that change management is key to successful implementation of a new phenomena, and this is done by a leader or leaders who are able to position the change clearly within an organisation while navigating the existing culture and inculcating an openness to learning. All these concepts are summaried in Rosenberg's (2001) theory for successful e-learning. He argues that the bottom line is that e-learning cannot thrive without careful attention to the "four Cs": Champions who will lead e-learning efforts, an integrated Change strategy to bring it all together, Communications that position e-learning's value, and a Culture of learning. The 4Cs become a holistic transition to e-learning, as illustrated in Figure 2.

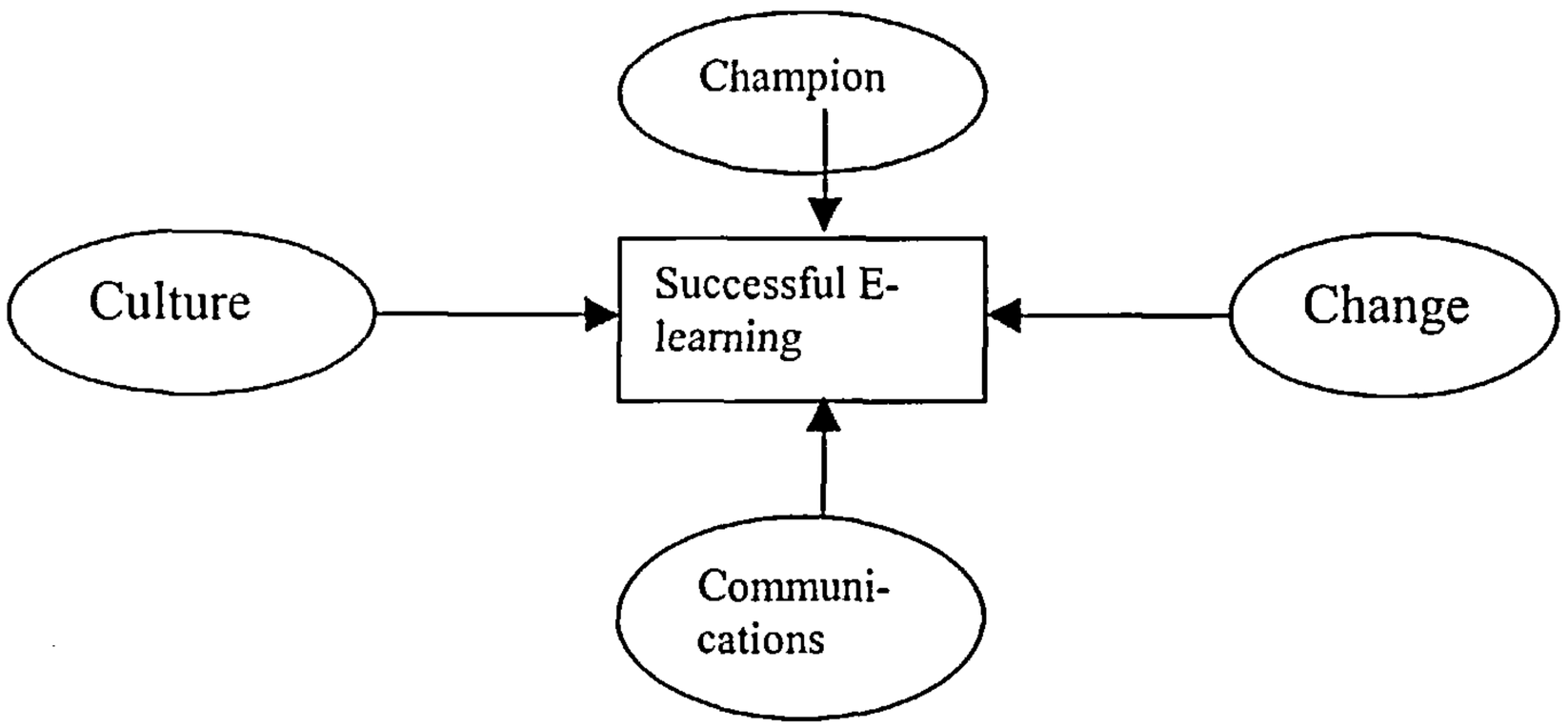

Figure 2. Successful e-learning factors based on Rosenberg's (2001) 4Cs

Besides simply supporting e-learning, managers can show ownership through their vigilance- they can personally get involved in helping to lead the initiative, to make sure it goes the way it should. Managers need to be champions of e-learning; key management roles could contribute to effective implementation. Secondly, as discussed above, technology and change is a force to be reckoned with, and managed well, too. Change management focuses on ensuring that an organisation and its people are committed and capable of executing a business plan. Next, developing an effective communications plan, as part of an effective change strategy, and with a leader in place, there can be evaluation and careful reworking of the organisational climate to create an environment that will support the initiative. Finally, for e-learning to be successful, the culture must get beyond lip service to recognise learning as a valued part of what people do. With the existence of a culture of learning, the transition is more effective. With a champion with regards to management, technological change, with communication as part of the change strategy, and finally a culture of learning, the theory is that e-learning will be implemented effectively in an institution. Therefore, the data for this research will be collected according to these four categories. The data will then be analysed according to the following framework, built step by step to its logical end.

Conceptual Framework

Based on the literature review in the preceding sections, it will be argued that the change agent cannot be separated from the external context - they both contribute to the evolution of the organisation. The organisations that will truly excel in the future will be the organisations that discover how to tap people's commitment and capacity to learn at all levels in an organisation (Senge, 1994). This learning provides an openness resulting in adaptability to change. And after all, change is only as good as the commitment of the people to make it work. Mission, strategy and goals exist for an organisation to succeed in the sense of accomplishing its mission, surviving, and growing. Through these it must fulfill what its various environments demand and afford (Schein, 1999). The uniqueness of the nature of PHEIs and its management structures cannot be ignored when studying a global phenomenon such as e-learning, which this research hopes to explore through investigating how e-learning implementation affects PHEI management structures.

In summary, the literature review above has looked at the nature of PHEIs, paying particular attention to an institution in Malaysia which will be used as a case study. In identifying the nature and main issues in management structures, it has been identified that SYC subscribes to the theory of the role tribe and bureaucracy. There has been no research done on the impact of e-learning on PHEI management structures, especially within the Malaysian context, and this is what this thesis hopes to explore. Additionally, it has also been discussed in this chapter how champion, communication, culture, and change has continuously been an issue throughout the literature review. Rosenberg's model summarises that these four elements contribute to a successful implementation of e-learning. Therefore, as shown in the conceptual framework (Figure 3), this research will marry the gaps in existing research identified in the literature review, which is the study of how far e-learning impacts the management structures of Malaysian PHEIs, using SYC as a case study and using Rosenberg's model of the requirements for the successful implementation of e-learning:

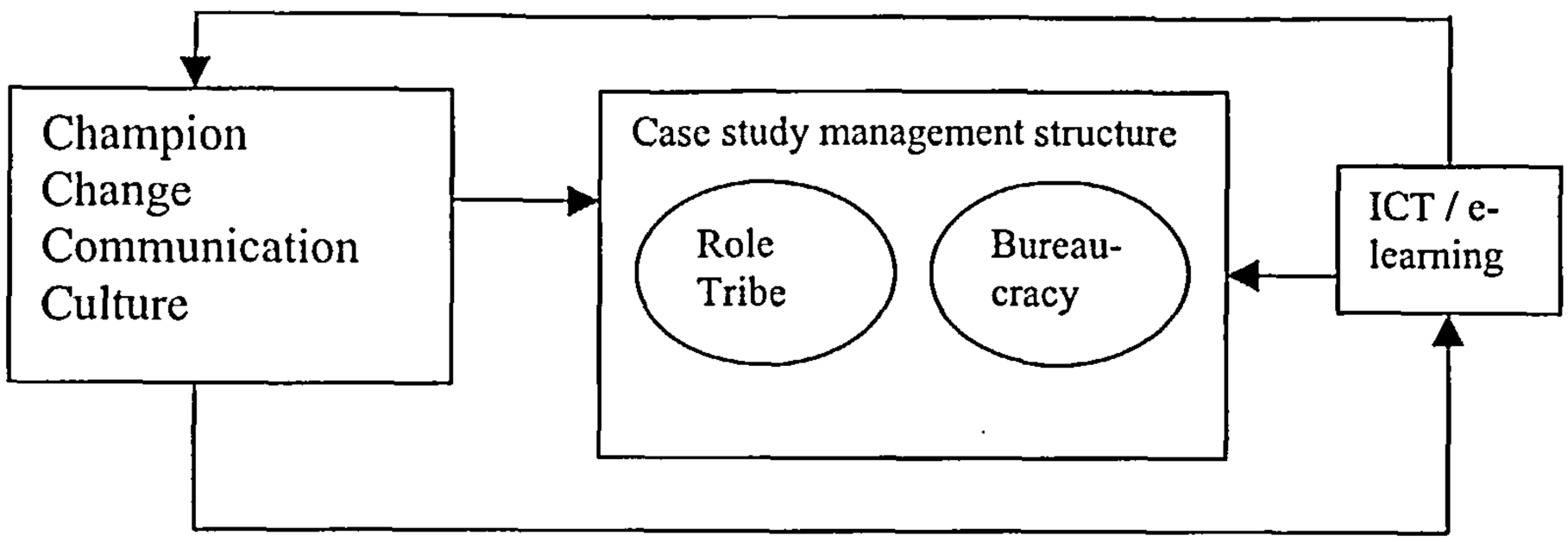

Figure 3. The Conceptual Framework

It is argued that the successful implementation of e-learning requires a champion, management of change, effective communication, and a culture open to learning in an institution. These in turn affect the way e-learning is implemented. Both e-learning and its arms of change have an influence on a institution of learning, in this case a Malaysian PHEI which has been identified as having a management structure of a role tribe and bureaucracy.

The research is of value to set the course for other institutions of higher learning in Malaysia to be able to successfully introduce and proceed with e-learning in their education agenda. The review of literature on organisational theory has shown that an Asian context, or any context with its own peculiarities, does bring with it a culture of its own which influences management structures. The review of literature on e-learning shows that the evolution from distance learning to technology integration has resulted in a state of learning which can be referred to as e-learning with all its inherent implications. For the purposes of this study, e-learning's implications in terms of management structures will be evaluated. The literature review on change management, emphasizing the transition process involved in successful e-learning implementation shows that the components of champion, change, communication and culture are necessary for a holistic integrated change mechanism. Therefore, e-learning's implication on management structures within an Asian PHEI will be studied via the context of Rosenberg's 4Cs of e-learning implementation. How the theoretical framework presented above (Figure 3), incorporating the arms of change in the case study, is used in the research design is the subject of the next chapter.

Chapter 3

Methodology

Introduction

It was argued in the literature review that the successful implementation of e-learning requires a champion, management of change, effective communication, and a culture open to learning in an institution. These in turn affect the way e-learning is implemented. Both e-learning and its arms of change have an influence on an institution of learning, in this case a Malaysian PHEI which has been identified as having a management structure of a role tribe and bureaucracy. In summary, this process will investigate the implementation of e-learning in SYC, and if, and how far, there is an impact on management structures using Rosenberg's 4Cs. It will also investigate to what extent the implementation is successful and the methodology of the research will be discussed. This chapter restates the aims/objectives of the research and clarifies the key research questions, explains the research design and why it is appropriate for its particular purpose, discusses the validity and ethical issues in the study, describes the methods of investigation, justification of the methods according to the research literature while discussing their strengths and limitations, and finally explains how the data will be analysed according to a data analysis framework.

Aims, Objectives And Research Questions

It is the management of the transitional stages during transformation that presents the challenge for higher education leadership. E-learning and its implementation has become a marketplace to the information technology multinational corporations and the local private colleges as a result of the Malaysian government's strong emphasis to develop an 'edge' in the knowledge economy. These have impacted to generate a transformation of Malaysian private education from a post-colonial creation of national identity to one

making Malaysian higher education a major export in the region. Therefore this research looks at the change that comes about in PHEIs with the implementation of e-learning, taking into account issues raised in the literature review and based on the resulting framework in the previous chapter.

Hence, this chapter describes the methods used to achieve the aims and objectives of the thesis. The aims of the study is to provide an analysis and explanation of the change management process, if any, when implementing e-learning; and to provide an interpretation of the emerging themes that have or have not arisen from those changes that take place. The objective of the investigation is to pave the way for PHEIs in Malaysia to adapt to the fast changing landscape of education, especially with the dynamic advent of e-learning. As per the previous chapter on the literature review, it was concluded that successful implementation of e-learning requires attention paid to four factors: champion, change, communication and culture. Therefore, the data was collected and analysed according to the following research questions:

i) Are there champions for e-learning in SYC? If so, what are their roles and functions? Are they effective?

ii) How are the changes being dealt with within the management framework of the institution?

iii) What is the communication strategy, if any, that is going into the implementation of e-learning?

iv) What is the existing culture that pervades the institution and management of SYC?

There are several reasons why Sunway College was selected as the case study for this thesis. Firstly, it has just set up its e-learning department to champion its cause for e-learning. Also, SYC is no stranger to change as it is one of the pioneers and premier players in the local private higher education scene. It has global partners, and Sunway Group as private local owners, but essentially under the umbrella of the Ministry of Education. However, having many parties involved in the establishment and running of an educational institution can prove a challenge for communication between all. Finally,

it has always had an evolving 'e' culture of sorts, and this can be seen through its accreditation by the government as being an MSC status company, which means it is adequately IT enabled to meet the nation's vision to be a fully developed nation by the year 2020. Therefore, SYC is ripe for implementation study. Before the study itself, the research design will be explored in the following section.

The Research Design

There has been much debate as to the best form of education research. As paradigms are ways of thinking, any formal comparison between competing paradigms and any objective test for assessing the merits of opposing perspectives, is not available, since the paradigms will differ on principles fundamental to their definition. The principles most relevant here, include how the perspectives do or do not accommodate values, do or do not recognise the provisional nature of all knowledge and its source in human subjectivity and do or do not represent a form of social control. Much of the debate about theory has been directed to resolving these questions, though the progress has been slight (Lane, 1995). There are direct implications for the methodological concerns of researchers, since the contrasting ontologies, epistemologies and models of human beings will in turn demand different research methods. Investigators adopting a positivist approach to the social world and who treat it like the world of natural phenomena as being hard, real and external to the individual, will choose from a range of traditional options- surveys, experiments, and the like. Others favouring the more subjectivist approach and who view the social world as being of a much softer, personal, humanly created kind will select from a comparable range of recent and emerging techniques- accounts, participant observation and personal constructs, for example (Cohen and Manion, 1994). Recognition of the need to localise the knowledge underlying administrative preparation at a fairly fundamental level is also gaining ground (Collins, 1996). Localising knowledge with relevance to this thesis will be in the context of PHEIs in Malaysia.

The concept of e-learning is intertwined with IT. Much research on IT emphasizes the rational aspects of IT use. However, cultural analyses have considered IT as a symbolic artifact open to social interpretation. Findings by Kaarst-Brown and Robey (1999) from ethnographic studies of two large insurance organisations illustrate how cultural assumptions about IT are implicated in IT management. Each of the archetypal cultural patterns identified reflects different assumptions about IT and those who control it. These patterns are similar to social responses to the unknown that have been found in human cultures for hundreds of years. It is suggested that organisations do not necessarily develop unified symbolic meanings of IT, but reveal even deeper interpretations consistent with contemporary theories of cultural differentiation and fragmentation.

As IT and the internet are becoming almost synonymous, as is e-learning and the internet as discussed in previously with regards to e-learning definition encompassing connectivity, in a study conducted by Maule (1998), it was found that internet content design theory directly encompasses important aspects of instructional and informational studies research. From the various methodologies and academic perspectives emerge patterns of inquiry focusing on interaction and interactivity, electronic interpersonal and interactive communication, and strategies for human enhancement through carefully applied machine intelligence. Technologies alter the means through which users access, process, manipulate, store and redistribute information. Perhaps this affects the way users think and act. Through studies of the convergence of media, and of their related information practices, future information managers may gain a strategic perspective on the potential role and application of advanced information services. Academic programs focusing on internet studies and information management may thereby be based on research frameworks from traditional disciplines, and evolve to provide for new developments not yet adequately addressed in existing academic specialisations.

Another issue that would be wise to address in choosing a research methodology for local research involving e-learning, is methodological problems in cross-cultural comparisons.

Of concern here is the problem of research paradigms. Both qualitative (interpretive) and quantitative (empirical-analytic) methodologies are appropriate for conducting cross-cultural research, but each can bring its own set of problems in making comparisons of concepts or behaviour between settings (Heck, 1996). Interpretive studies carry the assumption that researchers can best know the reality of a situation by becoming immersed in the stream of events and activities. Because in field studies one is in close interaction with individuals in their day-to-day settings, it is more difficult to make generalisations about their behaviour to other settings- but this is not the aim anyway. Heck goes on to explain that one may criticise that such studies often highlight idiosyncratic behaviour (because of their focus on one specific culture or setting). Empirical-analytic (e.g. positivist, objectivist) inquiry is characterised by the researcher's detachment from the phenomenon under study. However, in quantitative studies, the validity (and reliability) of attempts to measure the conceptual components of any leadership model can also be called into question; for example, the necessity of decontextualizing the actions and meanings of those actions from their cultural context by the very act of measuring and conducting statistical tests of inference. Leadership and culture generalise social interactions (in both language and behaviour), however, it is because similar experiences can be verified through empirical means. In the presence of such dilemmas and scientific traditions emphasising both qualitative and quantitative data analyses as ways of knowing, cross-cultural statistical analyses continue to compete with historical and case studies of separate cultures.

In addition to the concerns of e-learning and cross-cultural research, Malaysia's own unique education agenda also needs to be addressed in choosing an appropriate research paradigm. The pluralistic nation has resulted in several redistributive efforts made by a small group of individuals, made behind closed doors, to equalise education opportunities for all races. These decisions remained sensitive areas even after implementation, and public discussions on these topics were often restricted. In such situations, decisions would be made based on considerations other than educational ones; thus, findings from research would be utilised only if these findings supported decisions already made. Now however, things are changing slightly as increasingly, findings from educational research

projects are being considered in the decision-making process in Southeast Asia. Research findings are being utilised to support, or rationalise, education decisions. These efforts, however, are still largely within the domain of the Ministry of Education (Aziz, 1991).

However the coming decades, most particularly the years preceding 2020, pose massive challenges for Malaysia to face and will ultimately determine its destiny to be an industrialised country in its own mould. Failure to do so will mean that it will only join the club of the present developed countries or worse still remain as a developing country. As the ultimate wealth of a nation is its human resource, the change taking place in Malaysia with regards to education is a delicate balance between fulfilling the needs of individuals and his/her contribution to the overall goals of the country (Nordin, 1997). This research will approach the issue of education, especially e-learning implementation in PHEIs in Malaysia, using the case study, which the next section of the thesis will discuss.

What Is Case Study?

It has been mentioned above that the case study is an individual study rich in subjectivity. Many decisions regarding the direction of the education system can be taken without sufficient knowledge and information of the array of possibilities open to meet specific needs. These decisions may also ignore the influence of the interplay of various important factors. This concern is expressed alike in both industrialised countries and developing countries. According to Rokicka (1999), neither the existence of traditional information systems and services, nor the present widespread availability of information technologies has resulted in a considerably greater utilisation of information in decision-making. And this is where research in form of the case study can play a great role in providing policy makers with the necessary information.

Case study can be defined as an empirical inquiry that investigates a contemporary phenomenon within its real-life context. The "contemporary phenomenon" within this paper is e-learning. The major social science research strategies are experiments, surveys,

archival analysis, histories, interviews, and case studies. The decision that has to be made is why, and when to do case studies rather than the other four on a certain topic. Yin (1994) disagrees that the various research strategies should be arrayed hierarchically e.g. case studies are appropriate for the exploratory phase of an investigation, that surveys and histories are appropriate for the descriptive phase, and that experiments are the only way of doing explanatory or causal inquiries. The more appropriate view of these different strategies is a pluralistic one. Each strategy can be used for exploratory, descriptive, or explanatory purposes. What distinguishes experiments, surveys, archival analysis, histories, and case studies is not this hierarchy but three other conditions. They are firstly, the type of research question posed; second, the extent of control an investigator has over actual behavioural events; and finally, the degree of focus on contemporary as opposed to historical events. However, the main criterion is the nature of the research question to be answered. As this researcher does not have much control over behavioural events and has a focus on the contemporary, the case study is most appropriate to ascertain the research question which seeks to uncover layers of meaning.

The suitability of the case study, as a subset of qualitative studies, are relevant for the choice made for this research. There are five particular research purposes for which qualitative studies are especially suited (Maxwell, 1996). Firstly, the purpose is for participants in the study to understand the meaning of the events, situations, and actions they are involved with and of the accounts they give of their lives and experiences. Next, the understanding of the particular context within which the participants act, and the influences that this context has on their actions can be assessed. Qualitative studies are also suited for the purposes of understanding the process by which events and actions take place, and in developing causal explanations or 'local causality'. Finally, identifying unanticipated phenomena and influences, and generating new grounded theories about the latter allows the researcher to explore further related issues in his or her study - more so than through quantitative methods. This local causality and unanticipated phenomena within the scope of this thesis can include culture and IT, which as discussed in the last chapter is an integral component of e-learning. How culture reacts to the continuously evolving nature of IT has an inherent incapability to be pinned down. Qualitative studies

allow a fluid analysis of meaning. However, as has been pointed out above, the various qualitative strategies are not mutually exclusive, but some situations in which a specific strategy has a distinct advantage can be identified (Yin, 1994; Wellington, 2000).

Newman and Benz (1998) state that consistent with assumptions of qualitative research philosophy, the critical emphasis in case studies is revealing the meaning of phenomena for the participants through asking 'how', 'why' and 'when' questions. All three have been incorporated in the survey for this research to reveal the meaning of the e-learning phenomena. Case study knowledge is concrete, contextual, and interpreted through the reader's experience. According to Cohen and Manion (1994), the case study researcher observes the characteristics of an individual unit. The purpose of this activity is to analyse the phenomena that constitute the life cycle of the unit with a view to establishing generalisations about the wider population to which that unit belongs. The researcher may obtain data either by directly involving him or herself in the "unit" through participant observation, or by indirectly doing so through non-participant observation. Yin (1994) takes the above definition a step further. In addition to the case study being an empirical inquiry that investigates a contemporary phenomenon within its real-life context,

> The case study inquiry copes with the technically distinctive situation in which there will be many more variables of interest than data points; and as one result relies on multiple sources of evidence, with data needing to converge in a triangulating fashion; and as another result benefits from the prior development of theoretical propositions to guide data collection and analysis.
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> (Yin 1994, p.13)

Case studies acknowledge the complexities of social truths while being capable of offering support to alternative viewpoints. Further, if considered as products, case studies may form an archive of descriptive material sufficiently rich to admit subsequent reinterpretation by other researchers or consumers. Case study insights also contribute to staff or individual self-development for within institutional feedback, for formative evaluation, and in educational policy making. Lastly, being a public-friendly form of research report, case studies may contribute towards the 'democratisation' of decision-

making and knowledge, and allows readers to judge the implications of a study for themselves (Cohen and Manion, 1994), even in this study by a private individual.

In summary, there are several advantages of using the case study. Even though it can be argued that case studies provide little basis for scientific generalisation, the case study does not represent a sample, and the investigator's goal is to expand and generalise theories (analytic generalisation) and not to enumerate frequencies (statistical generalisation) (Yin, 1994). Furthermore, in examining case studies a large part of the onus rests upon the reader. Validity, both internal and external, is needed to counter generalisability but the reader needs to decide the value of the 'truth' being presented (Wellington, 2000). Hence, even though case study accounts can be decried as subjective, biased, impressionistic, and lacking in precision, they give appeal by providing human interest, good stories and a more humanistic mode of presentation than that of the traditional quantitative style (Burns, 2000). However, it can form the basis for designing more extensive quantitative studies, and help participants clarify their perspectives. Primarily, case study data is strong in reality, and allows generalisation either about an instance or from an instance to a class. However Burns reminds us that the focus of attention is on the case in its idiosyncratic complexity, not on the whole population of cases. Before discussing case study data collection any further, however, research traditions within the region will be discussed to put the case study perspective locally. This will allow an understanding of local causality in research design.

Local Research Realities

In conducting research in the region, or Malaysia and her neighbours, many forms of research designs may not be suitable due to political sensitivities, which may be disturbed through most quantitative styles of research. For example, the fragile issue of racial quotas in Malaysian higher education access is not subject to open research other than by the government. Currently, the Ministry of Education coordinates research within the field. It appears that the context of educational research has been largely neglected by researchers. Hallack and Fagerlind (1991) suggest that there is a need to address the

problem of appropriate research frameworks and methods. They reiterate that although there are no Northern or Southern paradigms, there are definitions, assumptions, conceptual frameworks and methodologies that may be more or less appropriate to the priorities and conditions of a particular context. Varieties of approaches to collecting and analysing data - including probability samples, non-random samples, and ethnographic/anthropological approaches - need to be developed and adapted to deal with the wide range of problems and decisions facing educators in the developing world.

There is no clear framework, which can be used for the research on e-elarning implementation, though. But there are attempts at definite steps in the region, notably in Malaysia, to utilize alternative models such as the Islamic framework (Aziz, 1991), referring to the fact that the official religion of the country is Islam. However, there are no signs of results yet. Some authors, such as Hashim (1996) simply state that there should be research on the compatibility of Western and Islamic educational principles and on how they can be extended to benefit the country. The North-South paradigm assumes the developed-developing dichotomy and regards economic factors as the sole determinant of educational research. The North-South paradigm hinders exchange between respective educational researchers, and hinders the emergence of a particular philosophy or methodology of research that is specific to the culture of the region (Cheng, 1991). However if educational research is identified as a cultural endeavour, then the developed-developing distinction loses justification and in such a case the donor-recipient paradigm should be rejected. This would mean a re-drawing of the international map taking into consideration parameters other than economic indicators.

Even if not to be used now, in this research, the struggles of the region to carve out its own research culture and identity is worth acknowledging, and perhaps to be used in the future. Furthermore, this unfolding of evolving national and international realities could provide interesting and exciting opportunities for further in-depth research regarding educational administration and management. First mentioned in the literature review, with the decline of Western hegemony and the pretension to universalism of the intellectual constructs that are part and parcel of it, and concomitantly with the rise and new assertiveness of various non-Western and Third World areas, has also come the

demand for local, indigenous models of development (Bajunid, 1996). The result of which may include not only the unearthing of a whole school of educational research, but perhaps also the surfacing of other cultural groups in the context of educational research, especially within the new field of e-learning.

Until then, however, this researcher will use tools that are already at hand. Hence, even though large-scale quantitative studies can be very effective in identifying the outcomes of, for example, a major innovation in the curriculum, such studies do not readily lend themselves to exploring the interactive processes involved in the introduction of that innovation (Verma and Mallick, 1999). In fact, in a country where much information is sensitive, smaller scale research, for which case studies are very suited, would be a safer method to collect data. Small, privately conducted research such as this will contribute greatly to the educational research culture in the country, which in itself is indeed complex. However, the culture of decision-making in the region does not seem to place a lot of importance on research findings, except when these findings support decisions already made at political levels (Aziz, 1991). So it is hoped even if not for knowledge at political levels, which is not the intention anyway, this research will create potential for exploration for future work in the area.

Sampling

Aside from the diagnostic tool, researchers must take sampling decisions early in the overall planning of a survey. Case study research is not sampling research, as a case is not studied primarily to understand other cases (Stake, 1995). But sampling is used within the case to decide how the diagnostic tools are to be used. Researchers must take sampling decisions early in the overall planning of a survey. Due to factors of expense, time and accessibility, it is not always possible or practical to obtain measures from a population. Researchers endeavor therefore to collect information from a smaller group or subset of the population, otherwise known as the sample, in such a way that the knowledge gained is representative of the total population under study. There are two

methods of sampling. One yields probability samples in which, as the term implies, the probability of selection of each respondent is known. This includes simple random sampling, systematic sampling, stratified sampling, cluster sampling, and stage sampling. The other method yields non-probability samples, in which the probability of selection is unknown - convenience sampling, quota sampling, purposive sampling, dimensional sampling, directed sample selection, and snowball sampling (Cohen and Manion, 1994). It can be noted that generalisation is more accurate from the former.

Sampling as it should be theoretically is representative of its population within calculable margins of error; groups can be validly compared; and the size of differences or correlations between them in the population can be assessed (Sapsford, 1999). Some different types of sampling include sampling over time where the sample is drawn over from a series of events occurring, one at a time, over a period of time, thus consistent with the principle of random sampling. Random sampling is also possible, despite the absence of a sampling frame, of individuals when their geographical location and distribution are known, even though their identities are concealed, and this is called cluster sampling. Quota sampling is necessarily representative of the population with respect to the variables, which have been used to set the quotas.

The researcher also needs to be aware of sampling errors that occur not necessarily as the result of mistakes made in sampling procedures, but rather through variations, which may occur due to the chance selection of different individuals (Cohen and Manion, 1994). An issue the researcher has to deal with is non-sampling error. The sampling error of a simple random sample is dependent on the size of the sample. It decreases, in fact, as the square root of the sample size: with the same amount of variation in the sample, multiplying the sample size by four will have the effect of halving the sampling error, and multiplying it by nine will have the effect of reducing it to a third (Sapsford, 1999). The important thing, in terms of non-response, is to try to find out as much as possible about those who have not responded, in order to be able to estimate the likely biases in the sampling. For this research, however, the entire population set was used. The population targeted were the management of SYC as the impact to be researched was on the

management of a PHEI. There are only 43 managers representing approximately 90% of SYC's management staff. They are the heads of both the academic and non-academic departments, and the directors and principal of the institution. The 10% were not addressed as they were unavailable for various reasons. Hence a questionnaire was given out to the 43 managers. Out of the 43, 16 managers were identified to be involved in e-learning directly or indirectly in SYC, and all of them were interviewed. They consisted of the senior management which are the directors and the principal who can make policy decisions, the IT managers, the e-learning manager and his team (he preferred them to be interviewed also), and those heads of department who were in some way deploying e-learning, namely the IT and Professional courses. This is a non-probabilistic sample selection method, a directed sample selection where a judgmental criterion was already established by the researcher. Following will be a discussion of the three methods of data collection used in this research.

The Research Instruments

This thesis uses the case study for research. There are several ways of data collection, or "multiple sources of evidence" in case study. In order to reap the benefits of triangulation, especially to ensure validity and reliability, the previous section explained that the questionnaire, structured interview, and documents and records, were used for this research. This is a mixed methodology approach. Greene *et al.* (1989) give five purposes for mixed methods studies, which are triangulation, complementarity, initiation, development and expansion. The main aim of using mixed-methods in this study was expansion, which occurs when researchers mix methods in order to extend the scope, breadth and range of inquiry. The use of mixed methods in this study enabled the researcher to capture the richness and diversity of the case. The second reason for employing mixed methods in this study was development. This entails the sequential use of data from one method to plan and devise the use of another method in the following stage. Findings from one method help to shape the other methodology. In this case, findings from the questionnaire helped shape the interview.

There are, however, weaknesses to the mixed method approach, as Waysman and Savaya (1997) discuss. Mixed method evaluation, requires expertise in designing and implementing different methods, as well as in analyzing, interpreting and integrating the findings that they generate. This can be more costly. Furthermore, mixed methods may provide divergent and even contradictory findings regarding a single phenomenon. Responding to these challenges requires an additional investment of time and effort and, in some cases, possibly even an additional study. Finally, there appears to be a lack of clear operative guidelines for ways to apply mixed methods and, as such, great care needs to be taken to avoid misuse and misinterpretation of findings. The best way to minimize the weaknesses is to have a clear conception of the purpose for mixing methods, in this research explained in the preceding paragraph. This can help to ensure that the methodology actually employed will, in fact, serve the purpose for which it was intended. Wellington (2000, p.17) lends further support to the mixed-method approach by explaining that, "case studies can involve systematic, semi-quantitative observations," even though it is usually located within the interpretive paradigm. For this case study, these mixed selection of instruments were chosen for the research because, as Cohen and Manion (1994) point out, methodology triangulation can be used to better explain the complexity of human behaviour by analysis from more than one standpoint through use of both quantitative and qualitative data. The three methods will be discussed in greater detail below. But before that, it will be worthwhile to ensure the research's credibility by establishing the sampling process used for this research.

Questionnaire

The questionnaire was chosen to track the trend of practice and awareness, which indicates how well the champion of e-learning is visible and the effectiveness of the communication strategies used in e-learning implementation, as most questions were objective with predetermined answer options to be chosen from. As Malaysian organisations do not have a culture of directness (Abdullah, 2001), surveys are less

confrontational but provide useful leading questions into interviews. Questions were adapted from Rosenberg (2001) as the research questions formed the basis of the questionnaire which he had created and published in *e-Learning*. The questions in the survey seek to assess the readiness of private tertiary institutions in Malaysia to move towards e-learning. Private education is a business, and e-learning is leveraging on current market needs after all. This research will prove valuable in setting a diagnostic guide for all campuses heading towards a well thought out e-learning destination.

The Likert scale was used as the response mechanism, with one open-ended question at the end. This scale was chosen as attitudes are being measured. In contemporary usage, Likert scales present individuals with positively or negatively stated propositions and solicit respondents' opinions about the statements through a set of response keys. Typically, participants are asked to indicate their level of agreement or disagreement with a proposition on a graded four or five point scale (Hodge and Gillespie, 2003), which was the form used in this research, to be able to assess degrees of awareness. However indicators incorporating more than one dimension into an item may increase measurement error by increasing the level of cognitive complexity. Because of their design, Likert questions ask individuals to think along at least two different dimensions - content and intensity, and this can be confounding. Further, when five-point response keys are used, individuals may equate the midpoint option with a not applicable response related to content, whereas the score is recorded as a midlevel intensity response. Nevertheless, because of ease of construction as answer options to Rosenberg's pre-defined survey questions, and the intuitive appeal which are inherent in the answer options, the Likert scale was chosen for this research. The research questions on champion, change, communication and culture are as new as the concept of e-learning in SYC, and the Likert scale allows the respondents to indicate degrees, rather than absolutes which may be misleading, as answers. Furthermore, what the thesis seeks to assess is how far e-learning implementation makes an impact on management structures, not just whether or not it does.

It is not until there are some completed questionnaires available for analysis that the researcher can be sure her research needs are going to be met by the information asked for (Johnson, 1994). Ideally a pilot study tries out the research tool on respondents who would be eligible to take part in the main study. The experience of pilot study respondents is used to improve and amend the questionnaire before sending it out to the main research population. Researchers do pilot studies to measure the range of ideas or opinions that people have or the way that variables seem to hang together. For these purposes, people who are readily available (friends, coworkers) or people who volunteer may be useful in some cases (Fowler, 1995). The pilot for this research was conducted twice due to the following. In the first round, the pilot was distributed to five management staff, as an attempt was made to sample from the actual study population. Kidwell *et al.*'s (2000) checklist to prepare a campus for e-business was used (Appendix 1) in its complete form as the questions would look to assess SYC's readiness for e-learning. The questionnaire was presented as a Word document and sent to the respondents via e-mail. They were also personally informed and reminded in person about the questionnaire.

Wellington (2000) suggested several ways to maximize response rate. He suggested that the researcher would benefit from targeting the respondent by name; give clear instructions and the usual assurance, e.g. anonymity. It will also be better to go for brevity and clarity, warn the respondent in advance of its advent, include a stamped addressed envelope (if mail survey), and finally give polite reminders (after a suitable time) by letter and by phone. However, even though these suggestions were followed, including preparing them of the questionnaire's advent beforehand, only two responded - one in person and another via e-mail. Perhaps the lack of response could be due to the busy schedules of the respondents and the fact that perhaps e-mail questionnaires may still be considered tedious by some as they had to type the relevant letter to indicate the answer. The format was also not very user friendly. Some suggestions made by the two respondents were used to rework the second round of pilot (Appendix 2). They mainly included clarification of terms, and breaking up questions which were actually two combined.

The second round of pilot incorporated most of the suggestions from the first. The other suggestions were taken into account with the latter respondents' feedback for the final decision to be made as to the questionnaire's usability. This time the sample size was six, out of whom five respondents replied on time. Response time was quick as there was better personal relationship with the fellow lecturers. Additionally, the survey was on hardcopy and an interview was personally conducted to obtain feedback on the instruments and not much on data content, even though an additional subjective feedback section was added to the questionnaire on question clarity. Feedback was analysed based on Fowler's (1995) categorization of response data. These suggestions were considered in the final revision (Appendix 2).

However, based on the feedback given, it was learned that Rosenberg's (2001) set of diagnostic assessments would be more appropriate. Rosenberg's question sets were similar to the clarified final draft of responses to the pilot, but easier to understand and better phrased in simpler English. Language was an important component in understanding the survey, and it was learned that not all respondents could understand the level of language used. Appendix 3 is the sample of the questionnaire used. The sampling procedures have been discussed in the preceding discussion. Generally, this has been more successful than the pilot, and the tool was more appropriate to assess the extent of awareness of the e-learning phenomena according to the research questions of this thesis involving the four components of champion, change, communication, and culture.

How well a sample represents a population depends on the sample frame, the sample size, and the specific design of selection procedures. As the management of Sunway College is not very large, the questionnaire was administered to all 43 of them which includes the director of the board of directors, principal, director of administration, academic director, director of resources management, heads and assistants of the academic department, key staff spearheading e-learning development, and managers from administration, services and resources. This sample group represents approximately 90% of the management personnel. Not really a sample, as the numbers are small and therefore manageable to be

surveyed. The questionnaire was distributed to the respondents mailboxes after obtaining approval from the Academic Director and the Senior Director. They were given about one and a half weeks to respond by dropping the anonymous questionnaires into the researcher's mailbox. A successful 60% completed surveys were received. Out of the total number of people the questionnaires were given out to, a standardized interview was conducted on senior management, heads of department who have begun to be involved in e-learning, and the e-learning department team, making up 16 interviewees in total. They were selected as they would be the people involved in e-learning directly either through strategic decision-making or e-learning deployment, as explained earlier. After the questionnaire was received, senior management and managers directly involved in the e-learning process were interviewed.

Interview

Despite the weaknesses of the mixed method approach discussed earlier in this section, interviews and questionnaires can be complementary within a multi-part study. Questionnaires are a good way of checking the strength and incidence of the story that the interviewees seem to contain. In that sense, they can be a good check on an interpretation of interview data, as well as a way of exploring how widely views, feelings and understandings are shared (Arksey and Knight, 1999). The questionnaire was used to assess preparedness of the institution to embrace e-learning. This is necessary, as the readiness of an institution to implement e-learning will provide rich information as to the extent e-learning can be of any benefit to it. The questionnaire has a job to do: its function is measurement. Suggestions from Oppenheim (1992) and Rea and Parker (1992) as to question wording and order were heeded in preparing the survey. What it is to be measured can be found in the questionnaire specification, which must follow directly from the operational statement of the issues to be investigated and from the research design that has been adopted. Further, through intellectual effort based on in-depth interviews, the research design and the conceptualisation of the research problem, there should be a comprehensive listing of every variable to be measured and of the ways

in which this is to be accomplished. The interview provides in-depth information from the preliminary questions in the questionnaire which only senior management and key personnel will be able to indicate through what is both said and unsaid, especially on the key research issues of champion, change, communication, and culture. Again, this is because they were chosen because they had direct involvement in SYC's e-learning process.

Arksey and Knight (1999) state that the interview method may provide data on understandings, opinions, what people remember doing, attitudes, feelings and the like that people have in common. The "inter view" is a situation of knowledge production in which knowledge is created between the views of the two partners in the conversation (Kvale, 1996). The construction of knowledge is not completed by the interaction of the researchers and their subjects, but continues with the researchers' interpretations and reporting of their interviews, to conversations with other researchers about their findings. They may be more exploratory and qualitative (qualitative interviews), concentrating on the distinctive features of situations and events, and upon the beliefs of individuals or sub-cultures. Underlying the model from convergence to divergence that they offer, lies a constructivist view of knowledge. The claim is that perception, memory, emotion and understanding are human constructs, not objective things. Yet, this construction is not a chaotic process as it takes place within cultural and sub-cultural settings that provide a strong framework for meaning-making.

Walford (2001) believes that interviews can provide important data, and that it is often worthwhile conducting them. At the very least, they can inform what the person interviewed is prepared to say about the topic in the social context, time and place of that particular interview. There is a need to recognise that what was said will be co-constructed in that interview, and will be limited by perception, memory, evasions, self-deception and more on the part of both interviewer and interviewee, but that it can still have value. In order to clarify the nature of the research interview, Kvale (1996) emphasises the need for the researcher to extend his/her understanding of the nature of the conversational realities studied by the interview conversations. What is known of the

cultural world is through one's own conversations and by reading the conversations of others. The cultural world being conversed about is again a conversational world in which meaning has been constituted through negotiations of interpretations.

From the philosophies of the interview method, the types of interview will now be explained. There are three types of interviews; structured, unstructured and semi-structured (Arksey and Knight, 1999). Structured interviews produce simple descriptive information very quickly. It is often used as a precursor to more open-ended discussion, or alternatively afterwards to ascertain whether hypotheses generated during qualitative interviews are statistically verifiable. With the unstructured interview, the researcher will have decided only in general terms upon the main themes and topic areas to be explored, but will be flexible in the approaches used to explore them. However, at the analysis stage of the research, the time needed to do justice to all the data that has been collected is considerable. Semi-structured interviews fall between the structured and unstructured format, but are more similar to the latter in the sense that they too generate qualitative data. The interview is loosely structured around an interview guide, which contains key questions.

For this research, the interview, which was a follow up for part of the sample of the questionnaire respondents, was used to get a greater depth of understanding on the issues, but a structured format was used to ascertain how the responses could vary according to each respondent. This form is especially useful to look at the changes taking place with e-learning implementation. No pilot was conducted for the interview as the population set is very small - 16 in total. The subjects were a definite sample of senior management, middle managers who were involved in e-learning, and the e-learning team, as explained in the preceding section on sampling. Further, to ensure consistency of questions, a structured interview schedule was used. As stated above, the interviewees have been coded according to senior manager (SM), middle manager (MM) and the e-learning team (ET) to ensure anonymity. The questions, all open-ended, were adapted from Bates' (2000) and Kidwell *et al.*'s (2000) diagnostic list to ascertain an organisation's change to e-learning. With a schedule to be administered by the interviewer, the most important

thing is to guarantee standardized presentation as far as possible; if groups are to be compared, it is imperative that differences between them cannot be ascribed to differences in the questions that were asked or the way in which they were asked. This is necessary to the thesis as what is being ascertained would impact on perspectives of management structures, which includes elements of culture and communication which can be determined to an extent through the types of responses received, and what is not said. Partly this is ensured by practice and training. Partly however, it is a function of the design of the schedule (Sapsford, 1999). The phrasing of the question needs to be precise, unambiguous but as colloquial as possible. Please refer to the interview schedule (Appendix 4). The interview was conducted after the questionnaire survey that all the interviewees, except the Director of SYC, had the opportunity to respond to. The Director was not asked to participate in the questionnaire survey, as he was not involved in the day to day running of SYC, but rather in the strategic decision-making role of the college. He was also unavailable at that time. The interviews were conducted face-to-face, with a tape-recorder. The recorder was an option, but only 20% refused to allow it during the interview. The data was transcribed within a week after the interviews to capture the freshness of the information.

Documents and Records

Finally, documents and records complemented the data from the other two sources, questionnaire and interview, to illustrate the current state of e-learning and management culture within the organisation. In terms of documentary analysis, primary data sources are seen as the superior source of information. Even though secondary sources of data collection may be criticised as having limited worth because of the errors that result when information is passed on from one person to another, there are numerous occasions where a secondary source can contribute significantly to more valid and reliable historical research than would otherwise be the case (Cohen and Manion, 1994). It is also important to note the availability of data. In cases where sensitivities disallow access to primary data, secondary data can prove valuable.

For this research, even though both types of documentary data were used, greater use was of the primary source in analysis. The primary data sources were obtained from the SYC website and internal documentation from Human Resources. These were corporate and college vision and mission statements, organisational structure of SYC, brochures on programmes offered and online content, and the E-Learning Department's homepage information. Secondary data was collected from e-learning specialists and PHEI researchers in Malaysia. These have also been discussed in the introduction and the literature review. There was no access to minutes of meetings or any form of strategy documentation for SYC's direction in e-learning. This would have been valuable for insights into decision-making strategies. However, the existing documents that were accessed are valuable to indicate the current state of e-learning in the college and management structures, which will help in the understanding of communication channels and culture of the organisation.

Strengths And Limitations

There are several strengths and limitations of the methods of investigation. A common concern about case studies is that they provide little basis for scientific generalisation. The case study does not represent a sample, and the investigator's goal is to expand and generalise theories (analytic generalisation) and not to enumerate frequencies (statistical generalisation). Purposely choosing the unusual or just falling into a study leaves the question of generalisability up in the air. It is difficult to determine where the setting fits into the spectrum of human events. Whatever stance one takes on the issue of generalisability however, there seems to be one important general point. In examining case studies a large part of the onus rests upon the reader. Validity, both internal and external, is needed to counter generalisability but the reader needs to decide the value of the 'truth' being presented (Wellington, 2000). A third frequent complaint about case studies is that they take too long, and they result in massive, unreadable documents. This is however the traditional viewpoint. One could even do a valid and high-quality case

study without leaving the library and the telephone, not forgetting the wonders of the Internet and e-mail (Yin, 1994). However, it must be mentioned that a case study approach to education is likely to be personal. An observational study is commonly concerned with the in-depth study of an institution, usually a school, classroom etc. It is time consuming since prime value lies in richness of data, and unlikely that the researcher will begin with a hypothesis to be tested. Hence, as mentioned above, all case study research has a special obligation to provide legal and ethical protection to the subjects (Cohen and Manion, 1994).

However, even though case study accounts can be decried as subjective, biased, impressionistic, and lacking in precision, they give appeal by providing human interest, good stories and a more humanistic mode of presentation than that of the traditional quantitative style (Burns, 2000). A case study allows the researcher to explore further related issues and to understand the process by which events and actions take place, and in developing causal explanations or 'local causality' (Maxwell, 1996). However, case study data is still primarily strong in reality, and allows generalisation either about an instance or from an instance to a class. But Burns (2000) reminds us that the focus of attention is on the case in its idiosyncratic complexity, not on the whole population of cases.

There are several advantages in using case study in researching e-learning in Malaysia. Primarily, case study data is strong in reality, and allows generalisation either about an instance or from an instance to a class. So the study of one college in Malayasia, could give an idea about the effect of e-learning implementation's impact on most PHEIs here. But Burns (2000) reminds us that the focus of attention is on the case in its idiosyncratic complexity, not on the whole population of cases. As mentioned, the case study of SYC may give an idea of the state of the phenomenon, but may not explain definitely the issues involved. In this research, the trends across all PHEIs could not be ascertained for sure. Which is alright- knowledge is not only created as generalisations. Furthermore, e-learning is a rather new phenomenon among PHEIs in Malaysia, making trends difficult to ascertain at this point. The public world is positive and the private world is

interpretive. The problem for case study researchers is that, when they unpick simple positivist assumptions they find concepts like 'school' and 'teacher' have a very wide range of meanings, which have significant implications for practitioners and policy makers (Bassey, 1999). As a result, social relationships do not inherently contain meanings and those involved are unable to simply read off a resulting analysis from such relations (Haywood and Ghaill, 1998). These social relationships need to address the unique circumstances of the phenomena studied. The case study may lack in generalisability, but its strength is precisely in the uniqueness it addresses.

Another issue would be validity and reliability, which are necessary to good research practice. Internal validity is concerned with the relationships between cause and effect, and external validity is concerned with the extent to which a cause and effect relationship can be generalised to other contexts (Bassey, 1999). In addition to validity, reliability of research concerns "the replicability and consistency of the methods, conditions, and results" (Wiersma 2000, p.9). A principle that helps to deal with the problems of validity and reliability of the sources of evidence in a case study is triangulation. There are several forms of triangulation such as data source, investigator, theory, and methodological (Stake, 1995). Using multiple sources of evidence instead of just one is known as triangulation of different data sources, or data triangulation. This develops a converging line of inquiry allowing more convincing and accurate conclusions. The potential problems of construct validity, too, can be addressed with triangulation because the multiple sources of evidence essentially provide multiple measures of the same phenomenon (Yin, 1994). In this research, data triangulation, which is triangulating the perceptions of various categories of respondent, and methodological triangulation through the use of different instruments of enquiry, including interviews, questionnaires and documentary analysis were used.

Wellington (2000) discusses several ways of data collection, or "multiple sources of evidence" in case study. In order to reap the benefits of triangulation namely validity and reliability, one method from any of the following groups can be matched with two other types of sources. Firstly, there is observation, which includes participant observation,

systematic observation using standardised observation instruments, and simple observation that is made up of passive unobtrusive observation. Secondly, there is the interview that includes the structured interview with predetermined questions, focused/semi-structured interview, and open-ended interview. Thirdly, there is the use of documents and records, and finally a wide range of other techniques including questionnaires, standardised tests, scales, repertory grids, life histories, role playing, simulation and gaming.

Furthermore, when investigating one's own institution, there may be a possibility of some form of bias that come with insider research. At the heart of the qualitative approach is the assumption that a piece of qualitative research is very much influenced by the researcher's individual characteristics and viewpoints. Schofield (2000) explains that the goal is not to produce a standardised set of results that any other careful researcher in the same situation or studying the same issue would have produced. The goal is to produce a coherent and illuminating description of a situation that is based on a detailed study of that situation. Other researchers in a similar, or even the same, situation are not expected to replicate their findings in the sense of conceptualisation. As long as the other researchers' conclusions are not inconsistent with the original account, differences in the reports would not generally raise serious questions related to validity or generalisability, which is an important point to address when it comes to insider research.

Other than reliability and validity, another issue that any researcher needs to consider is ethics. A case study approach to education may be personal. Sometimes the case study investigator may be sloppy and allow equivocal evidence or bias views to influence the direction of the findings and conclusions (Verma and Mallick, 1999). For this reason, all case study research has a special obligation to provide legal and ethical protection to the subjects. To reduce the probability of these occurrences, Burns (2000) emphasises several skills needed by the case study investigator. The investigator must be able to formulate relevant and precise questions that enable the data to be extracted from the subject. He or she also needs to be a good listener, observing and sensing, as well as using his or her ear, while systematically recording data. Adaptiveness and flexibility is also a vital trait

as few case studies ever proceed exactly as planned. Finally, the investigator must have a grasp of the issue being studied and also possess a lack of bias (Burns, 2000).

To minimise insider bias and to ensure ethics, this researcher has made the greatest efforts to abide by all the guidelines above. It cannot be denied that being a member of the institution surveyed may have garnered more cautious responses in data collection and some judgement on the part of the researcher, and this may have affected the richness and objectivity of the findings. However, caution was taken to minimises these occurences. The questions for the interview and survey had been vetted, and the survey piloted, before the actual data collection. Feedback from these processes was incorporated in the final form of the collection tools. The researcher also made a conscious effort to keep interruption to a minimum while subjects responded in interviews while recording as much as possible both the tangible and intangible responses. Finally, adequate preparation by way of reading and the literature review within the field allowed the researcher to be adaptive and flexible with responses while maintaining a neutral perspective as much as possible, leaning back to the knowledge in the field rather than personal judgments. During survey research, a basic guideline for ethics is that the researcher should make sure that no individual suffers any adverse consequences as a result of the survey. To the extent that it is feasible, a good researcher also will be attentive to maximizing positive outcomes of the research process.

However, there are several issues to consider when safeguarding the interests of interviewees. Some negative outcomes could be potential harms incurred during the study, cost in terms of time and money, injudicious use of data especially if there is no written consent to outline the boundaries. Arksey and Knight (1999) explain that potential benefits could be interviewees knowing they are contributing, the interview experience being fun, interviewee gains knowledge, talking at length can be cathartic, and sometimes financial reimbursement. If the interviewer is a member of any research council and/or professional associations, they should adhere to the formulated code of practice setting out how researchers should behave ethically. Informed consent is also important; its purpose is to safeguard participants' privacy and welfare, and to give them

a choice about whether or not to take part in the study. Ethical survey research can be promoted by informing respondents about what it is they are volunteering for, and by protecting the respondents with regards to the way in which the information they provide will be treated (Fowler, 1995; Bell, 1993). In this research tape recorders were used only with permission, and the interviewees and questionnaire respondents were notified of the intent of the research and have been assured of anonymity. The interviewees have been coded according to senior manager (SM), middle manager (MM) and the e-learning team (ET) so that in analysis, there will be no revealing of specific identities to the reader. Hence efforts have been taken to ensure this research is strong, valid, reliable and ethical.

Data Analysis Framework

In summary the case study is a strong tool to understand any phenomenon clearly within its local context. As discussed earlier, even though the case study is generally considered part of the interpretive paradigm, this study uses a mixed methodology approach to capture the richness and complexity of the relevant data. The research investigation on the successful implementation of e-learning requiring a clear champion, effective management of change, good communication, and a culture of learning in an organisation requires clear explanation of context which the case study can provide. Based on the above, the following framework will be used to analyse the data in the next chapter:

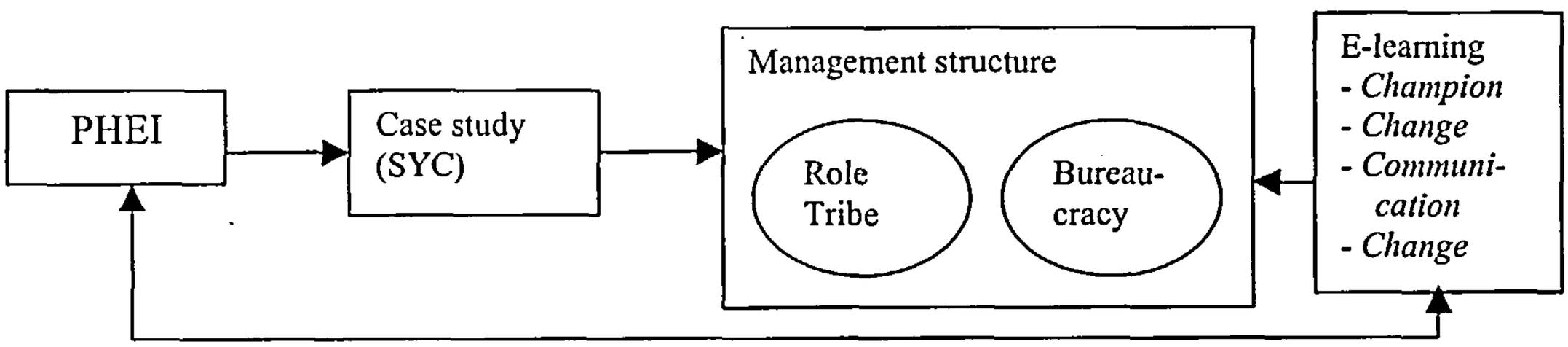

Figure 4. Framework of Analysis

As may be seen in Figure 4, e-learning impact on PHEI management structures in this particular case study will take into account it's current culture and structures. Any new phenomenon's effect comes from a change that takes place.

It is necessary, then, to look at change and its role in this research. As PHEIs, like other organisations, strive to become knowledge-based they need to meet the challenges of harnessing knowledge and information to sustain competitive advantage. Dhillon's (2001) research indicates that effective management of teams is needed to turn the university into a knowledge-based organisation, but facilitating and ensuring a team approach is a skilful process, where communication is vital (Rosenberg, 2001; Levasseur, 2001; Razik and Revelas, 1997). Chipman (1999) appears to concur, arguing that globalisation and the new information technologies permit a deconstruction of the functions of the vertically integrated typical university (Wilson, 2001; Bates, 2000). These points of view are the basis for the research.

What this knowledge-based organisation and revaluation of the vertically integrated education organisation (also hinted at in the literature review) means for PHEIs in Malaysia will be uncovered and explained in the following chapters. This research aims to investigate if, and how far, e-learning impacts Malaysian PHEI management structures. Based on the literature review in the previous chapter, it appears that in the field of IT, what more e-learning, change in culture is especially needed in accepting the new phenomenon of technology and its use. This cultural change could be the redefinition of the identity of the insitution itself, if not the concept of PHEIs as a whole in the country. The findings in the following chapter will be used to analyse the form and implications of change.

Chapter 4

The Results

The research on the impact of e-learning implementation on PHEI management structure will use Rosenberg's 4Cs, as it encompasses a holistic change process for successful e-learning as identified in the literature review and the conceptual framework. Therefore, the results from the research design have been classified into the following. Firstly, the characteristics of the e-learning champion in SYC with emphasis on e-learning and its direction in the college, and distinct role differentiation between the champion and the participants. Next, responses on change management that the college is or is not going through are identified, especially looking at whether there is a plan of action, the actual changes so far, and the barriers to change. The responses relating to the state of communication in SYC include knowledge of e-learning in the college, communication between parties, and internal and external hindrances to communication. Finally, the culture in SYC is discussed by exploring the current SYC education culture, reward incentives, external culture, official internal culture, and perceptions of internal culture. All quotations are from interview respondents and all graphs are representations of questionnaire responses. These results will then be analysed in the next chapter, including differences between categories of respondents.

Champion

Rosenberg (2001) defines champion as those who lead e-learning efforts. This is the first component of successful e-learning integration. As the champion is part of the management structure, the perception of the other managers as to his role and his interactions with the other managers could shed some light on whether e-learning implementation does indeed impact management structure in SYC, and hence PHEIs in Malaysia. In this case, the champion for e-learning in SYC is the E-Learning Manager (EM). This is both officially and in the eyes of the other Senior Managers (SM) and Middle Managers (MM). According to SM1,

"We have established an E-Learning Unit to learn about e-learning, to allow SYC to learn, interact with the market and other universities, to supplement the learning departments, and to keep us current."

This appears to be the official premise from senior management. The following discussion in this section will delve further into the above to assess if the rest of the members of management share this position and awareness of e-learning.

E-Learning In SYC

In SYC, there are separate departments championing their own cause, which include technology enhanced teaching and learning. The coordination is not very apparent, as can be seen in the evidence from the following documentary sources, mainly the relevant websites found in both the SYC's intranet and internet sites. The Computer Services department is in charge of the Novell and EMS systems, which basically take care of administrative details. The iZone does this and also Learning Management Systems (LMS) functions which one pre-university school uses. There are a total of 1,243 students registered as at 26/3/03, which has been logged in the iZone Manager website. The Computer Learning Centre (CLC) and Multimedia Resource Centre (MRC) are run by the same department. This becomes a coordinating difficulty for the E-Learning department if it needs computer labs and other hardware for any face-to-face components of e-learning as there are several such courses offered.

There are few online courses offered in SYC. The E-Learning Department is in charge of some courses and champions the use of Blackboard as its learning platform. The University of Sunderland through Professional Courses offers an online management programme leading to the BA (Hons) in Business Studies according to the SYC official website. The management program is delivered via e-learning. Online delivery provides ease of access to learning materials and worldwide knowledge resources. Forum discussions and digital drop box are new features of distance learning used while

assessment is 100% examination. Printed study materials prepared by UK professors are provided for effective learning. Sunway International E-Learn (SIEL) provides the E-Learning service support for all the modules and optional evening or weekend seminars can be arranged by SIEL as a 3-month course. The next course offered very recently is the UKeU Master Degree, namely University of York's Public Policy and Management. SYC is the facilitator for this wholly online programme, which still has no students. The delivery style is similar as per the University of Sunderland programme. Additionally, there are 4 University of Greenwich MSc courses advertised on the website but not run. Other than the E-Learning department, the Sunway Centre for Corporate Training and Development (CCTD), too, offer a limited selection of courses that include multimedia and e-learning courses via the School of Information Technology and Multimedia (SITM) and the E-Learning department.

Confidence In The Direction Of E-Learning In SYC

It is important for an institution attempting e-learning to have a clear direction. In SYC, when it comes to Middle Managers, they seem to be rather in the dark, though having a vague idea of a champion. As MM2 puts it,

> *"I only know that we have an e-learning department that (the EM) is in charge of...(he) is supposed to be spearheading e-learning...what else he does, I do not know."*

Sometimes, it is just awareness and hope of some form of e-learning champion:

> *"I'm aware of EM's project. Hopefully, this project will provide leadership and staff development in using technology in the classroom."* (M4)

The above positions indicate that there is not much known about the role of the manager. However, the E-Learning Manager's role is seen to be distinct. MM6 comments,

"(EM) has his own team to support e-learning teaching...(His) team is for the lecturers' support and application of the Blackboard software itself."

However, MM8 is more forgiving, allowing some awareness which is however still vague as to its definition:

"The initiative is coming from (EM). Senior management got someone to look into this area. I suppose the initiatives are there. Being new, they are taking it one step at a time...(EM), I think, has done a presentation on Blackboard and Pinnacle. ... Blackboard is widely used, according to him, quite a good platform."

The above position appears to sum up the general consensus among management, that there is a champion, but what exactly he does is not clear.

Based on the questionnaire survey, there appears to be some confidence that SYC knows what it is doing in terms of e-learning. This in turn reflects on the E-Learning Department. However, the results show no high concurrence of agreement. This could also be because those surveyed may not have much of an idea about e-learning, as the responses show in Figure 5:

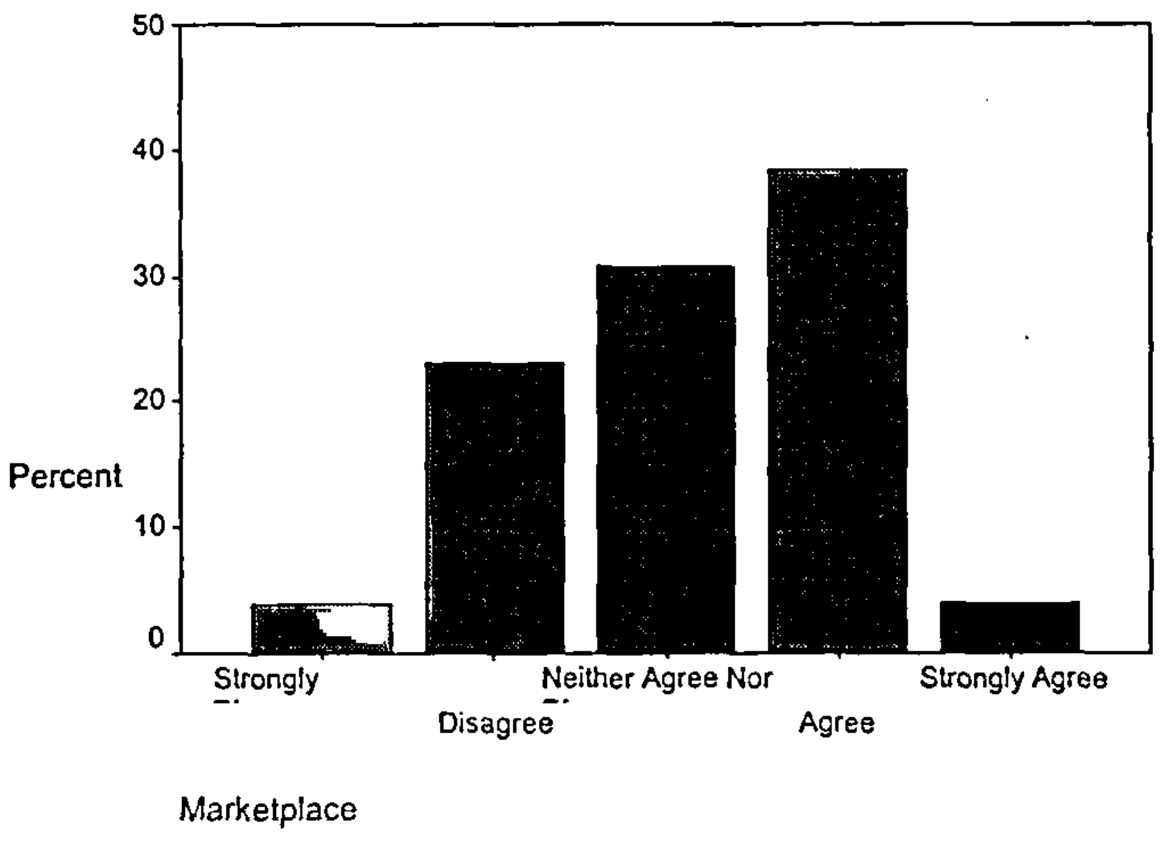

Figure 5. Whether SYC is prepared to deal with a large and increasingly complex e-learning marketplace.

When members of management were asked if they agreed that SYC is prepared to deal with a large and increasingly complex e-learning marketplace, the majority replied that they agreed with the statement. However, 30% of respondents neither agreed nor disagreed. This could be an indication that they may not have enough knowledge to be able to make a decision, which may in turn indicate low awareness of the issue.

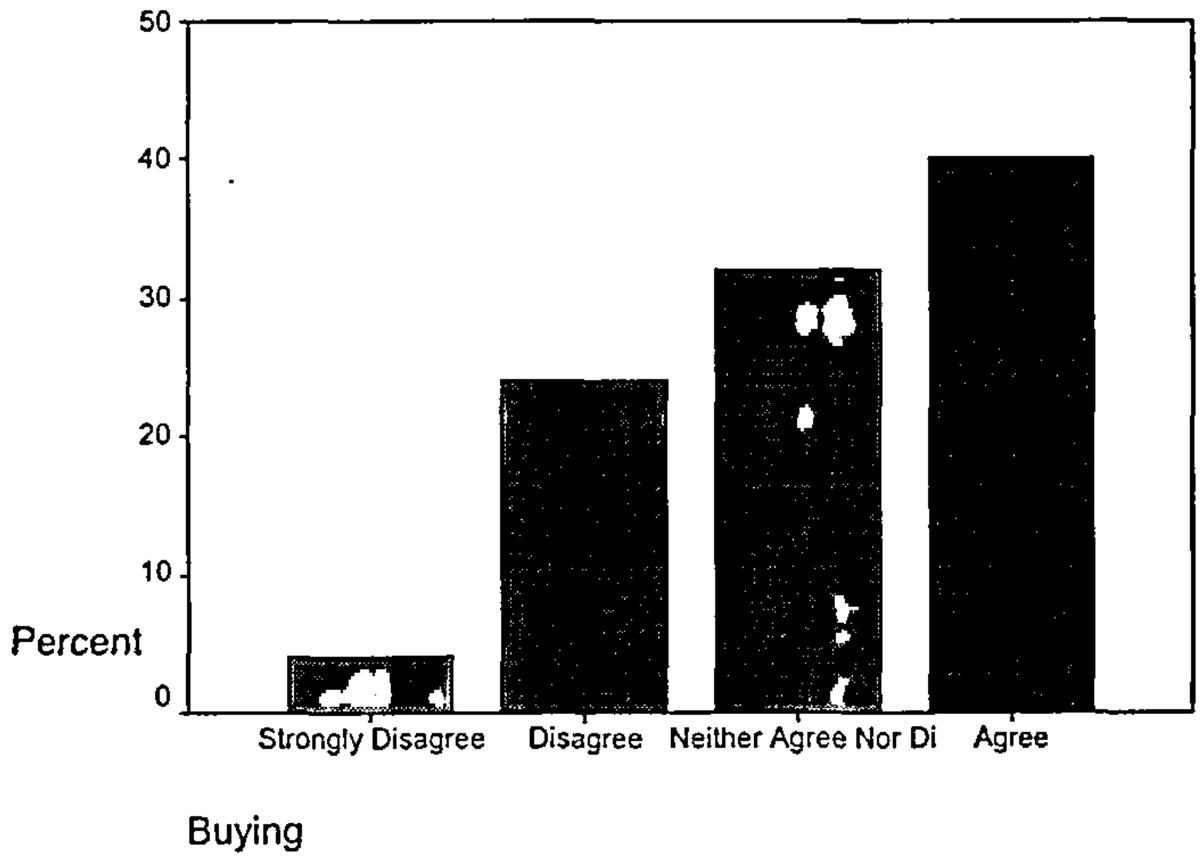

Figure 6. Whether SYC has a good handle on what it is buying in the e-learning marketplace.

Figure 6 illustrates that most management staff agree that SYC has a good handle on what it is buying in the e-learning marketplace. This could reflect on the champion as being the person who knows what to invest the institution's money in when it comes to e-learning. But here again, more than 30% do not commit to a viewpoint, perhaps showing that they may not know enough about the topic to comment. They either may not be using the products purchased or are simply unaware. This could also indicate lack of transparency within the structure of the organisation that even at management level, not many are able to give a definite point of view on the way spending is being done. Finally, it cannot be neglected that almost 30% of respondents do not feel SYC knows what it is doing in terms of purchasing for e-learning. This could indicate low confidence in the E-Learning Manager.

Additionally, Figure 7 shows that some concepts of e-learning implementation may not be understood clearly based on similar response levels:

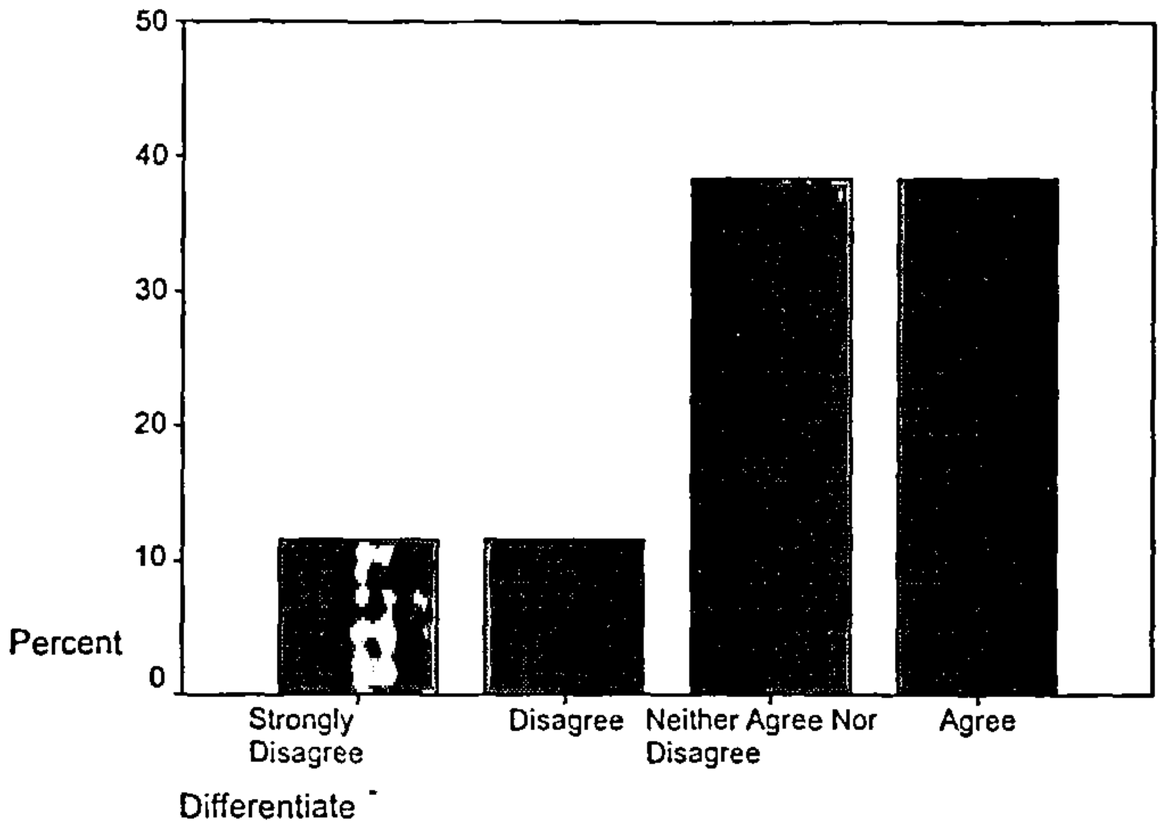

Figure 7. SYC can differentiate quality e-learning products and weed out redundancies.

40% of the respondents agreed that SYC can differentiate quality e-learning products and weed out redundancies. As this is a member of management responding, it is likely that they are referring to the E-learning Manager as being the person making the decisions. However, again, 40% of the respondents neither agree nor disagree that SYC is able to make such a decision. Again, levels of awareness, if such decisions are being taken, appear to be low. Only a small number disagree. Therefore only 20% of the respondents can definitively say that SYC/the e-learning champion cannot differentiate and weed out redundancies.

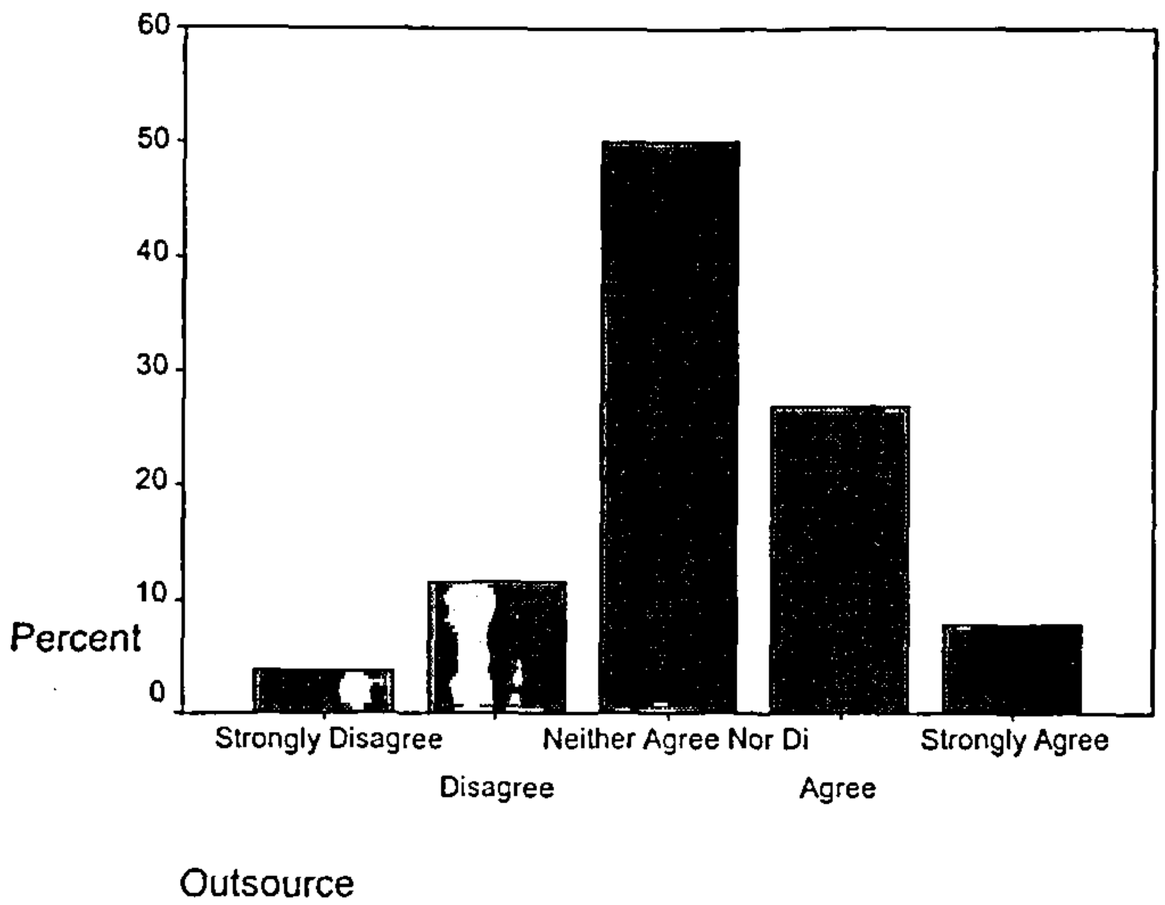

Figure 8. Whether SYC is prepared to outsource some of its functions and manage them externally so that it can concentrate its resources on more valuable areas.

It may be concluded that many members of management simply do not know enough about the direction of e-learning in SYC. In Figure 8, 50% of the respondents could not comment whether SYC is prepared to outsource some of its functions and management them externally so that it can concentrate its resources on more valuable areas. Of the rest, a small majority agrees that SYC is prepared to outsource. It may be argued that the respondents may not understand some of the terms presented in the questionnaire as they may refer directly to e-learning. However, the terms used are fairly simple. Furthermore, it is argued that if the members of managers were clear about e-learning and its champion, there would be a greater understanding of the overall direction of e-learning. The question of what the E-Learning Champion really does appears to be so far unanswered.

Distinct Separation of Involvement

Many of the other managers defer to the E-Learning Manager or champion in matters relevant to e-learning, to the extent that they do not even venture much into the subject.

For example, when asked in an interview what SM2's knowledge of the retraining of staff for preparation of e-learning methods is,

> *"Right now it is very basic and ad hoc, what (the E-Learning Manager) puts together e.g. how to use the scanner, how to use the platform."*

It is basic, and very much left to the E-Learning manager. SM3 in fact told the researcher, *"For the macro perspective I would like you to refer to (EM)."* Even SM4 directs e-learning issues to the E-Learning Manager,

> *"My information comes from the e-learning manager. If there is information on online courses that comes to me, I pass it to (EM)."*

However, the cluelessness and honest criticism of the Middle Managers come as an interesting contrast to the political correctness of the senior managers. It can be from,

> *"Probably (EM) will be able to comment. I am not able to comment on that."* (MM6),

to simply, as MM7 says, *"Ask the E-learning Manager."* Hence, much of the responsibility of e-learning is left to the perceived champion.

Even with the champion in place, there is still frustration as to the direction and even definition of the e-learning industry. As SM2 says, *"I don't know who out there can help us with this."* In fact, SM4 is one of the surprising number of interviewees who asked for the opinion of the interviewer on the subject of e-learning. When discussing quality assurance of e-learning in SYC,

> *"You need to get experts on e-learning to come in and look at the programmes and facilities that we have here. They can be from professional bodies, local higher educational institutions. ... So who would be the e-learning expert in the world, from your studies?"*

In fact, ET1 also seems to be in the dark,

> *"We want to know from you whether SYC is going in the right direction, or are we too conservative, or not going anywhere?"*

So both members of management from the e-learning side and senior management, who should in fact be aware of implementation strategies, are still feeling their way around, even though the rest of the management team feel that the E-Learning Manager should be on top of things.

The frustration is evident even within SYC with the lack of information that comes with the role of the champion, especially from the Middle Managers. MM2 comments on making the transition for the older staff to e-learning,

> *"If I were 'whoever it is in charge', I would train them, make them comfortable, then they can move on...We must have people who know about e-learning, and have more people to know what type of people to employ. Sometimes I wonder whether we employ the right people. Whether they know who to employ is always my question. They themselves may not know enough to employ the right people...it all depends on how aggressively the person in charge of e-learning can market and promote it to everyone. It depends on people's perception. If I were in charge, I would aggressively promote it to all programmes. Otherwise, we will fall behind. I feel we are; we should be leading but we are not."*

This appears to show that though the responsibility for e-learning initiation, implementation, and running is a distinct responsibility of a champion, the rest of the management staff would still like to be informed of this champion and his duties. The frustration that they do not know what the E-Learning manager does is resulting in senior management being blamed, and perhaps rightly so, for not knowing enough about the field to hire the right person to champion.

When the E-Learning Department members themselves were asked about their roles and responsibilities, a different set of vague answers emerged. The department in SYC

comprises of three people - the Manager, Coordinator, and Systems Analyst. The team are cautious, and seem to be navigating between senior management's vague expectations, and trying to avoid middle managers unless necessary. ET1 justifies the small department,

> *"I told our Principal that it is cheap to setup with 3 people (and) is enough, because the support base is already there in SYC...We don't want to spend as much (as some other competitor colleges)."*

There is no plan currently to increase organisational and support staffing. Perhaps the size of the team hampers their visibility, and mainly that of the manager. However, their knowledge of their own responsibilities itself seems a little vague. For example, when asked about quality assurance for e-learning, the response was that it is internal and that there are no set guidelines for it. ET1 added that overall he is not sure himself if they're,

> *"going in the right direction, or are we too conservative, or not going anywhere?"*

The vagueness in their direction and is compounded by the fact, according to ET2, that *"We never attend business plan meetings."* This indicates that to an extent, senior management keeps the team in the dark as well regarding the direction of e-learning in SYC. Therefore, even thought there is separation of responsibilities when it comes to e-learning, both the rest of the managers and the e-learning team themselves do not know clearly what the role of the champion is. It appears in the case of SYC then, there is no champion. There is no absolute advocate that Rosenberg had envisioned. The first prerequisite of e-learning implementation success is not present in SYC.

Change

Beyond having a champion, for e-learning implementation to work, there needs to be an integrated change strategy that brings it all together (Rosenberg, 2001). Change is one of

the 4Cs that needs to be effectively managed in a PHEI when bringing in a new phenomenon. This could, or not, bring impacts on management structures. SYC does have the continued intention to incorporate aspects of e-learning. As SM4 simply states, *"It is always in our presentation to become an e-campus, e-university college."* This may not say much about the effort, but does indicate intention. For smooth transition to e-learning, or anything new in any organisation, there must be change management in place for the organisation to cope with the newness.

Is There A Plan Of Action?

If there is intention, then a plan of action would indicate the possible success in implementing the change, and also an awareness of this change. Figures 9 and 10 show that based on the survey results, management generally has confidence that there is support and a plan of action for SYC to embrace e-learning:

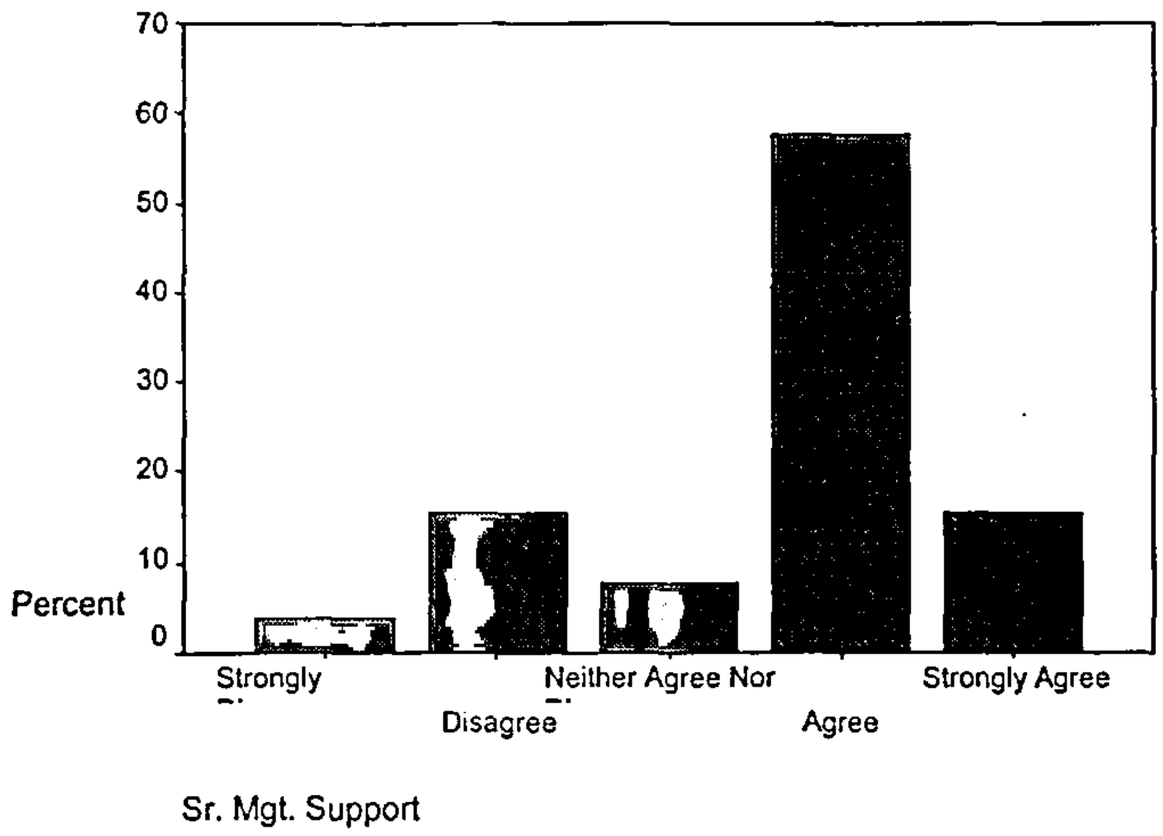

Figure 9. Senior management supports e-learning.

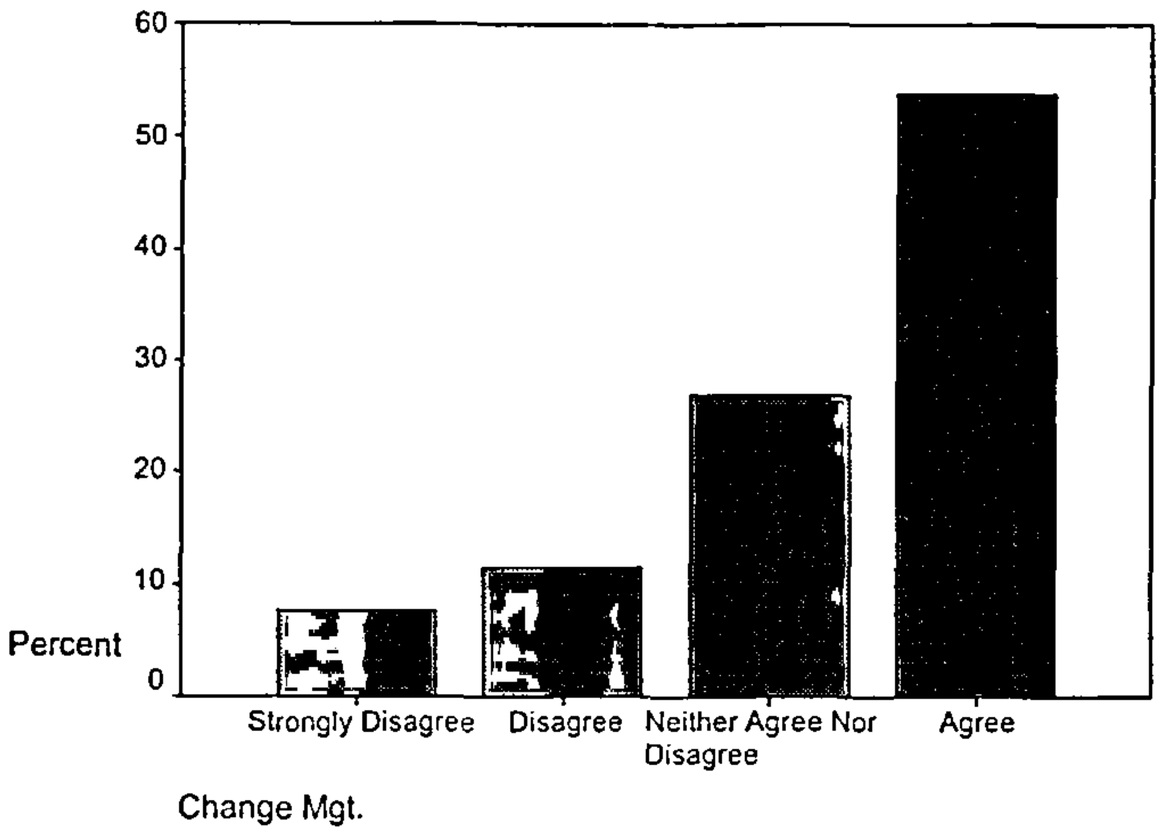

Figure 10. SYC has a change management plan for introducing e-learning in the organisation.

More than 70% of the respondents were of the opinion that there is support for e-learning from senior management, one of the strongest showings of unambiguity in the survey. This could indicate a strong thrust towards e-learning, even though the previous discussion indicated that the direction itself is not very clear at the moment. More than 55% of respondents agreed that SYC has a change management plan for introducing e-learning in the organisation. However, almost half could not comment or disagreed. If there is a plan, or there is not, not everyone is clear about it.

Actual Changes So Far

Even if change is needed, the actual actions taken so far speak for themselves. However, based on the interview responses, SYC does not seem to have anything official set up in terms of change management. There appears to be change, and some form of change management. There are both official and unofficial changes. According to SM1,

> *"SYC has put a lot of basic infrastructure in place. Intranet allows a lot of material to be loaded and shared among staff and students, and for them to interact. Also there is access to the internet. We have introduced degree and diploma programmes through the internet and it works in SYC. We have*

established an E-Learning Unit to learn about e-learning, to allow SYC to learn, interact with the market and other universities, to supplement the learning departments, and to keep us current."

There is basic access and this is being built upon continuously. This premise is promising. ET1 adds on to the official investments of SYC, and also comments on some results achieved so far. His comments appear to be more hands-on and not just the official position of the institution:

"SYC has invested in the Blackboard e-learning system, server, hardware, software, team of e-learning staff; support team / computer services staff, vendor technical support (local and US), time and effort for lecturers' training, workshops...Four schools are already involved - SHTM, VU, Professional Courses and Compulsory subjects. ... Internally, we have our E-Centre...Wireless technology- but it will be pointless if there isn't e-learning. Also, library resources, e-databases e.g. EBSCO Host, e-books and CD-ROMs. But only 10% are used. SYC is also thinking of subsidizing students. SYC is going slow not wanting to make big mistakes. SYC rents, doesn't see need to invest, in video-conferencing facilities from British Council and Intan...Maybe now shift is to about 20% e-learning, 80% traditional learning way of teaching...Success: as of yesterday (7/3/03) SYC almost reached the 1000 user mark. We started from 0. There were 7900 hits last month. The number of students is growing, hostelites are using the internet a lot as all rooms have internet connection. Don't know if they are provided with PC."

Hence there is investment and positive results in e-learning, even if, as ET1 seems to indicate, they may be slow and cautious. ET3 adds,

"There is a licensing budget for software...We are advanced in terms of tech. We use Smartcard tech in SYC, even students use it for all purposes e.g. library, exams. SITM has created small software e.g. InventoryBiz."

There have also been successes and attention given to other complementary areas of technology involvement and growth. The premise of e-learning in SYC can be seen to be there, and this is a promising beginning.

The infrastructure placed for the participation and growth in e-learning also contributes to the premise of successful implementation of e-learning, and adaptation to change. SM3 gives more information,

> *"In the last 3 years there has been a significant budget on e-learning And we have targeted to put the right manpower requirements in place...In terms of technology base for staff, a group of the lecturers have been earmarked to lead the technology transfer to technology based teaching as the target...A lot of investment has gone into hardware for e-learning...External training through SITM and (E-Learning Manager) to look at the latest in e-learning."*

So far, the access and investment into hardware and technology transfer indicates long term planning. MM6 gives details,

> *"The IT department has set up a student portal to communicate with lecturers, upload and download notes...In terms of software we have Blackboard, and 4 departments in terms of academic use. There is the student portal which is a website for subject registration (WMU, Ausmat, MUFY are on trial basis for this), upload and download of notes. Once successful we will spread...They've invested in server, and software which is costly to SYC...SYC is ready for basic requirement...We have internet lease line which was recently increased from 2MB to 4MB (2 x 2MB). These (redundant internet base line) 2 lines backup each other from 2 different ISPs...Internet lease line, server, intranet LAN, wireless LAN (in cafeteria and foyer). The condo hostel rooms are all wired (able to access internet)."*

However, as impressive as all this sounds, it has been discussed earlier that some of these efforts are minimal and far from adequate. For example, the lease lines result in slow access and the many bars, which have been setup so as not to hinder speed, end up being an obstacle to other forms of creativity for teaching and learning such as the inclusion of multimedia. But slowly, the target audiences have also increased, according to ET2,

> *"Immediate target would be to supplement lecturers for their delivery of lectures...We target the working adults through the HRDB grants approved schemes for corporate training."*

The funding from the Human Resource Development Bond (HRDB), the arm of government, which encourages training, does help in the growth of e-learning in

SYC. And perhaps more funding such as these from both external and internal sources could help increase basic access and speed.

There is an indication of inter-department collaboration for change, some of which are obviously necessary. MM2 offers,

> *"...last year, (E-Learning Manager) told us about the Blackboard and he would like us to share the cost. I said no problem. Now we send lecturers for Blackboard training...80% of (my) lecturers put material on the Blackboard."*

This indicates a willingness on the part of some department heads to embrace whatever e-learning is available in SYC with whatever resources the managers are afforded at present. SM4 discusses specific courses that have begun the change,

> *"At the moment we're providing just the venue (for the UKeU online Masters degree). We're starting with the Compulsory subjects as the first one, we're asking the lecturers to build up some programmes, about 10hrs or so, so the whole subjects are not done face to face but only 32 hrs."*

These courses come mainly under the E-Learning Department itself, with Compulsory Subjects programme coming under its own department. However, as the main target groups are, *"Working adults, postgraduates. Those who are in the industries and firms."* Further work needs to be done in terms of preparation for a new market. The library too shows the effects of change. Even such resources as the library is being managed to cope with change. According to MM1,

> *"Funding for the library has been fairly generous. Because of that, in a short period of time, we've put in place e-resources...We monitor, and we find that access is climbing."*

Other resources are also being prepared to face with the new phenomena of the e-world. Official technology changes are seen as important to some. MM3 says,

"We need to be seen using technology. SYC is in the forefront. It is going to transform SYC. It is important that things like the Smart Card use shows technology. It is not just e-learning, but the concept to show other modes of operation instead of replacing our current mode of operation."

Hence official efforts are seen to be taking place in SYC to embrace e-learning at inter-departmental levels too.

Other than inter-departmental changes, some specific changes also come about through department initiatives, rather than SYC's. MM1 explains, when asked about changes in the institution,

"Can't say so much for SYC. My department, yes, (e-learning) has transformed quite a lot. For example we have online renewal- it can be done from anywhere. We are strongest in journals. With e-journals, there is no defacement worries, less processing, more users per document at the same time, and an easier search. ... These are 2 ways IT and electronics have made changes. Circulation is at the lowest end. The highest end is in terms of research to get articles electronically."

The manager is commenting on the library, which has embraced change related to technology seemingly on its own initiative for quality. Furthermore, lack of incentives for staff sometimes do not help in promoting change. MM2 explains,

"I don't think at this stage it is properly recognized and rewarded. ... Unless somebody is pushing for it, like me on my lecturers, then change will take longer. If there is reward, then it will be faster. Part of the appraisal form has some points for this. I think long term, it has to be an effort from the management down, with all support systems in place. Because we (one of the university level programmes in SYC) are a university we can't fall back."

However, sense of quality, in this case of being a university level programme, pushes the department to come up with its own programmes to embrace the change. MM3 too is initiating changes within the school / programme,

"As a school, we are going in (the e-learning) direction, now 70-30. We have notes, assignments and solutions on the server already."

This is encouraging, and as with the previous two respondents, pride of leading a department or school that is not behind on technological initiatives seem to spur some of the managers to implement changes independently.

There are also some unofficial changes in SYC when it comes to e-learning implementation. SM1 explains,

> *"The model we are talking about is one of evolution. ... Learning to use technology is not overnight for lecturers. We must learn to do things differently, with new technology... The E-Learning Unit under the (E-Learning Manager) is to research what is available, what others are doing, so as to use for us. SITM enhances our knowledge and know-how and transfers this knowledge by training our other staff. Computer Services trains our staff also. Conversion is step-by-step, we encourage but it is not compulsory."*

Taking an official stance on e-learning may upset the status quo, especially as the senior manager is admitting that they do not know the exact plan or direction for e-learning. Perhaps this is the reason many managers, as discussed earlier, expressed frustrations as to how to deal with e-learning. However, SM2 admits,

> *"What we really need is to get staff adequately trained. We need to look into it. I say need because who's going to provide expertise is a question, as e-learning is still new. ... And I don't know who out there can help us with this."*

Reiterating the same point, there is acknowledgment that human resource retraining is an important component for successful change. So unofficially this is acknowledged but does not indicate an official solution to the need for staff retraining. SM3 appears to indicate the same,

> *"How we can provide for staff, it is highly dependent on required needs. Personally, I believe it is still very iffy, not sure."*

Therefore, when it comes to actual changes in SYC, much of it is limited hardware and software inclusions, and by offering some courses online. However, as the direction is not clear, departments have taken initiatives by themselves. This may not be the best way for the organisation to grow together in the right, and same, direction in e-learning.

The Barriers To Change

Apart from changes that have been included in SYC so far, there are, however, several barriers to change of some concern that are both internal and external. To prepare for internal change, management may not have thought things through. According to SM2, for example,

> *"Support staffing to me is having staff that are able to train, but whether people out there want it is another question. To me it is the hiring of staff that are knowledgeable enough to put things into the platform, make e-learning successful. I would have thought this is the type of staffing we need. But the requests I get are on how to transform material digitally; staff want clerks, typists. There is a great divide between people's perception of what they need and my vision of what should be put in."*

MM7 seems to reinforce this,

> *"We need a lot of people to upload materials onto the Net. Staff need to be trained as this has not been done for everyone."*

This admission could naturally be the process of trial and error in coping with a change that is relatively unknown and fast evolving. It could also indicate that perhaps not much time has been spent investigating what really is needed to cope. There is acknowledgement that more needs to be done:

> *"We need to expand the team. We need an expert like you to later on help the e-learning team."* (SM4)

The lack of clarity in change can be frustrating to some. Again, Middle Managers are more vocal,

> *"The library has software but no new machines to run them...Our work has been held back by this. There must be fundamental change in attitude and thinking. Machines first, then the staff will be computer literate. Not the other way around. Most people are anxious to catch up with technology. Leave it to the head of departments to manage and voice to management for machines... Also, there is no systematic programme to convert your teaching staff to be IT literate, to that level of presentation...A change must come about, incorporated in attitudes."* (MM7)

Commenting on one department in particular, the frustration of the middle manager is the attitude of the senior managers in not allowing the middle managers to have more autonomy in managing change. This is especially so when there is, again, no clear and systematic conversion to change.

These frustrations could stem from the fact that perhaps internal priority is simply not e-learning. E-learning seems to be a force to be reckoned with because of market needs. Hence it is an imposed change, rather than an organic one. However, the relevant market may not be tapped as yet. MM3 says,

> *"SYC is careful about using technology and then getting back the same target group...advertising is very focused on post SPM, STPM, certain age groups like 18-25...Marketing style needs to change."*

This statement on the cautious use of technology appears to be backed up by the questionnaire survey results. Business benefits are a great impetus for change. Though the managers seem to agree that SYC can demonstrate business benefits for the move to e-learning, almost an equal amount are unsure, as can be seen in Figure 11:

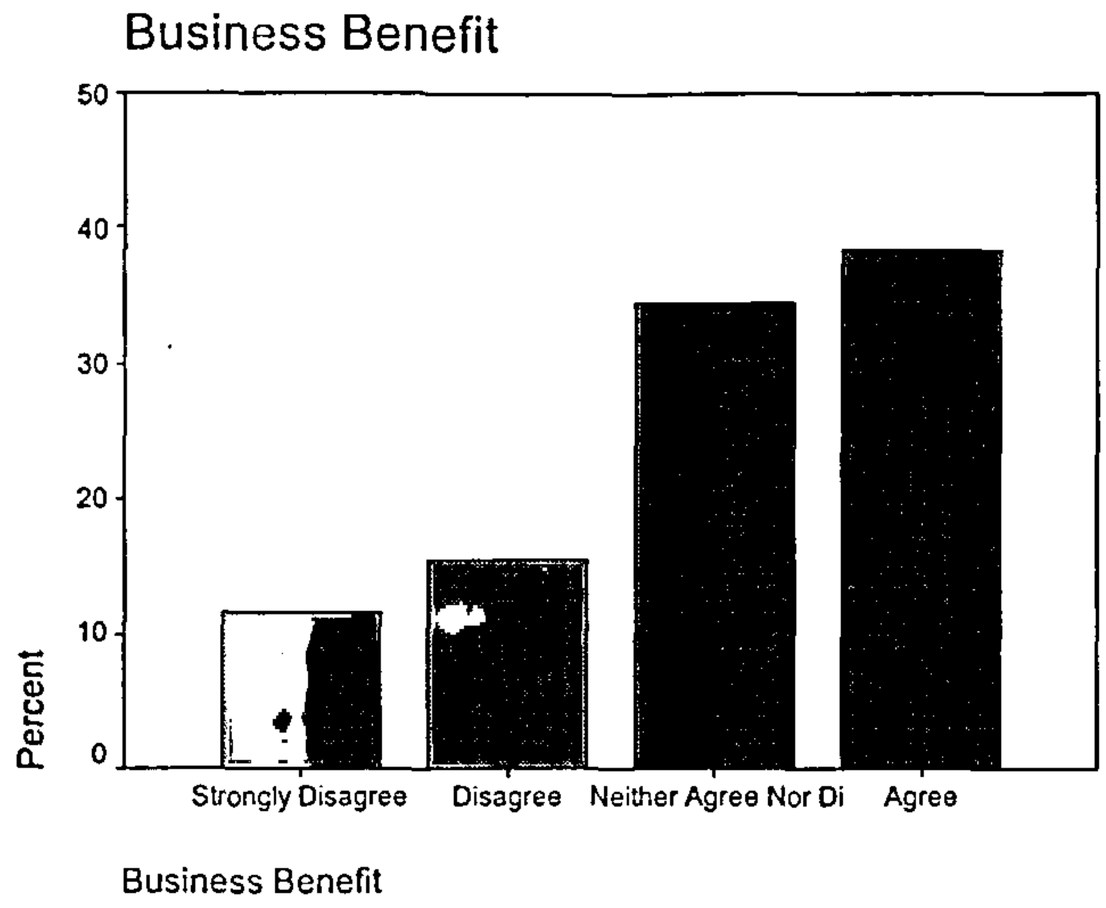

Figure 11: SYC can demonstrate the business benefits of e-learning.

The respondents could be unaware of the market's reaction to e-learning and hence are unable to assess the business benefits. The market's reaction can also be assessed if there is a clear, collective understanding of what e-learning is, and where the institution is going to go with it. This could be the reason that there is almost 30% disagreement that SYC can demonstrate business benefits. The onus is on the institution to prove its direction.

A main barrier to change is simply lack of knowledge, which in turn results in lack of direction. SM2 admits candidly that when it comes to e-learning:

> *"I have a lot more reading to do, and deal with requests from (E-Learning Manager). I am forced to look into it as an area to constantly pay attention to."*

The change the senior manager has to cope with may not necessarily be one of choice, but to be able to keep up with what is going on with the competitors and the market. SM4 admits forthrightly, *"I've not really gone into it. I'm still trying to understand it."* Middle managers have their own changes to cope with. MM2 furthers,

"Many lecturers are used to the way they were taught - with the blackboard and OHT. Now with technology I told them that we have to embrace it, though there is much resistance. Even I find it difficult. ...(The overseas partner university) has been giving us a fair bit of support...Now 90% of my lecturers use PowerPoint. ...All my lecture theatres have LCDs. I had a hard time getting them at first; at that time (the previous Academic Director) was here. Now all my theatres are also internet linked. You have to ask for it. If you don't, they'll never give you."

But MM2 adds, as for the lecturers,

"There is less resistance now, even from the older lecturers, as (the Blackboard) is used as supplementary material."

MM3 agrees,

"It's getting people to connect to the net. We need to allay their fears. People think that they will be replaced."

As MM8 puts it, *"Only thing is getting people to put stuff, lectures on (the Blackboard)."*

Therefore, the middle managers have to cope with carrying out what the senior management wants, which so far seems to be a cautious direction towards e-learning, while allaying the fear of their staff and getting the staff to at least begin a foray into the use of e-learning. This may not necessarily be a negative state of affairs. Some changes perhaps do require tentative steps at all levels, be it senior management, middle management, or academic staff.

Another component of staff in an institution that can make or break an e-learning initiative is performance supporters. One of the key areas of e-learning success in addition to instruction and knowledge management is performance support. MM3 observes,

"We have problems defining 'technological support'. We've not come to a point where a problem is solved through coordination. For example, we have separate people for hardware, software and power problems."

If the problem is not defined, it appears that the solution may also be difficult to find. From the technical staff, there is the usual frustration that, according to MM6, *"We are stressed, not enough manpower."* MM2 reiterates the lack of personnel, and explains the frustration with both staff and management,

> *"But there is not enough support staff, especially maintenance. My lecturers don't have enough people to help them. In terms of software, whatever we need, we get. ... Everything seems to be very fantastic, but my lecturers keep complaining."*

MM7 reiterates,

> *"I'd like to emphasise the fact that support staff are important for success in SYC...E-learning division should be bigger with more administrative staff to assist them."*

So, even if it appears that the overall infrastructure at the moment is adequate, the lack of performance support is hindering the progression of e-learning. The argument may be that SYC has to look into the issue to adequately move towards the direction of successful e-learning implementation. MM3 adds,

> *"SYC needs to decide whether they want it (e-learning) and allow the time and training for it...SYC has no policy on converting people to technology use, and it is not top-driven in this area. Rather, the effort comes from the operational side. We are comfortable with the bricks and mortar model and it works so far. Only a small number of staff are using e-learning and this is slowing down the whole process of conversion."*

However, the implementers paint the answer to the question. ET1 says,

> *"SYC doesn't want to invest in a full web team, because then they might just run away after training the team."*

So there is fear of investing in performance support staff as it may be a waste of money after investing much expertise in the personnel so that they can help the other staff. Perhaps this is a risk that simply needs to be taken.

Another barrier to change is teaching style, which is fundamental to e-learning success. The blended model seems to be the ideal currently. Blending is the mix of face-to-face instruction together with online learning components. However, not many may be aware of it. According to MM4,

> *"I don't think we've done nearly what we need to in terms of education. ... When we had made attempts to introduce technology in education, it was more added in rather than trying to understand the ways in which we should be doing our teaching differently or look at the role of the teacher."*

Realizing the requirement of technology enhanced teaching, the same manager admits, ironically, *"But I've no time nor inclination to jump into (e-learning) more."* Lack of time appears to be an important issue, because if no extra incentives or rewards are given to staff, only the status quo will be accomplished. Also, some of the resistance may be rather uninformed, as per MM5's comment,

> *"I still believe in the romance of, and, inspiring teaching. Must still have level of personal touch."*

This resistance to teaching with technology may be rather romantic, but could be a real issue at the hearts of the educators. Nevertheless, in whatever shape or form, resistance to teaching via e-learning is a definite issue as a barrier to change.

Therefore, there are several barriers to change when it comes to e-learning. One that has not been discussed is beyond the control of the institution. SM2 elaborates,

> *"I don't know whether one is ever ready, as everything is rapidly changing. I'm not making excuses for SYC, we want to be in the forefront and ever ready but realize it is still imperfect out there and the country can't support it. We are as ready as can be, but the digital world is moving so incredibly."*

MM3 reiterates, *"It isn't that SYC is not ready, but the country is not ready."* If Malaysia is not ready, then there is not much that SYC can do to cope with change but ride the wave of e-learning slowly but surely. But perhaps the nation is more ready than the managers allow, after all there are several universities that pursue the blended learning approach successfully, such as Universiti Tun Abdul Razak. Nevertheless, SYC is committed to e-learning, as has been discussed, but appears to be charting the waters without clear direction. This can result in some frustration to those who do want to, or feel forced to, participate. But despite the barriers, change is definitely in the air.

Communication

Having looked at the change strategies and direction in SYC, the next important component of effective e-learning implementation success is communication. Communication can position e-learning's value (Rosenberg, 2001) when striving for implementation success. For E-Learning to be winning, it is important that there is open and clear communication between all parties in the institution. This section presents the findings of the research into four sections. First the responses to the current state of e-learning will be discussed. Once the current state is ascertained, the barriers to communication are better understood. Finally, a step further is taken to assess the data on internal and external hindrances to communication. How communication affects management structures will be discussed in the next chapter.

Knowledge Of E-Learning In SYC

Good communication practice in management structures would ensure common corporate knowledge and awareness. When it comes to e-learning, and perhaps this reflects the state of affairs in SYC when it comes to anything else, knowledge of what is going on is not across the board. For example, according to SM3, when asked about the success of e-learning in SYC,

"The greatest success is what has been posted and how many hits in the e-learning strategies they have used. It is still very basic. SHTM (School of hospitality and Tourism Management) is a good success with teaching through e-learning."

But only the E-Learning Team has access to this information. The Middle Managers seems to be unsure about what's going on. As MM2 says,

> *"I only know that we have an e-learning department that (the E-Learning Manager) is in charge of and that there was some talk of Knowledge Management... What else he does, I do not know."*

Communication as to work done in terms of e-learning appears to be weak. MM4 simply says, *"I don't know much more about the details of the SYC e-learning project."* Some just seek the comfort of their roles rigidly, and don't want to comment on what they do or do not know, according MM6, *"For your information I support in terms of systems and hardware."*

Success, when known, is acknowledged with some reservation. MM6 adds,

> *"But this year, according to (EM), students on e-learning platform have grown from 400 to 900. ... I personally still feel the academic side is not using it much yet."*

MM8 summarises management's overall knowledge of e-learning best, *"I suppose the initiatives are there."*

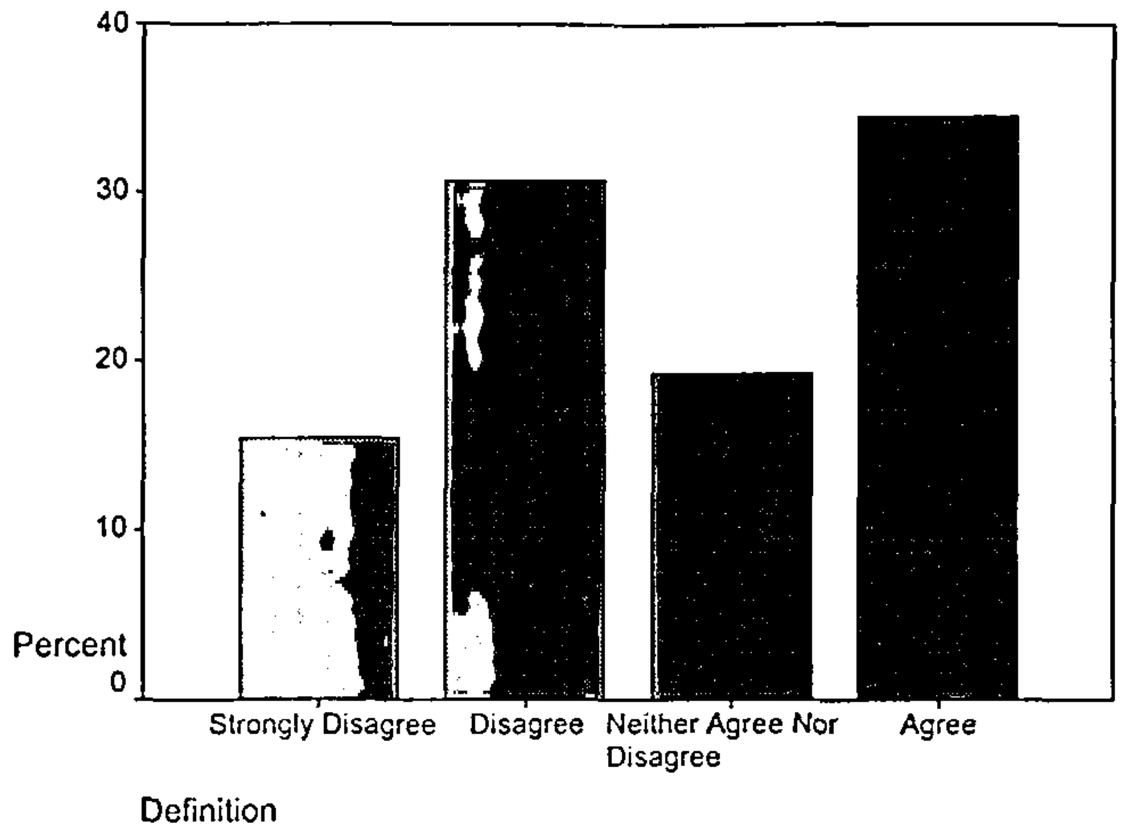

Figure 12. Whether SYC has a clear definition of "e-learning."

However, the position in the questionnaire response as to whether respondents at least feel that SYC has a clear definition of e-learning yielded some mixed results. Referring to Figure 12, only 35% agreed that there was indeed a clear definition. However, more than 45% did not agree that SYC did have one. Whether or not this is true, there clearly has not been much effort to communicate a consensus of what SYC's official definition, and hence direction, of e-learning is. Figure 12 shows there is not much awareness of SYC's definition of e-learning itself. A collective understand of basic definitions of strategy may be a good idea to communicate among staff to gather support and consensus. When even this is communicated, frustrations and inconsistencies, such as those discussed in the interview responses above may be expected.

However, the results from the survey are inconsistent with the response to definition in terms of instruction and knowledge management, as seen in Figure 13 below:

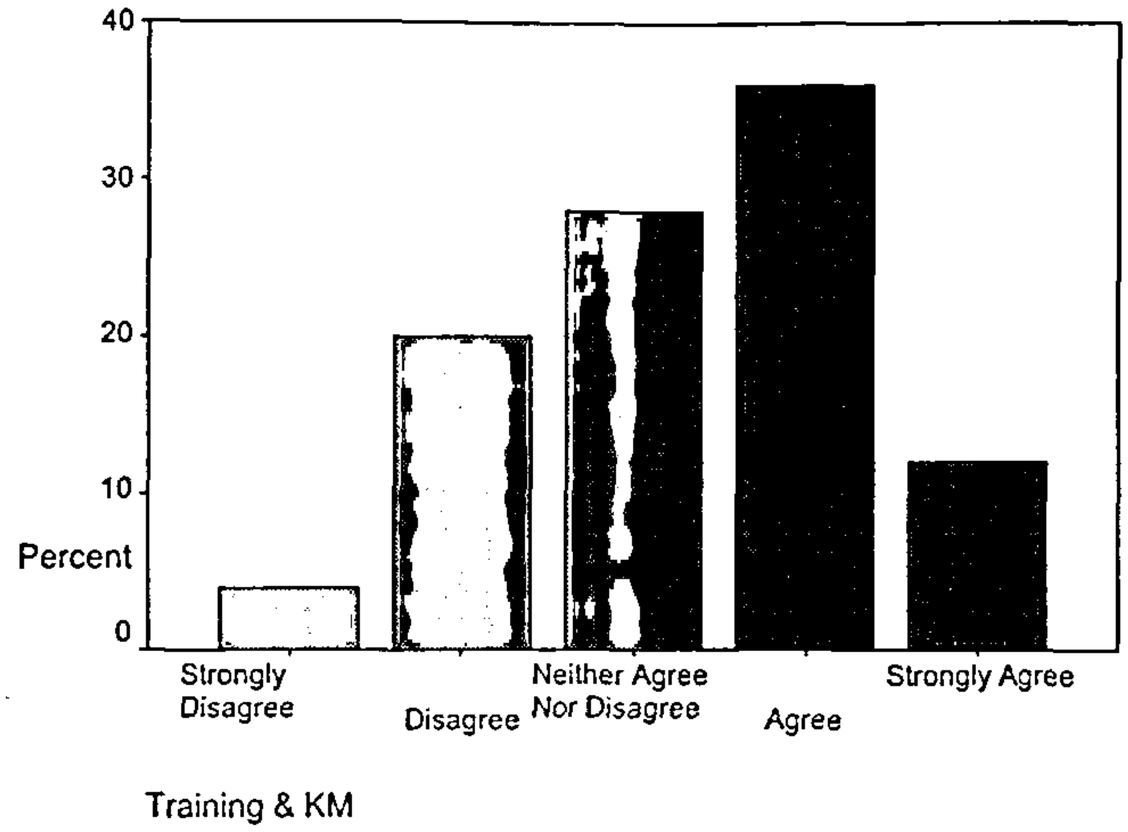

Figure 13. How far SYC differentiates between instructional needs (training) and informational needs (knowledge management).

As e-learning is made up of both instruction and knowledge management, the survey sought to also assess respondents' agreements as to how far SYC differentiates between instructional needs (training) and informational needs (knowledge management). The results are illustrated in Figure 13. Unlike Figure 12 where there was a majority that agreed SYC did not have a clear definition of e-learning, here majority of the respondents indicate that SYC could differentiate between training and knowledge management. However, the rest either disagree or do not comment, the latter being a sizeable amount. So this could also be seen as a marginal confidence in SYC's differentiating the two components. The results could indicate the understanding of training as being the in-house workshops given for staff development and knowledge management as something very related to IT.

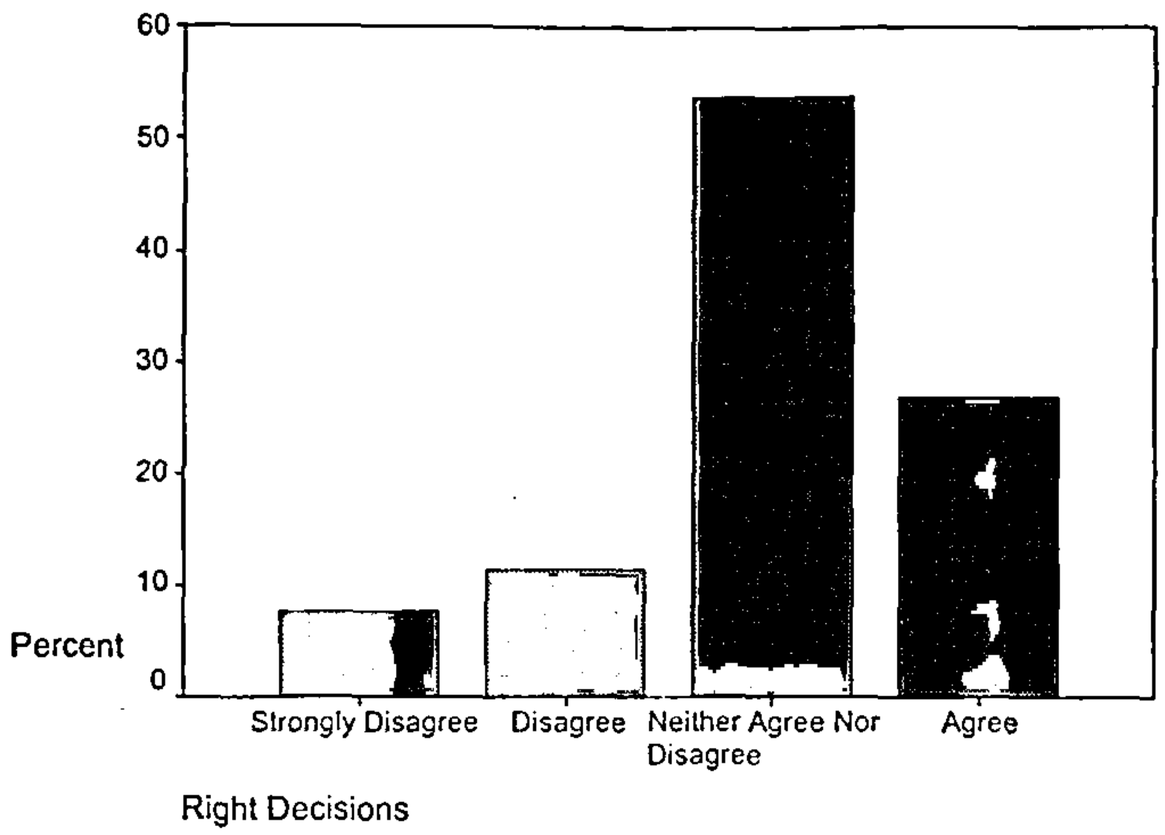

Figure 14. How far right decisions are made in SYC about when to use instructional needs and when to use informational needs.

This point on the seeming inconsistency in responses is illustrated in Figure 14. There is great ambiguity when it comes to responses on the use of instructional needs and informational needs. 55% of the respondents neither agreed nor disagreed as to how far right decisions are made in SYC on when to use instructional needs and when to use informational needs. So even though they felt SYC could differentiate between the two, probably based on their own understanding of the terms, they were not confident either way how far both are used correctly. As the latter requires practical application or at the very least clarification of the fact, there appears to be no communication to members of management to give enough knowledge to understand and participate in the simple basics of e-learning implementation.

Various Levels Of Communication Barriers

Ineffective communication could result in a not very successful implementation of e-learning. In SYC, the communication barriers appear to be multidimensional. In the interview, there was some candid response on how the lecturers are upset over some matters that could increase e-learning efficiency. For example,

> *"We have the E-learning Department. It all looks nice on paper e.g. internet links, wireless everywhere but with such slow connection and errors. The college blocks a lot of things that they say slow down internet connection. My lecturers ask, why do that when SYC advertises so much on its advantages of connection, whereas the lecturers can't even access the (partner university) site sometimes...We can't just jump straightaway to a higher MB line, (SYC upgraded from a 2MB to 4MB line) just don't understand. Why is there a hardware lag? My lecturers send many stinking e-mails, even saying they are not capable of doing their job. But the CSD (Computer Services Department) have a lot of defenses, and claim otherwise."*
>
> (MM2)

This shows that even heads of departments do not know of certain e-policies in SYC. Hence, they are caught between their staff, mainly lecturers, and senior management's offering of information. MM2 is vocal, and there is frustration in her comments. A slow internet connection can hinder greatly a long term move towards e-learning, which leverages on the internet, as it should. Intranet based learning, while useful, cannot benefit or build off-campus student numbers. Hence, lecturers seem to feel limited when explanations are not given.

Other than between middle managers and their staff, there also appears to be a breakdown of communication between senior management and middle managers. SM4 seems to be in the dark when asked about SYC's use of appropriate programmes for the use of technology-based delivery, *"What did (the principal) say; she has got programmes? Ha, ha!"* However, it could also be a cautious stance in what is disclosed outside of senior management. And several times, questions were just deflected with, and

this sounded genuine, *"Don't know, refer to (EM)."* Again, Middle Managers are more open in their frustrations and criticisms. As MM1 puts it,

> *"There is a department – I don't know if it is called a unit, school, division, whatever – that has been set up. And (the E-Learning Manager) has been hired to initiate e-learning, that is the specific end of it. But much more over the long term, probably through SHTM, SITM in using their platform PurpleTrain or whatever it maybe. I don't know how much has been used for new students. Not heard about it much."*

The above is some indication of knowledge of activities relating to e-learning in SYC. However, the interviewee is vague about it, and admits that he/she really does not know. MM2 also demonstrates similar lack of knowledge when asked what should be the priority target group for technology-based delivery:

> *"I really don't know. Ask (the E-Learning Manager)...I don't know. SYC's target groups should be lecturers."*

MM4 blames this lack of knowledge on no coordination as to a common vision- a break down in communication:

> *"...Not sure what the other programmes are doing...There is no common vision as to what e-learning is, and what its place in education should be. ..."*

Between middle managers too, there appears to be ineffective communication. MM6 explains:

> *"So far I know we have an e-learning server/IBM server just for e-learning running on Linux OS. ... I also understand from SITM, it has its own web server to host lecture notes...In terms of e-learning academic programs I don't have the details on that."*

The middle manager has some idea, again, of superficial e-learning activities in SYC, but no further information as to the policies as a whole. MM4 feels efforts should be taken to leverage on SYC's technology use when looking for increase in student numbers through marketing strategies on this matter:

"Outside the classroom, SYC as any large institution, needs to constantly look for new markets; the marketing needs to differentiate our technology use, by making people aware of the superior access that we do have."

Ironically, this is juxtaposed with MM5's response:

"I'm not sure how to relate, as I'm in marketing...As I'm in marketing, I don't know much about e-learning. If the product is there, then I can sell. I don't know about product development...Who should know [doesn't seem to know herself]? Don't know."

If this is the response to positioning SYC in the market as leveraging on technology, then no such positioning can take place if the marketing arm is not clear about the e-learning policies or the work of the relevant departments.

Finally, communication as to the availability of resources is also weak. MM5 adds,

"We have an e-learning lab set up by (the E-Learning Manager) with high-end PCs for staff...(not many staff know about this)."

The middle manager himself admits that the staff have not been communicated to about this facility. Again, the researcher is appealed to this time by MM6 to share information so as to know how other colleagues feel about this issue, stressing that this information can help him improve in his services. Sometimes, even the managers do not even know who to refer to as a resource for issues relating to e-learning. For example MM7 says,

"I do know there's Blackboard, Vine packages, students can download from home, there is an e-learning division, e-journals etc...No idea for resource allocation. In terms of key areas of investment it is computer labs and up-to-date computers...As for development, I'm not sure, ask (Resource Director) or (E-Learning Manager)."

So when managers want to expand on their, and their department's, involvement in e-learning, they do not know how to go about it. Various levels of communication barriers seem to exist strongly in SYC on the issue of e-learning.

External And Internal Hindrances To Communication

There are several external and internal hindrances to communication in SYC. Communication is sometimes withheld due to situations beyond the determination of the institution. A main reason is the lack of clear guidelines from the National Accreditation Board or Lembaga Akreditasi Negara (LAN). ET1 reiterates this fact, especially with regards to e-learning, that much is up in the air, *"There is LAN but it has no guidelines for e-learning yet."* Perhaps that is why when SM4 was asked about SYC's key areas of investment and resource allocation for technology based teaching, *"Cannot answer. You ask (the Director), he will say he won't tell you that."* There appears to be some caution in giving out such information as firstly, internal communication is tight, and secondly, senior management may really not have a clear idea how to anticipate LAN's proposals on e-learning. Therefore, when such information is not passed down, for whatever reason, the middle managers are frustrated. MM1 is vocal regarding even the current state of e-learning in SYC,

> *"...But I don't know how much. But what is the percentage? There's no empirical basis for me to comment what percentage of students are getting their lectures via IT means...No consolidated picture is presented to us to say who has done what...They have upgraded the line from 2MB, is it, to a 4MB line? ...That again is management. If you say you're a premier college, and study in excellence and all sort of jazz, then there must be some plan to get there if you aren't already there...I would like to see transparency; what is the IT budget for SYC. (Senior) Management should tell us. ... If we are denied, then they need to give us reasons."*

MM2's frustration also lies with the last line of the above quote, where no clear reasons are given for decisions by senior management regarding requests made by middle

managers. However, if the reason is vague directives from the Ministry of Education, then perhaps it is the reason for the breakdown in communication.

MM2's frustrations above are also due to internal lack of effective communication. MM3 furthers this point:

> *"We are in a dilemma – don't know what is SYC's direction (for e-learning) but the market is not ready... I think presently, they don't have such a thing for technology based teaching - you need to go back to top management for that. In Malaysia, culturally, quality assurance is not important. SYC is in the learning process, so I don't think it has anything yet...As for the successes, I don't know of any. Though the E-learning and Computer Services Departments will say yes."*

This indicates that a clear, cohesive picture of the current state of affairs with regards to e-learning in the institution is not present. Between departments, too, there isn't clear communication. Even the e-learning team appears to wonder about the next step. As ET1 says,

> *"Difficult to answer you, (the E-Learning Team) doesn't know how senior management in college / education entity think."*

And this is probably because as stated earlier, according to ET2, *"We never attend business plans meetings."* This seems to indicate a fundamental lack of communication between managers, and senior management and middle managers.

Incentives for staff to get on the e-learning bandwagon are also unclear. This may also affect communication of direction towards e-learning. Rewards and recognition for what is currently seen as extra work in terms of e-learning involvement, is not communicated well. At the preliminary level, staff development for the new field is left to the E-Learning Manager:

"Refer to (E-Learning Manager). My understanding is that (E-Learning Manager) carried out monthly training programmes for staff to use Blackboard."
(SM2)

However, the managers do not seem to know if the training suffices, even as an incentive. Figure 15 shows the responses to the survey on the question of whether SYC has a plan to overcome any bad prior experiences managers may have had with technology-based learning:

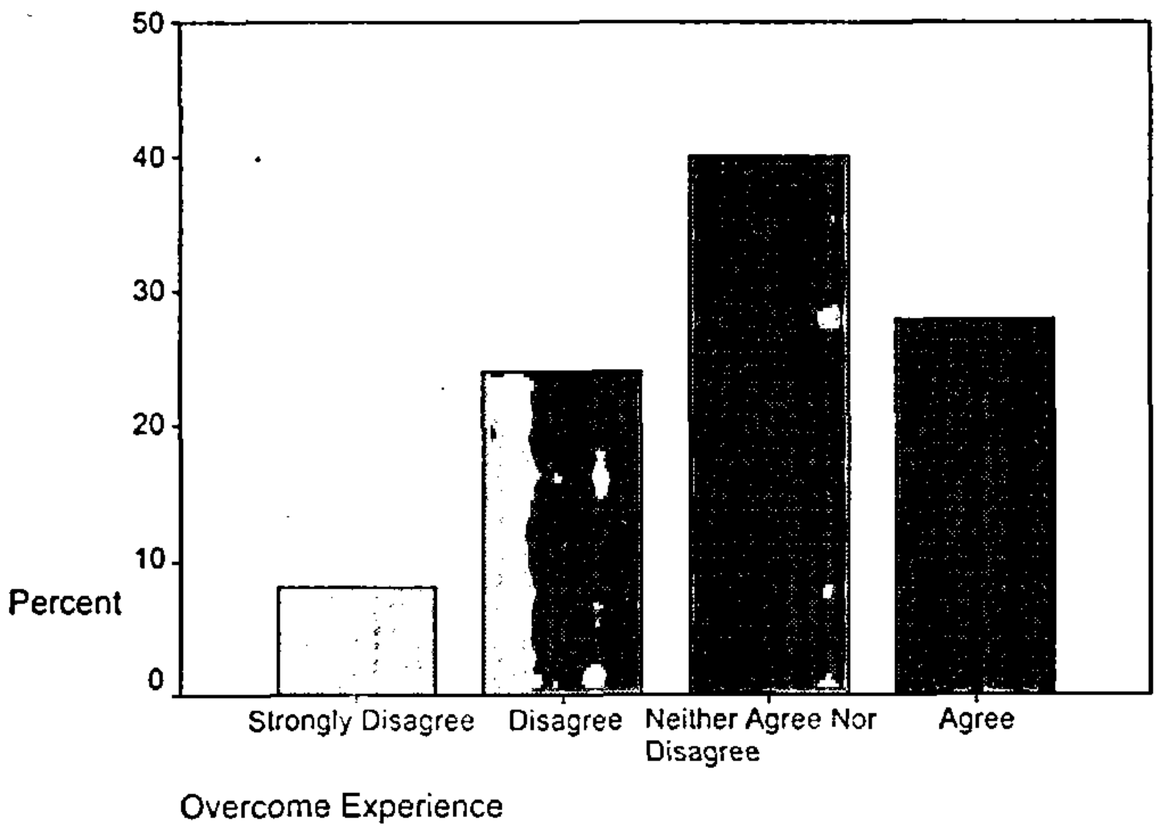

Figure 15. Whether SYC has a plan to overcome any bad prior experiences you and others have had with technology-based learning.

This is an important component of training and trouble-shooting to make sure implementation strategies work smoothly. However, 40% of the respondents were unable to comment on the issue. Perhaps if managers were clear about what was happening, they could answer a definitive yes, or even no. Furthermore, the comfort of knowing the institution has plans such as these may put staff at ease and worried about making mistakes which are bound to happen in such a new field. Knowing there are not going to be penalties could work to an extent, even if there is no knowledge of rewards or incentives.

There is some attempt at identifying rewards and incentives within the system, though. SM1 says,

"Recognition comes from providing infrastructure and facilities. ... Direct recognition is through DOPs who encourage and recognise in the performance appraisal. College-wide, we make them standout to show others what they do. ... There is also own recognition, as if the staff succeeds it will be a self-motivator/self-actualization."

These statements seem not to really say much; a more altruistic approach that may not reflect real needs of staff for recognition. Taking it to more concrete levels, SM2 adds,

"There is a section in the academic staff appraisal that takes this into consideration. I suspect a lot of lecturers will want to embrace this not so much to boost points in the appraisal form, but for something new; If I were a teacher, that's what I would want."

But SM2 also ends with a note of inner rewards rather than outer, more measurable ones. SM3 contributes further to these seemingly patronizing viewpoint, with more honesty:

"At this moment, it is more of personal rewards than professional. Staff into the e-learning mode are given all the opportunities to play with technology."

Staff rewards seem to be a sensitive issue. Even MM4 says point blank, *"I can't say anything about that."* ET1 adds that perhaps feedback could be useful:

"There is some small reward, staff to give suggestions to DOP as to recognition and reward for tech use."

In summary, rewards and incentives seem to be a wish on the part of the middle management. MM7 can only hope,

"Being rewarded is part of the appraisal form - a section on putting material on the Net. God-willing this will translate into monetary rewards."

Communication, however, would probably be a matter more than hope and prayer, but actual commitment. If there is no effective communication, there may not be very successful e-learning implementation.

Culture

Other than communication, Rosenberg (2001) emphasizes the culture of learning whereby the culture of an organisation is a factor crucial to the success of e-learning. E-learning implementation itself is a matter of change, which for it to be effective requires a culture of learning and openness. As MM3 says, "I've been with e-learning for sometime. I was one of the first people to look at how it could work and so on. It is a matter of cultural belief and discipline." It is necessary to ascertain whether SYC has this belief and discipline as its culture to see the future of e-learning within the institution. Culture can have both internal and external influences. Furthermore, the vision and practice of an institution can be compared to analyse culture. This section will cover current SYC culture including reward incentives, external culture, official internal culture, and finally perceptions of internal culture.

Current SYC Education Culture

Current SYC education culture is worth noting before exploring facets of external and internal influences to culture. From the survey conducted, there is strong agreement that traditional education is still the current culture. Figure 16 shows that most managers agree SYC's economic model is predominantly dependent on selling seats in the classroom:

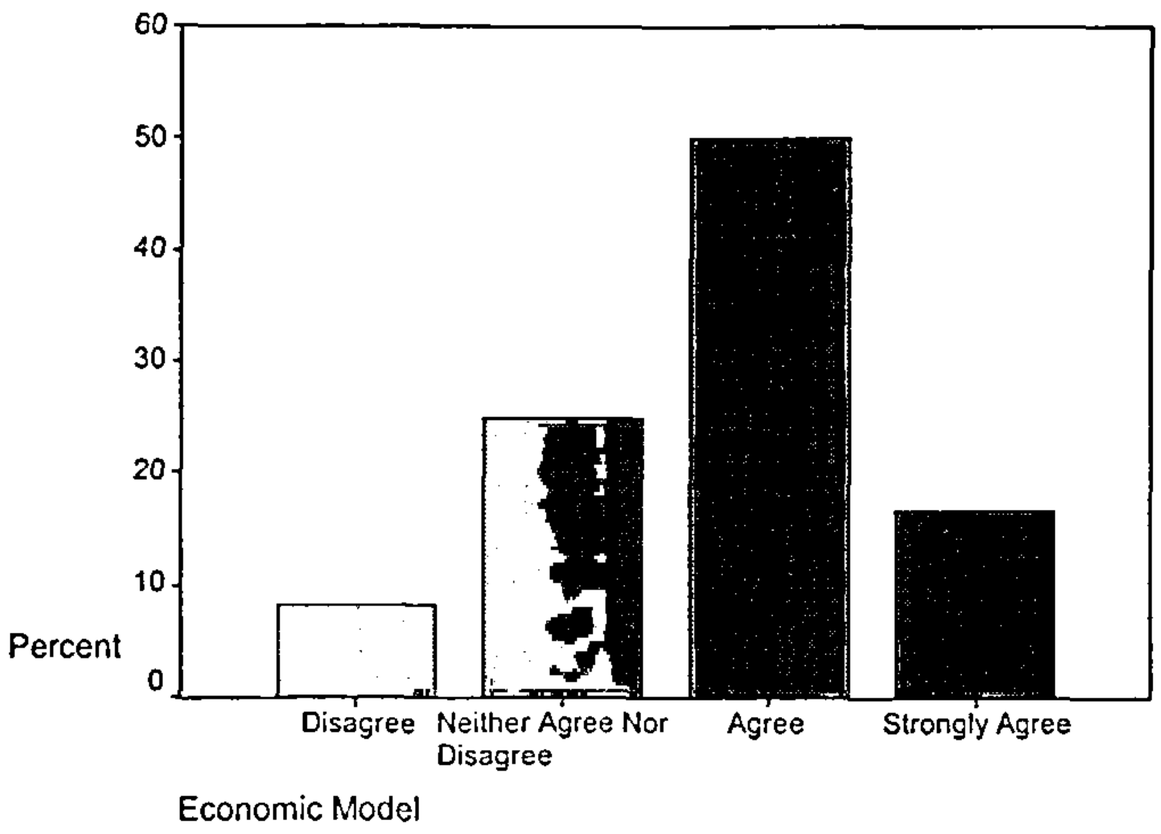

Figure 16. SYC's economic model is predominately dependent on selling seats in the classroom.

This perhaps indicates that the perception of e-learning being an economic priority for income is not predominant. One of the ways to ascertain the direction towards e-learning is whether the institution is looking at markets off campus, and/or looking into flexible learning. Figure 16 seems to indicate although about 35% of the respondents agree that SYC has a climate that fosters learning in alternative locations, the same number of respondents are unable to neither agree nor disagree. Either the culture of e-learning is not strong yet in SYC, or the managers do not share a culture of clear communication.

Another way to ascertain commitment to e-learning would be whether the institution is willing to allow e-learning to thrive, perhaps at the expense of some of the more traditional parts of the organisation. Again, Figure 17 indicates that though a majority of respondents disagree, almost an equivalent number are unable to comment on the matter of allowing e-learning to thrive at the expense of traditional learning in SYC. This could indicate, again, an ignorance of the nature of e-learning in SYC. The inability to respond is an interesting phenomena in this survey. Perhaps the respondents do not know how successful the alternatives can be to traditional learning, and are not informed, or have not thought through the matter with due consideration. Therefore this may indicate that

though internal factors contribute to the culture of SYC too, the current culture of SYC does not show much of a change.

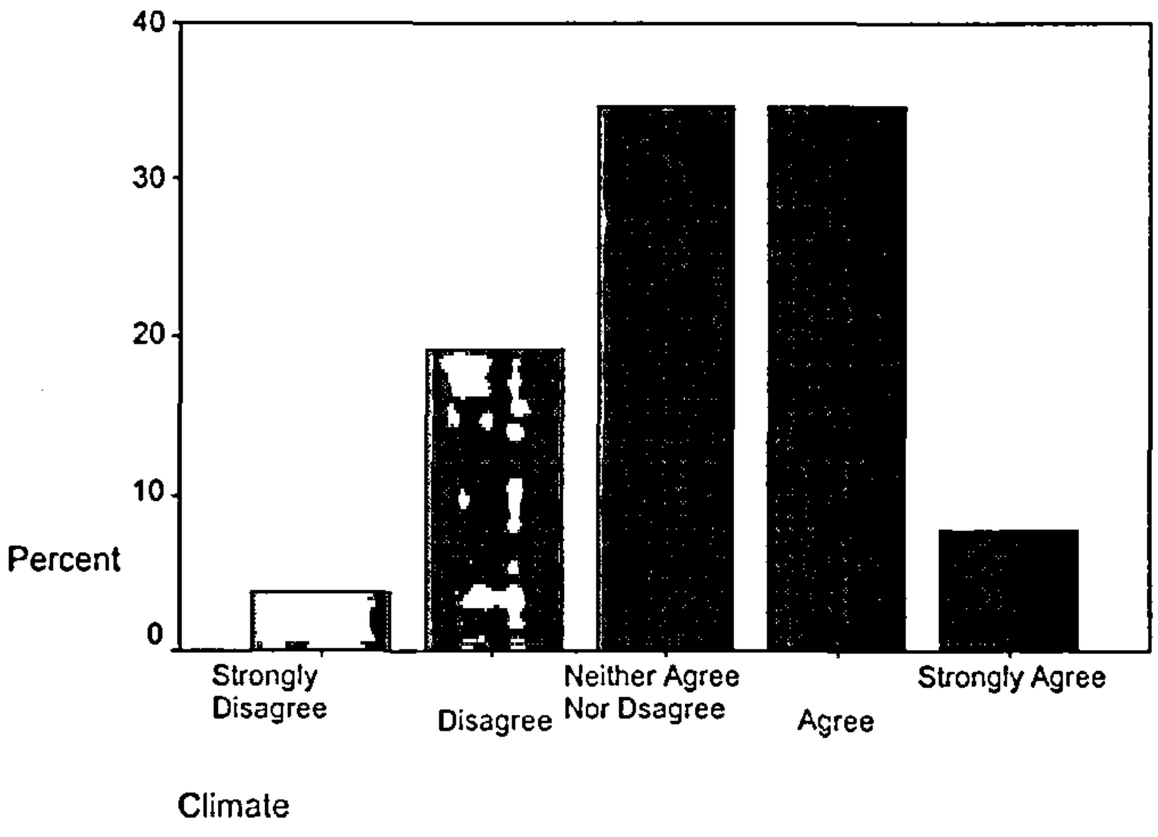

Figure 17. SYC has a climate that fosters learning in alternative locations.

However, Figure 18 and 19 seem to indicate that in the long-term, e-learning will be an integral part of SYC's culture. A slight majority responded that they feel that SYC is willing to allow e-learning to thrive, perhaps at the expense of some of the more traditional parts of the organisation (Figure 18). When asked whether SYC is prepared to invest in and incubate e-learning for several years in order to get it firmly established (Figure 19), more than 50% of the respondents agreed to the statement. This most likely indicates that though there is no confidence in e-learning in SYC now, but the future direction is promising. For a slow but steady investment in e-learning, and at the implementation stage, this perhaps is a good sign. However, a large number still appear to not know and are most likely unclear on the long term policy.

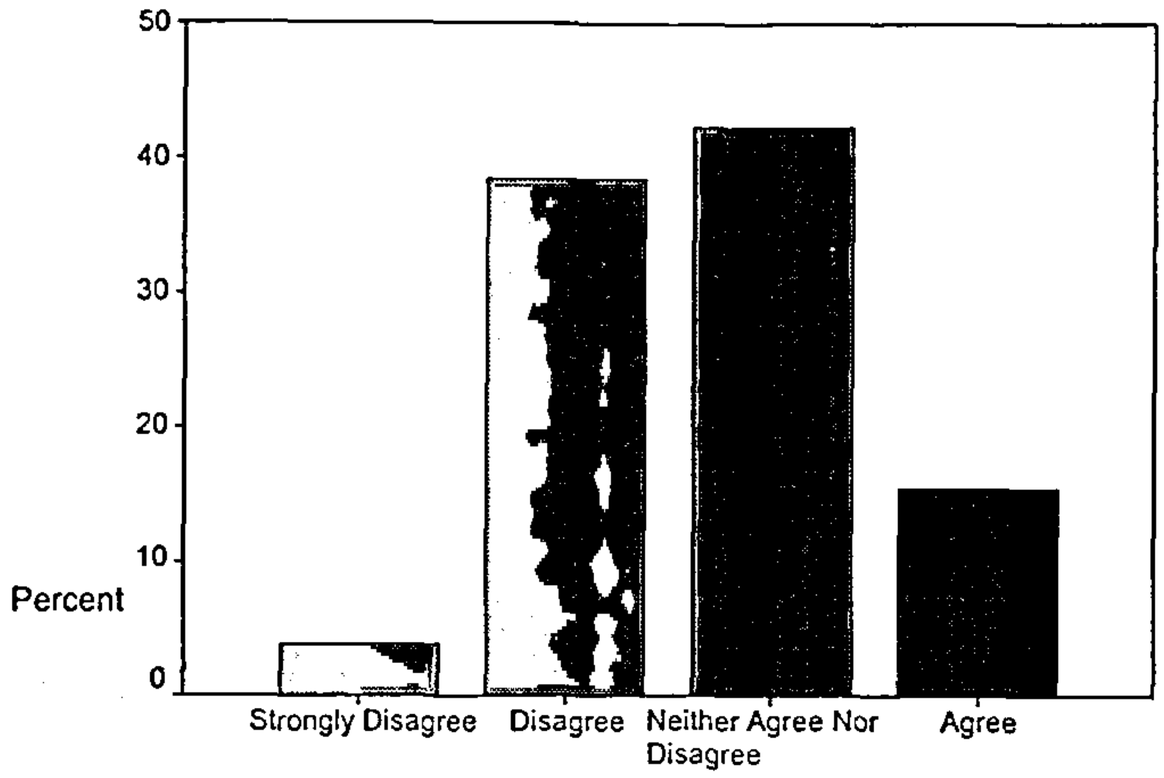

Figure 18. SYC is willing to allow e-learning to thrive, perhaps at the expense of some of the more traditional parts of the organisation.

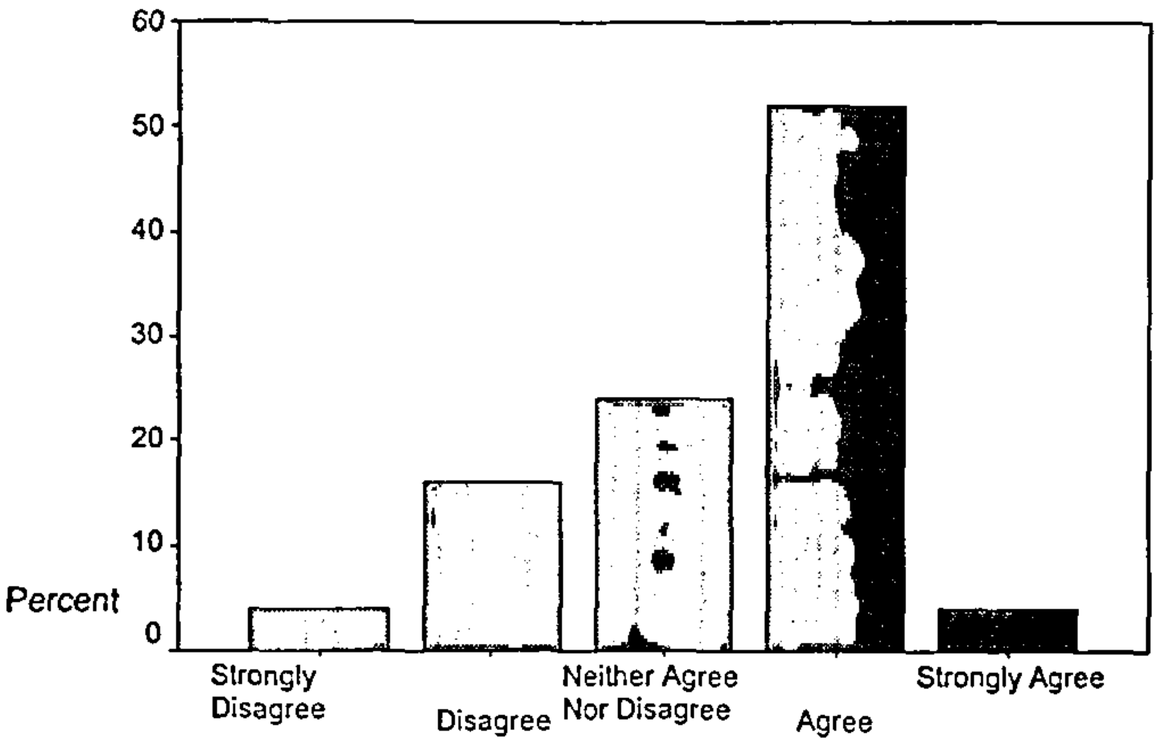

Figure 19. SYC is prepared to invest in and incubate e-learning for several years in order to get it firmly established.

The current education culture in SYC seems to be summed up by SM3 from the point of view of an administrator,

> *"As an admin person I see two types of culture. One, those still embracing the traditional pattern, which is not wrong. Then there is a hybrid group embracing the latest technology and latest innovations. These two will be separated."*

SM3 indicates that both the e-learning and traditional cultures of teaching and learning exist in SYC without much problem at the moment. But the statement that they will separate may be indicative of definitive direction towards e-learning that is already taking place, where perhaps the management perspective is more informed. MM3 brings the issue of e-learning and change back to culture:

> *"It is a cultural, organisational behaviour thing about change, but SYC is not ready...Whether support first then drive, or vice versa. The e-learning material is the same issue e.g. is it the push from management or own initiative to have the drive, or do we set-up...It is more of a 'if you want to come' situation. There is no push from the top. It is not a structured thing. If you want it, and there's demand, then we'll do it. Because there is no dire need, not many will take it up. Generally, everybody is happy doing what they're doing."*

So even if there are two groups of people involved in education, it is possibly out of personal choice as to the extent of involvement with technology. There seems to be a self-confessed separation of roles when it comes to e-learning. This can be seen from SM4's,

> *"I'm not the IT or the 'e' person. I'm trying to understand what is e-learning and distance learning, I get confused."*

Many times responses were simply, *"Refer to (E-Learning Manager)."* These statements could mean that the group that is not very technically involved, tend to leave such duties to the person perceived to be handling e-learning matters. Hence the current e-learning culture in SYC seems to be two-fold; those who are involved and those who are not. And this situation is most likely the result of a still explorative phase of change, and because the new phenomena is not made compulsory for all staff to embrace.

External Culture

The current culture in SYC, as discussed above, has several external influences. MM3 looks at the role of external culture,

"But the whole culture of Malaysia may not be ready for (e-learning). ... It's not SYC's key trust area. There is a slow converting to e-library, CD-ROMs, e-books etc. Again, it's a cultural thing, people won't do it if they don't have to... In Malaysia, culturally, quality assurance is not important. SYC is in the learning process, so I don't think it has anything yet."

Among the many things that MM3 says in the above statement, it is interesting to note that Malaysia itself is not ready for e-learning. If the perception is that the nation is not ready, chances are that there would be less incentive to work towards it as an institution. SM3 too acknowledges external influences of culture in SYC,

"Now we are looking at the challenges in the HR world; as work cultures change, basic needs will change."

Even through work structures there are bound to be influences from the external world. The external world is obviously very close to the institution, especially in the education world when there is direct involvement by the Ministry of Education. It has a strong influence on SYC's culture. SM4 says when it comes to offerings by the college,

"For quality assurance and liaison with the ministry, I have to be careful that we do not offer without the ministry's approval."

Therefore, the cautiousness is to the extent that SYC's priority is basically, according to ET1, to *"not transform, but keep up with what main competitors are doing."* E-learning in SYC is to be on par with the competitors, and not necessarily something new and groundbreaking in SYC.

The parent company also provides context for external culture in SYC. An organisation's vision and mission statement can be used as an indication of official culture. Sunway Group's, which is the parent company for SYC, vision and mission statements are as follow in Figure 20:

Vision

To lead as an Integrated, Quality and Technologically Advanced Construction, Building Materials and Property Development Group which generates Excellent Returns and maximises Stakeholders Value by 2003.

Mission

Sunway group aims to be one of the leading integrated quality and technologically advanced construction, building materials and property development groups in Malaysia.

We are committed to providing excellent products and services that exceed all customer expectations, through our commitment to invest in cutting edge technologies, research and development, information communication technology (ICT), the attraction, retention and development of our human capital, our 'lean and keen' organisation structure and our support towards the practices of knowledge management within the Group.

Our shared values, our ability to stay focused towards our Vision 2020, as one team, our high integrity, our belief in discipline, hard work and high productivity, our competitive remuneration packages and reward and recognition schemes, will guide Sunway group towards the forefront of these industries.

Figure 20. Sunway Group's Vision and Mission statements (Sunway Group 2001, p.2)

There is commitment to invest in cutting edge technologies and ICT, and to support knowledge management within the Group. The official position of the parent company may be compared to the official internal culture discussed below. Setting the stage at group level for ICT may influence the position the college takes towards e-learning at its institutional level.

Official Internal Culture

SYC's official culture may be traced back to the position stated in its vision and mission statements as follow in Figure 21:

Vision

To be the Premier Private University College in the ASEAN region, recognised for its academic programmes of international standards and facilities, preferred by students, parents, employees, employers and other stakeholders and respected by local and international institutions.

Mission

To provide quality education and valuable experience for the all-round development of competent, creative, intellectually critical individuals, who will contribute to the local and global needs.

To support Malaysia's aspiration in becoming a regional centre of education excellence, with education as an important export commodity in our shift to a knowledge economy.

Sunway College seeks to carry out its mission with unswerving commitment to service and excellence, financial self-reliance and professionalism, through continuous improvement and innovation, initiated and practiced with dedication, caring, mutual respect and team spirit by all staff and involving the students.

Figure 21. SYC's Vision and Mission Statements (Sunway College 2001, p.2)

In aspiring to become a regional center of education, with emphasis for education as an important export commodity in the institution's shift towards a knowledge economy, SYC inevitable has to leverage on the e-world. The ultimate commodity for an educational institution is most likely e-learning. In some way, SYC's vision has been recognised recently by being honoured with the Enterprise 50 Award for excellence in the local industry. In the *Collegiate Chronicle* (Anon 2002, p.20) SYC acknowledges that:

> *"Winning the prestigious Enterprise 50 Award 2002 bore testimony to our management and financial performance as one of Malaysia's top home-grown companies. Reflecting our commitment to place Malaysia on the map as a regional center of educational excellence, the accolade reaffirmed our resolve to continue promoting the all-round development of our students and staying strong as one of the premier private colleges in the region."*

Geographically in a central location, political stability, and a value for money exchange rate could help further the mission of SYC being a regional and global player in the world of education which is increasingly involving e-learning.

The vision of an organisation in a way sets the benchmark for its activities. According to SM3,

> *"When I came on board SYC two and a half years ago, the vision was they wanted to move away from standard pedagogical learning to adrogogical learning. That is why now we have brought in training to the college."*

This indicates that there is a recognition of change and in this evolution of market needs is being taken into account while keeping the vision of the college to become regionally prominent, even to the adult and further education market. However, sometimes the leaders of the organisation may not be so certain in the vision of the institution. When asked about changes teaching and learning need to go through, the reply was, *"To evolve, equip, train staff, guide students in a way,"* as SM1 says.

Then there are the politically correct answers from Senior Management. SM4 states,

> *"(E-Learning)'s not a culture shock. We are accepting it. We, the management encourage others to use and give support to new ideas and initiatives taken by the e-learning people, lecturers, admin staff that want to go into e-learning. Not saying e-learning is too expensive, and not give you time off and funds. Just to say that management is supportive. We, management, try to use new technology. Support for example would be the signing ceremony with (partner university)."*

These statements from the senior managers are vague perhaps because, again, there is no clear direction as to what e-learning is, and how to get there, even though the aspiration is to achieve the mission and vision of taking part in the age of knowledge management and basically the information age. The Middle Managers are more honest about their personal visions. MM3 states,

> *"My vision is for students to come and create for you. Lecturers will lay down the basic tools and ideas, and get students to do something new with it. We have some ideas in moving towards it. Unfortunately lecturers get better feedback/rankings if they spoon-feed the students. The lecturers and management need to understand this."*

Hence, though the ultimate education is for students and staff to grow together in e-learning, the reality has to be dealt with, that perhaps the institution is simply not ready yet.

Perceptions of Internal Culture

Even though an institution may have an official culture, what actually goes on may or may not be different. The practice in the organisation is the actual culture. SM1 however acknowledges that in practice, SYC has more to do:

> *"We need to provide more training and development for our staff to use technology. We have to change their mindset. It will be helpful if each lecturer had their own PC."*

The basic premise of e-learning, or even taking part in the knowledge economy, would require basic infrastructure needs that SM1 is acknowledging SYC does not have yet. Staff access to this infrastructure and for retraining are important aspects of developing a culture of learning that will enable successful e-learning implementation.

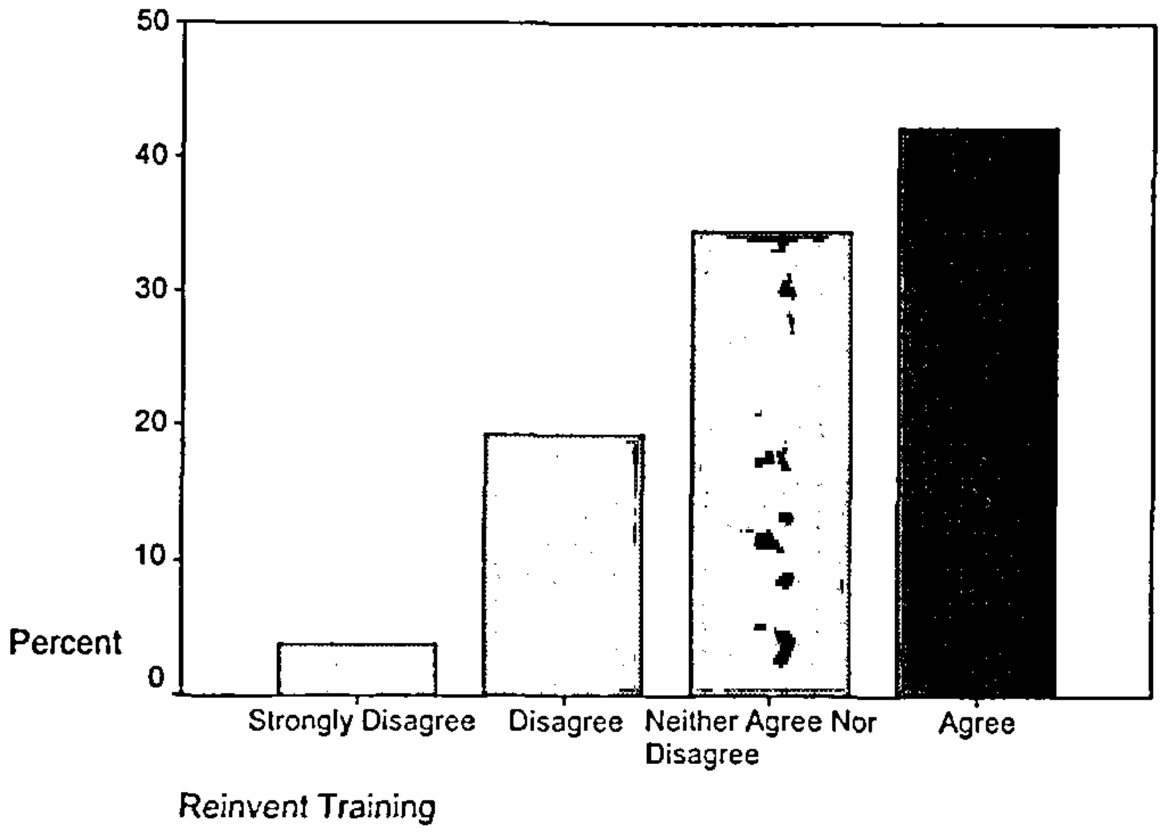

Figure 22. SYC has a plan to help the training function reinvent itself for the digital age.

The survey, as illustrated in Figure 22, indicates respondents marginally agreeing that SYC has a plan to retrain staff to an extent. However, a large number neither agree nor disagree indicating they either do not understand the question or they simply do not know. If there is no obvious plan to retrain for the digital age, staff may have fear of attempting something new, especially in evolving fields like e-learning, which could require hand-holding for some.

Staff at all levels may need the assurance of a plan forward in this digital age. MM1 is blunt,

> *"If you say you're a premier college, and study in excellence and all sort of jazz, then there must be some plan to get there if you aren't already there. But the heads are a committed lot, and that stands out clearly; they want to be better and give the very best. ... for the library alone, we are moving towards ISO9001/2000. The only way to improve is to force yourself to do so. With ISO, it is a complete quality system."*

The frustration of the lack of a clear, cohesive direction has frustrated some enough to go forward in ways that they feel would perhaps give them a sense of pride and accomplishment. Hence some departments are internally motivated to set standards of culture. SITM as a department has its own agenda for e-learning. According to ET1,

"SITM are on their own, they were the first into it, collaborates with the University of Portsmouth but more into CD Rom production with interactive modules."

Therefore some of these initiatives have resulted in e-learning related activities. MM1 furthers,

"Togetherness in management will, desire and implementation- there should be a stronger gelling of these 3 features. What you say you want, what you think you want, what you definitely want to achieve, and how you provide it- there must be stronger link in that. Dissipation, decisions not acted on for month, years- all this slows down culture...I would like to see transparency; what is the IT budget for SYC. Management should tell us. ...Mid-management is not consulted and have little input into decision-making. If we are denied, then they need to give us reasons."

Of course there will be some interviewees who are more vocal than others, and MM1 seems to be so. And it is clear that the frustration again lies with the lack of a clear plan or direction. This may be related to a lack of transparency within the organisation. Other managers voice out what they perceive as gaps in practice or culture, when it comes to SYC's policy on technology and education. MM4 says,

"I see myself with 2 hats. I'm both a manager within the programme, and management within SYC. If within our programme, then technology should be causing me to reflect on our practice, the training needs of our staff, the hardware and software requirements if our teachers are expected to be using technology and use e-learning within the classroom...We need an accepting environment, an adventurous and inquiring mindset, and a culture of considered risk-taking in terms of identifying new opportunities and making the investments necessary to pursue those opportunities."

The words "need" and "should" indicate that technology is not causing much ripples within the teaching and learning culture within the department. MM7 adds,

"We need to start with changing people's minds, and provide assistance to academic staff to upload material."

There is an acknowledgement that mindsets need to change. However, the respondent him/herself seems to see e-learning preparation for staff as simply getting extra people to "upload material". This is cursory, yet, with the lack of time and money incentive given to staff, important. Perhaps the solution could be as ET3 feels, *"There is need for ownership...Realise the importance."* MM3's viewpoint sums up management's involvement in e-learning practice,

> *"I think at this point of time, none. I don't think it will change the way things are. It depends on how you define e-learning. As a communication tool with the vine, e-mail etc., then yes. But as a learning tool, then none."*

If the management itself is holding back on involvement, perhaps the culture of e-learning itself is much to be desired in SYC, especially with no clear direction.

Conclusion

The above findings on the e-learning context, champion, change, communications, and culture have yielded interesting results in terms of several important themes with reference to the impact of e-learning implementation on management structures in Malaysian PHEIs. Rosenberg (2001) defined successful e-learning implementation as requiring the synergy of all four elements. Through interviews, questionnaires and use of documents and records, the data from the research on Sunway College seem to indicate, overall, that though there are some steps towards e-learning implementation, and some existence of effort made in all four areas, implementation may not be wholly successful. The main reason that keeps resurfacing again and again is the lack of clear direction within the organisation with regards to its future with e-learning.

Even though there is an acknowledged champion in SYC for e-learning, the respondents do not seem to perceive a clear champion for the agenda. However, it also appears that the presence of the champion allows the abdication of e-learning responsibility from

many of the other managers. As a first step towards what Rosenberg suggests, a champion has been put in place, and this is indicative of a move in the direction of change. However, since there is no clear policy of change, management does not seem to know what exactly it needs to do. The integrated change strategy that Rosenberg mentions does not appear to be across the board in SYC. Some managers have initiated change within department levels for reasons other than the advancement of SYC in e-learning.

Perhaps the change could be more effective if there was clearer communication and transparency of policy for the change to take place. Communication can position e-learning's value (Rosenberg, 2001) when striving for implementation success. For E-Learning to be winning, it is important that there is open and clear communication between all parties in the institution. However, many managers simply do not know how to respond to questions posed through the questionnaires and interviews. Communication is also perceived to be vague between the Ministry of Education and the institution. A culture of openness and learning could encourage greater communication. Rosenberg (2001) emphasizes the culture of learning whereby the culture of an organisation is a factor crucial to the success of e-learning. In this study, the response seems to be that much of the mindset within the organisational environment is closed due to external and internal factors. What the impact of these findings on management structures would be the final part of the study. These findings will now be analysed in the next chapter according to the data analysis framework, which had been laid out in the methodology chapter.

Chapter 5

Analysis and Implications

The themes from the findings presented in the last chapter will now be analysed according to the research questions laid out in the beginning of this work, which are:

i) Are there champions for e-learning in SYC? If so, what are their roles and functions? Are they effective?

ii) How are the changes being dealt with within the management framework of the institution?

iii) What is the communication strategy, if any, that is going into the implementation of e-learning?

iv) What is the existing culture that pervades the institution and management of SYC?

The analysis follows the thematic structure underpinned by the four key research questions and therefore addresses each of the following central issues. Firstly, when looking at the concept of champion in SYC, coordination, direction and role are some themes identified. Second, the analysis of change incorporates the themes of the plan of action, actual changes so far, and the several barriers to change. Next, the analysis of communication includes the knowledge of e-learning and communication between parties, and external and internal hindrances to communication within the college. Finally, data collected in relation to the culture of SYC yielded the themes of current SYC education culture, external culture, official internal culture, and perceptions of internal culture. These themes and conclusions will then be analysed with regards to the literature on organisational structure, which will be used to identify to what extent, if any, there have been changes to SYC management structures with the implementation of e-learning.

The Champion For E-Learning In PHEIs

The first research question covers the issue of the champion needed for e-learning. Are there champions for e-learning in SYC? If so, what are their roles and functions? Are they effective? The champion is the person who leads e-learning efforts, though in this case study there appears to be no champion, and no leading. This is the first component of successful e-learning integration. It is important for the e-learning effort to have in the first a place, a clear champion to entrench and grow the 'e' initiative. As the person chosen to be the champion is part of the management structure, the perception of the other managers as to his role and his interactions with the other managers could shed some light on whether e-learning implementation does indeed impact the management structure in SYC, and hence PHEIs in Malaysia. The perceived champion for e-learning in SYC is the E-Learning Manager (EM). There are several themes that have been identified in the findings chapter. They are namely coordination, direction and role differentiation. The presence of a strong champion with a clearly defined role can bring coordination and direction to e-learning. These three themes will be discussed in the following paragraphs.

From the data collected, there appears to be a lack of coordination among the various academic and non-academic departments in SYC. This appears to be linked to the fact that many respondents do not seem to be in the know. Communication appears to be a theme that recurs again and again in the findings of the research on the case study. As an interview respondent states:

> *"I'm aware of (EM's) project. Hopefully, this project will provide leadership and staff development in using technology in the classroom."* (MM4)

Hope is not a certainty, and the data seems to point towards respondents not knowing or guessing at the role of the champion, though the majority acknowledges that there is one. Also, senior managers appear to know about e-learning in the college, and hence are able to coordinate vertically, as compared to the middle managers. This could be because the E-Learning manager and his team report directly to the Principal of the college as an

independent unit. The other departments have a horizontal rather than vertical relationship with the unit.

Not knowing what exactly the perceived champion stands for may hamper the confidence in the direction of E-Learning in SYC. From the data collected, there appears to be only a minimal confidence in SYC's direction for e-learning. This may be so because the field itself is very new in the country, and many are only just feeling their way around this new phenomenon. However the fact remains, as MM2 puts it,

> *"I only know that we have an e-learning department that (the EM) is in charge of...(he) is supposed to be spearheading e-learning...what else he does, I do not know."*

Managers may be frustrated with the apparent lack of direction, mainly involving senior managers and the e-learning manager, and may not really feel a need to be involved, as they are not forced to participate in SYC's 'e' initiative. Whatever the reason, the champion's influence in the direction of e-learning is not felt by the other managers.

However, even if coordination and direction is not strong as yet in SYC, the data collected show distinct role differentiation when it comes to what is perceived as e-learning duties. In these cases, the E-learning Manager is perceived to be mainly in charge. Even senior management prefer to let him handle such matters. As is summed up in SM4's statement in an interview, e-learning issues are directed to the E-Learning Manager,

> *"My information comes from the e-learning manager. If there is information on online courses that comes to me, I pass it to (EM)."*

The E-Learning manager is the acknowledged figure to navigate the sea of e-learning. As such, his role is acknowledged, but what the he does is vague to the other managers in SYC.

The reality is that e-learning is becoming, albeit in its infancy, a strong wave of change to be dealt with by educational institutions. A strong e-learning champion best navigates this change. Tan (2002) shows that information technology education has become a marketplace to the information technology multinational corporations and the local private colleges as a result of the government's strong emphasis to develop an 'edge' in the knowledge economy. These have impacted to generate a transformation of Malaysian private education from a colonial transnational model to one making Malaysian higher education a major export in the region. Lack of a strong, autonomous champion may cause SYC to fail in this with regards to e-learning. A champion and a change programme are two of the success factors of implementation.

In terms of management structures, cultures relying on power often create autocratic leaders and horizontal relationships that result in isolation. Vertical culture tends to have a long-term survival focus. It looks at potential and organisational flexibility, whereas horizontal culture is concerned with existing positions and facts (Cunningham and Cresco, 1993). Cunningham emphasises that when it comes to education and structures, centralised accountability for curriculum delivery reinforces the need to maintain bureaucratic structures for enlarged but routine site-level administrative functions- and SYC's structure seems to reflect this. The role of the E-Learning manager, even though he is the closest to being a champion on campus, is still limited by central control. Senior managers are more in the know than middle managers when it comes to e-learning on campus. And this reinforces Bush's (1994) view, who sees the basic dilemma in organisational design as the tension between differentiation and integration. Roles and interdependencies are coordinated vertically by authority and rules and laterally through meetings, task forces, teams and co-coordinators. Therefore, in SYC there is no e-learning champion; at best there is perhaps a coordinator within the existing bureaucratic structure. SYC lacks the first requirement of Rosenberg's criteria for successful e-learning implementation.

Change Strategies To Accommodate E-Learning

The second research question is, how are the changes being dealt with within the management framework of the institution? Beyond having a champion, for e-learning implementation to work, there needs to be an integrated change strategy that brings all the disparate elements of implementation together (Rosenberg, 2001). Change is one of the 4Cs that need to be effectively managed in a PHEI when bringing in a new phenomenon. This could, or not, bring an impact on management structures. SYC does have the continued intention to incorporate aspects of e-learning. How this is managed however needs to be analysed. The management of change to incorporate e-learning in SYC can be ascertained by the three themes identified in the data collected and which will be discussed below: the plan of action for change, actual changes so far in the college, and the several barriers to change. These themes are then compared to the relevant literature from Chapter 2.

The first theme identified within the change management context in SYC is the need for a plan of action. The overall perception gathered from the data collected is that senior management has a plan, but nobody from the middle management knows what it is. This is evidenced from the questionnaire administered where more than 70% of the respondents were of the opinion that there is support for e-learning from senior management, one of the strongest indications of general agreement in the survey. This could indicate a strong thrust towards e-learning, even though the previous discussion indicated that the direction itself is not very clear at the moment. More than 55% of respondents agreed that SYC has a change management plan for introducing e-learning in the organisation. However, almost half could not comment or simply disagreed. If there is a plan, or there is not, not everyone is clear about it. A clear change management plan is necessary for the whole college to move as an entity towards a common goal.

Despite the lack of a clear change management plan in SYC, there appears to be consensus that there have been some changes so far. These changes are seen as evolutionary, but rather vague or unclear. The top down policy itself, even though there

appears to be no formal one, suggests that the current plan is one of evolution. SM1's statement in an interview indicates this:

> *"The model we are talking about is one of evolution.... The E-Learning Unit under (E-Learning Manager) is to research what is available, what others are doing, so as to use for us...Conversion is step-by-step, we encourage but it is not compulsory."*

The case study PHEI is acknowledging that there is no compulsion at any level to make e-learning an immediate implementation, and therefore this might explain the lack of a clear change management plan, and the relative cluelessness experienced by middle managers. However the setting up of the department to assess what the rest of the market is doing, and needs, indicates a positive step towards a change of some sort towards e-learning from the current traditional model of education.

The third theme within the change initiative is barriers to change. Some change barriers to e-learning implementation appear to be beyond the PHEI's control. SYC appears, from the data collected, to be groping in the dark because the external context for change itself may not be strong enough to support internal change. As presented in the last chapter, both senior and middle managers, SM2 and MM3, stated in their interview responses that it is not necessarily so that the college is not ready, but Malaysia itself is not ready for e-learning. If this is the perception of PHEIs, then the speed of e-learning implementation could be slower than if the nation was ready to embrace e-learning. Educational institutions could be hampered by this seeming lack as it will not be lucrative to attract potential students, especially as PHEI's are profit driven.

In conclusion, Bates (2000) points out that the planning and management strategies necessary for the successful implementation of new technologies really require a change in the culture of many institutions. One of the most difficult challenges will be to build a postindustrial form of organisation, with teaching and administration devolved to small and flexible units in an overall planning and management framework. However, SYC has

too much central control, especially by senior management. The plan of action for change, actual changes so far in the college, and the several barriers to change seem to illustrate that much of the change process is either unknown or confined to the knowledge of the few. For better or worse, a devolution of power may not be the model SYC is aiming for right now. Therefore, Bates's vision of a postindustrial form of institution does not exist in SYC at the moment.

Hofstede's (1994) four cultural dimensions, which he suggests are universally applicable across all societies or nations, may be relevant to the change management in SYC. According to Hofstede's study many Asian societies are high "power-distance". So, in the workplace, hierarchy means existential inequality, subordinates expect to be told what to do and the ideal boss is a benevolent autocrat, a kind father figure. The father figure concept, or senior managers in this case, may also be in the form of directives given for change rather than consensus building. The second dimension is uncertainty avoidance. The uncertainty of e-learning is dealt with by just referring to the E-Learning Manager any issue that is related. The third dimension is the masculinity/femininity dichotomy. Most societies lean to the masculine side and hence there is less of an East-West divide. Finally, Hofstede introduces the individualism/collectivism dimension. In the study, Malaysia is placed at the collectivist end. In terms of e-learning, individual effort is not outstanding. Change is not forthcoming here. The fifth dimension that Dimmock (2000) adds is Confucian dynamism or short term/long term orientation. Reverting back to the research question as to how the changes are being dealt with within the management framework of the institution, it can be seen that the importance of compromise as prerequisite of progress, as it is about investment, is evident in SYC's change strategy. The cautious, investment type approach is to ensure progress that does not go against the grain too much, especially that of the Ministry of Education. These do not indicate, again as with the concept of a champion, much impact on the structure of SYC.

Communication Among Management

The research question seeks to ascertain the communication strategy, if any, that is going into the implementation of e-learning in SYC. There may be external barriers to change that were discussed in the last section, but the greatest barrier to change appears to be internal. Communications can position e-learning's value (Rosenberg, 2001) when striving for implementation success. For E-learning to be winning, it is important that there is open and clear communication between all parties in the institution. From the knowledge of e-learning and communication between parties, to both external and internal hindrances to communication within the college, the data collected indicate that transparency is an issue that may need to be addressed in SYC, and probably other PHEIs in Malaysia too. The current communication styles may have advantages or disadvantages, but either way, if the institution is aware of them, the communication style could be changed or used to benefit the e-learning cause.

From the data collected, the knowledge of e-learning in SYC appears to be only of existence, not of function and achievement. MM8 summarises management's overall knowledge of e-learning best in the interview, *"I suppose the initiatives are there."* Supposing an initiative is there is not enough to reflect and ensure success of its implementation. Such cursory knowledge does not do much to position e-learning's value in the institution. Managers and even other levels of staff can only know what is going on in terms of e-learning initiatives in the college if the channels of communication are open and clear. There needs to be communication about what is being done and what is going to be done if the participation of more managers in e-learning is to be achieved, and in turn to reflect in the success of the cause.

The barrier of communication exists at two levels. The barriers are because there is not enough transparency between departments, and between senior management and middle management. In the interviews conducted to collect data, the general feeling is summed up by MM4, who blames this lack of knowledge and no coordination as to a common vision, on a break down in communication:

"...Not sure what the other programmes are doing...There is no common vision as to what e-learning is, and what its place in education should be. ..."

When there is no common vision, the departments are not able to communicate among themselves to collectively grow towards the end purpose of e-learning success. Senior management may best foster this situation. However, as MM7 says,

"I do know there's Blackboard, Vine packages, students can download from home, there is an e-learning division, e-journals etc...No idea for resource allocation. In terms of key areas of investment it is computer labs and up-to-date computers...As for development, I'm not sure, ask (Resource Director) or (E-Learning Manager)."

The senior management and the E-Learning Manager are seen as not being very communicative as to the plans and vision of e-learning. A common goal can achieve common success.

The lack of knowledge and communication between various parties in terms of e-learning can be attributed to several external and internal hindrances to communication. An important hindrance, which is beyond a Malaysian PHEI's control, is the lack of communication from the Ministry of Education's accreditation arm. The E-learning manager admits that there are no guidelines on e-learning yet from LAN. This can be due to the still young PHEI governing arm and the young e-learning market itself. Senior management too does not communicate with middle managers as to the college's direction on e-learning. Even members of the e-learning team do not seem to know what to do about the larger picture of e-learning in SYC, and this is probably because, as ET2 says, they are unaware of the larger strategies, *"We never attend business plan meetings."* A major hindrance for anyone to try anything new and out of their comfort zone would be lack of incentive. For example, SM3 honestly says that there are no real professional rewards for participating in e-learning:

"At this moment, it is more of personal rewards than professional. Staff into the e-learning mode are given all the opportunity to play with technology."

These various internal and external hindrances to communication, if addressed, could contribute to the participation of all managers to the greater success of the e-learning initiative.

These hindrances may be reduced if it is acknowledged within management that communication styles may be a cultural issue. Asian cultures are less open when it comes to managing people. In the literature review, Abdullah (1996b) offered a local perspective to management styles stating that sources of strengths can be found within one's own culture, identification of appropriate symbols and rituals and developed shared practices of productive behaviors that are fully anchored in the Malaysian heritage to drive work processes and output. However, sources of strength, rituals and symbols may need to be reinvented in the face of e-learning. Being a market player in education, and with e-learning opening up the potential for regional and even global students as customers, the growth can be very rapid. To reap the benefits, the institution as a whole can move faster towards leveraging on e-learning if they all know together where they are heading.

Therefore the communication strategy, if any, that is going into the implementation of e-learning in SYC is unclear. The bureaucratic management structure of SYC reflects the limits of change that goes on in the institution. Of the influential schools of thought - job analysis, human relations and the structuralist emphasis upon bureaucracy - the latter seems the most appropriate for SYC because the authorities that control the organisational members adopt the five mechanisms that Gamage and Pand (2003) propagate. The hierarchical control of authority and close supervision, establishing and maintaining adequate vertical communication, keeps change plans controlled centrally and communicated clearly. There is development of bureaucratic rules and procedures to guide actions, even by the E-Learning manager. However, this does not translate to what Gamage indicates as the promulgation of clear plans and guidelines to be observed. The direction of e-learning is not clear, it is cautious to the rest of the managers. There is addition of administrative positions to the hierarchy whenever the need arises such as the hiring of the E-Learning manager, but he and the rest may not truly know what the

direction of the central authority is; whether intentionally or unintentionally, the communication is not clear. Therefore, e-learning's value, as Rosenberg advocates for successful implementation, is not positioned well due to unclear communication.

Cultural Implications

The final research question seeks to address the existing culture that pervades the institution and management of SYC. Other than champion, change and communication, the fourth component of successful e-learning implementation is culture. Rosenberg (2001) emphasizes the culture of learning whereby the culture of an organisation is a factor crucial to the success of e-learning. E-learning implementation itself is a matter of change, which for it to be effective requires a culture of learning and openness. Due to local management styles and the practices thus far in the institution itself, e-learning appears to be a cautious exploration rather than an immediate jumping onto the bandwagon type effort. There are several themes identified in the data collected with regards to culture and they are summarised as current SYC education culture, external culture, official internal culture, and perceptions of internal culture; they paint the picture of SYC's current state and future efforts in this area.

The current SYC education culture appears to be still very much bricks-and-mortar or mainly face-to-face, in a physical setting. The institution's key business is from the current mode of education and it has proven to be successful. Switching to a new format of education perhaps has too many uncertainties that e-learning may not be a priority as yet. Again, the survey results from the questionnaire in Table 1 indicate that though a majority of respondents disagree, almost an equivalent number are unable to comment on the matter of allowing e-learning to thrive at the expense of traditional learning in SYC:

E-Learning to thrive

		Frequency	Percentage	Valid Percent	Cumulative Percentage
Valid	Strongly Disagree	1	3.7	3.8	3.8
	Disagree	10	37.0	38.5	42.3
	Neither Agree Nor Disagree	11	40.7	42.3	84.6
	Agree	4	14.8	15.4	100.0
	Total	26	96.3	100.0	
Missing	System	1	3.7		
Total		27	100.0		

Table 1: SYC is willing to allow e-learning to thrive, perhaps at the expense of some of the more traditional parts of the organisation.

The managers do not see SYC giving prevalence to e-learning, but neither is the response clear whether SYC should devote more effort in that area to promote e-learning to traditional learning in the future. There appears to be poor planning for e-learning to thrive. Therefore the current education culture in SYC is focusing on the traditional mode of education. However, this could also be because of external culture.

Even if an institution is ready to carry out education through e-learning, if the external culture is not ready for technology enhanced learning, the institution itself may be unsure of the direction to take, and even how far to take e-learning. This also raises the issue whether, as a higher education institution SYC, should lead society and not passively wait in the field of e-learning. Still, external culture plays an important role in the context of SYC's, and possibly other Malaysian PHEIs', growth in this area. From the interviews conducted, a strong position appears to be that the market is perceived as not ready. This is even though the parent company itself is committed to IT. Furthermore, the whole culture of the nation may need time for e-learning to take off. This is sumarised in MM3's position when looking at the role of external culture,

"But the whole culture of Malaysia may not be ready for (e-learning).

External context is important for e-learning growth, as is internal context.

The internal context is set by both official internal culture and its perception. SYC's official internal culture seen in its vision and mission statements (Figure 21) indicates a desire to offer globalised education services. In aspiring to become a regional center of education, with emphasis for education as an important export commodity in the institution's shift towards a knowledge economy, SYC inevitably has to leverage on the e-world. The globalised education sector is looking to reach greater numbers of students across geographical boundaries and to provide greater flexibility in education. The increasing trend is to do this via 'e' methods. For education, this would naturally mean e-learning. Perhaps this is one of the reasons that SYC has begun putting in the basic foundations for e-learning. And an important component of this, as Rosenberg stresses, is the culture of learning.

The perceptions of internal culture were identified to an extent from data collected and compared with official statement of culture. One of the glaring differences is that there are not enough avenues for staff to retrain and hence to be part of the culture of learning which is a component of successful e-learning implementation. At present, there appears to be not enough investment in staff. The survey, as illustrated in Table 2, shows respondents marginally agreeing that SYC has a plan to retrain staff to an extent:

Reinvent Training

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	3.7	3.8	3.8
	Disagree	5	18.5	19.2	23.1
	Neither Agree Nor Disagree	9	33.3	34.6	57.7
	Agree	11	40.7	42.3	100.0
	Total	26	96.3	100.0	
Missing	System	1	3.7		
Total		27	100.0		

Table 2: SYC has a plan to help the training function reinvent itself for the digital age.

However, a large number neither agree nor disagree indicating they either do not understand the question or they simply do not know. If there is no obvious plan to retrain

for the digital age, staff may have fear of attempting something new, especially in evolving fields like e-learning, which could require hand-holding for some. There is a need for more transparency, too. MM1 furthers,

> *"...I would like to see transparency; what is the IT budget for SYC. Management should tell us. ...Mid-management is not consulted and have little input into decision-making. If we are denied, then they need to give us reasons."*

The relationship between senior management and middle managers is seen to show a gap in communication, as is the culture of a lack of transparency between the two at the moment. The middle managers are more vocal and candid in their responses, in contrast with the cautious ones of the senior managers. This may hamper organisational learning, as the direction towards e-learning becomes more vague.

In the literature review, Wilson (2001) points out that the potential application of information technology allows institutions to re-engineer almost every aspect of how a university operates, addressing every part of the organisation and challenging traditional functions and procedures. To be successful the underpinning culture of the organisation has to adopt a new profile; and organisational culture is not a characteristic that is transformed overnight. SYC does not appear to want an overnight change in the first place, but perhaps for the future, more permanent inclusion of e-learning within the organisation, the issues of external and internal culture, and how it is perceived needs to be addressed. It is the management of the transitional stages during this transformation that presents the challenge for higher education leadership. SYC does not seem to be in a hurry to adopt a new profile.

The management structure of bureaucracy that Livingston (1974) summarises describes that the simple truth is that as organisations grow and become more complex, more formal systems of regulation replace the informal understanding that is often sufficient for effective co-ordination in the smaller, simpler units. Returning to Rosenberg, the final research question seeks to address the existing culture that pervades the institution and management of SYC. The original small size of the institution and its staff has definitely

evolved into a large organisation with more formal cultures, which is necessary to regulate gray areas that may result from informal communication and systems. However, if this complexity involves the culture of lower transparency when it comes to change strategies, then SYC subscribes to the view. Otherwise, the smooth mechanism of understanding that all managers may be implied to have through this definition does not exist at this moment, as is suggested by the data; and therefore culturally SYC does not exhibit much change in its management structures either.

Conclusion: The Implications For Management Structure

In summary, SYC appears to not successfully implement e-learning when analysed according to Rosenberg's four criteria. There is no e-learning champion in SYC; at best there is a coordinator within the existing bureaucratic structure. SYC lacks the first requirement of Rosenberg's criteria for successful e-learning implementation. Reverting back to the research question as to how the changes are being dealt with within the management framework of the institution, it can be seen that the importance of compromise as prerequisite of progress, as it is about investment, is evident in SYC's change strategy. The cautious, investment type approach is to ensure progress that does not go against the grain too much. As a result these do not indicate, again as with the concept of a champion, much impact on the structure of SYC. Thirdly, the communication strategy, if any, that is going into the implementation of e-learning in SYC is unclear. The bureaucratic management structure of SYC reflects the limits of change that goes on in the institution. Therefore, e-learning's value, as Rosenberg advocates for successful implementation, is not positioned well due to unclear communication. Finally, the last research question seeks to address the existing culture that pervades the institution and management of SYC. The original small size of the institution and its staff has definitely evolved into a large organisation with more formal cultures, but with lower transparency when it comes to change strategies. Therefore culturally SYC does not exhibit much change in its management structures either.

As discussed in the literature review Sunway College falls under Bush's (1995) formal category, within which it is a bureaucratic model. The management structure within this model stresses the importance of the hierarchical authority structure with formal chains of command between the different positions in the hierarchy. As seen in the section on communication, this appears not to have changed in the case study college. The approach emphasises the goal orientation of the organisation. Institutions are dedicated to goals that are clearly delineated by the officers at the apex of the pyramid. The goal in SYC appears to be an evolutionary embracing of e-learning, and the apex of senior management has not communicated this clearly to the rest of the managers, if they have a goal in the first place. It suggests a division of labour with staff specialising in particular tasks on the basis of expertise, which appears to be with the clear role differentiation with matters relating to e-learning left to the manager in charge.

It is also true that decisions and behaviour are governed by rules and regulations rather than personal initiative, as SYC management does not navigate the sea of e-learning by itself in individual effort. To an extent impersonal relationships are emphasised between staff and clients in SYC too. This neutrality is designed to minimise the impact of individuality on decision-making. It then becomes convenient when managers do not need to decide on e-learning strategies collectively. As there is no clear reward structure, it is difficult to say that the recruitment and career progress of staff are determined by merit. But it is true in SYC management structures that internal promotions depend on the recommendation of the head or principal and there may be no formal process even when it comes to e-learning.

As discussed earlier, to understand how SYC operates, first of all one needs to accept the fact that East-West differences are wide and significant. What all this basically means is that, as with all developing nations, education is caught between the advance of the Western model of learning, and local understanding of knowledge. With SYC embracing e-learning slowly, it appears that not much of the management structure has changed. Western knowledge, which is the 'e' element, is still being worked out with the local understanding of knowledge and the "way things work around here." SYC's hierarchy

falls in line with Handy's description of the organisation as a tribe, as explained in the literature review. It is made up of a pyramid of boxes where inside each box is a title, with an individual's name in smaller type below. This "box" continues even if the individual leaves. Communications are formal, and the organisation is managed rather than led. The role tribe refers usually to more mature concerns. Efficiency and fairness in routine tasks demand role culture. Furthermore, the structure of role organisations do not want too much independence or initiative (Handy, 1990b). There appears to be no such independence or initiative in SYC. A large institution, divided up into special functions, with requirements that the functions combine to produce a standardised product, is thus inevitably going to have a preponderance of role-culture elements, and this does not appear to have change in SYC.

Hence the themes arising from the analysis of the findings presented on the champion of e-learning, change strategies, communication and culture seem to indicate that management structures have not really changed in SYC. The case study still shows bureaucracy and role centeredness. So, in revisiting Hoy and Miskel's (2001) statement that organisational culture is typically defined in terms of shared orientations that hold the unit together and give it a distinctive identity, it is useful to look back at the question posed again on what it is that is shared. As organizational culture is reflected in management structure (O'Neill, 1994), it appears that what is shared is a vague knowledge of an unclear e-learning direction which because of its infancy, may be a sea of uncertainties itself. Bureaucracy is a theory in management that seems appropriate for Sunway College still, and probably for most PHEIs in the country. This may be a generalisation for most PHEI's in Malaysia, and perhaps in many other countries too, having to face the vision of e-learning and the nation's aspiration to be a participant in the knowledge economy, as it must be acknowledged that critique of the research methods used and their validity and reliability for this study is predominantly that the case study results are limited as only one organisation was studied. To reiterate however, what this research hopes to have shown is that, after investigation, the introduction and development of e-learning did give rise to tensions and challenges to the model but did

not change anything so far. The implications of this will be further discussed in the following chapter.

Chapter 6
Conclusion

This chapter discusses the implications of champion, change, communication and culture on management structures when implementing e-learning in Malaysian PHEIs. The research questions set out earlier in the thesis are as follows. Firstly, are there champions for e-learning in SYC? If so, what are their roles and functions? Are they effective? Next, how are the changes being dealt with within the management framework of the institution? Third, what is the communication strategy, if any, that is going into the implementation of e-learning? Finally, what is the existing culture that pervades the institution and management of SYC? Then, this chapter will look at the effect of e-learning implementation, if any, on management structures and what it means. Therefore, the argument of the thesis will first be reviewed. Following this, the limitations of the study will also be assessed especially with regards to validity and reliability. Next, the findings are summarised and their significance evaluated. Finally, suggestions for further research, with regards to a general framework that will take it further especially in the Malaysian context as a developing nation, are offered.

The Argument Restated

It has been argued in the literature review that for successful implementation of e-learning the four factors that need to be addressed are: the presence of an e-learning champion, the management of change (to include e-learning in the organisation), effective communication, and the organisation's culture, especially of learning. In identifying the nature and main issues in management structures, it was discussed that SYC subscribes to the theory of the role tribe and bureaucracy. The findings on the e-learning context, champion, change, communications, and culture have yielded interesting results in terms of several important themes with reference to the impact of e-learning implementation on management structures in Malaysian PHEIs. Through

interviews, questionnaires and use of documents and records, the data from the research on SYC seem to indicate, overall, that though there is some step towards e-learning implementation, and some existence of effort made in all four areas, implementation may not be wholly successful. The main reason that keeps resurfacing again and again is the lack of clear direction within the organisation with regards to its future with e-learning.

It was argued that SYC College falls under Bush's (1995) formal category, within which it is a bureaucratic model. This model stresses the importance of the hierarchical authority structure with formal chains of command between the different positions in the hierarchy. The goal in SYC appears to be an evolutionary embracing of e-learning, and the apex of senior management has not communicated this clearly to the rest of the managers, assuming that they have a goal in the first place. It suggests a division of labour with staff specialising in particular tasks on the basis of expertise, which appears to be clear role differentiation with matters relating to e-learning left to the manager in charge. It is also true that decisions and behaviour are governed by rules and regulations rather than personal initiative, as SYC management does not navigate the sea of e-learning by itself in individual effort. Therefore it is argued that the implementation of e-learning does not affect the management structures of the institution, as per O'Neill's (1994) definition used in Chapter 1, but rather highlights its existing strengths and weaknesses. It is also argued that, vice-versa, the implementation of e-learning is affected by management structures as seen in this case study. The way management responds to e-learning decision-making is very much a part of the existing culture affecting management structures.

Limitations

There are several limitations to the study. However, they were minimised to ensure validity and reliability of the study. A principle that helps to deal with the problems of validity and reliability of the sources of evidence in a case study is triangulation. This research used both data triangulation or triangulating the perceptions of various

categories of respondent, and methodological triangulation through the use of different instruments of enquiry, including interviews, questionnaires and documentary analysis. This develops a converging line of inquiry allowing more convincing and accurate conclusions. Furthermore, when investigating one's own institution, there may be a possibility of some form of bias that comes with insider research. At the heart of the qualitative approach is the assumption that a piece of qualitative research is very much influenced by the researcher's individual characteristics and viewpoints. Schofield (2000) explains that the goal is not to produce a standardised set of results that any other careful researcher in the same situation or studying the same issue would have produced. The goal is to produce a coherent and illuminating description of a situation that is based on a detailed study of that situation. Other researchers in a similar, or even the same, situation are not expected to replicate their findings in the sense of conceptualisation. As long as the other researchers' conclusions are not inconsistent with the original account, differences in the reports would not generally raise serious questions related to validity or generalisability, which is an important point to address when it comes to insider research.

Other than reliability and validity, another issue that any researcher needs to consider is ethics. A case study approach to education may be personal. To avoid this, the questions for the interview and survey had been vetted, and the survey piloted, before the actual data collection. Feedback from these processes was incorporated in the final form of the data collection tools. The researcher also made a conscious effort to keep interruption to a minimum when subjects responded in interviews while recording as much as possible both the tangible and intangible responses. Finally, adequate preparation by way of reading and the literature review within the field allowed the researcher to be adaptive and flexible with responses while maintaining a neutral perspective as much as possible, leaning back to the knowledge in the field rather than personal judgments. Ethical survey research can be promoted by informing respondents about what it is they are volunteering for, and by protecting the respondents with regards to the way in which the information they provide will be treated (Fowler, 1995; Bell, 1993). Hence, tape recorders were used only with permission, and for this research, the interviewees and questionnaire respondents were notified of the intent of the research and have been assured of

anonymity. The interviewees have been coded according to Senior Manager (SM), Middle Manager (MM) and the E-learning Team (ET) so that in analysis, there will be no revealing of specific identities to the reader.

The final limitation is that of the nature of the case study itself, discussed in Chapter 3. The main limitation of a case study is its potential lack of generalisability, so that the application of the findings of this research to other institutions needs to be considered with caution. However, this is compensated by the fact that case studies provide in-depth understanding through the analysis of rich qualitative data. Case studies acknowledge the complexities of social truths while being capable of offering support to alternative viewpoints. Generalisability can also be attained to some extent through the conduct of further multi-site case studies and/or complementary surveys. Hence efforts have been taken to ensure this research is valid, reliable and ethical, therefore minimising the case study's limitations.

Significance Of Findings

The research is of value to set the course for other institutions of higher learning in Malaysia to be able to successfully introduce and proceed with e-learning in their education agenda. Even though it can be argued that case studies provide little basis for scientific generalisation, the case study does not represent a sample, and the investigator's goal is to expand and generalise theories and not to enumerate frequencies (Yin, 1994). Furthermore, in examining case studies a large part of the onus rests upon the reader who needs to decide the value of the 'truth' being presented (Wellington, 2000). Primarily, case study data is strong in reality, and allows generalisation either about an instance or from an instance to a class, while not forgetting that the focus of attention is on the case in its idiosyncratic complexity, not on the whole population of cases. In this case of implementing e-learning in PHEIs, the research looks at the possible outcome of the redefinition of the institution's identity itself as illustrated in Figure 23. This is based on the conceptual framework in Chapter 2, but takes into account the results

of e-learning inclusion which can provide a more successful context for implementation if the organisation is a flatter one.

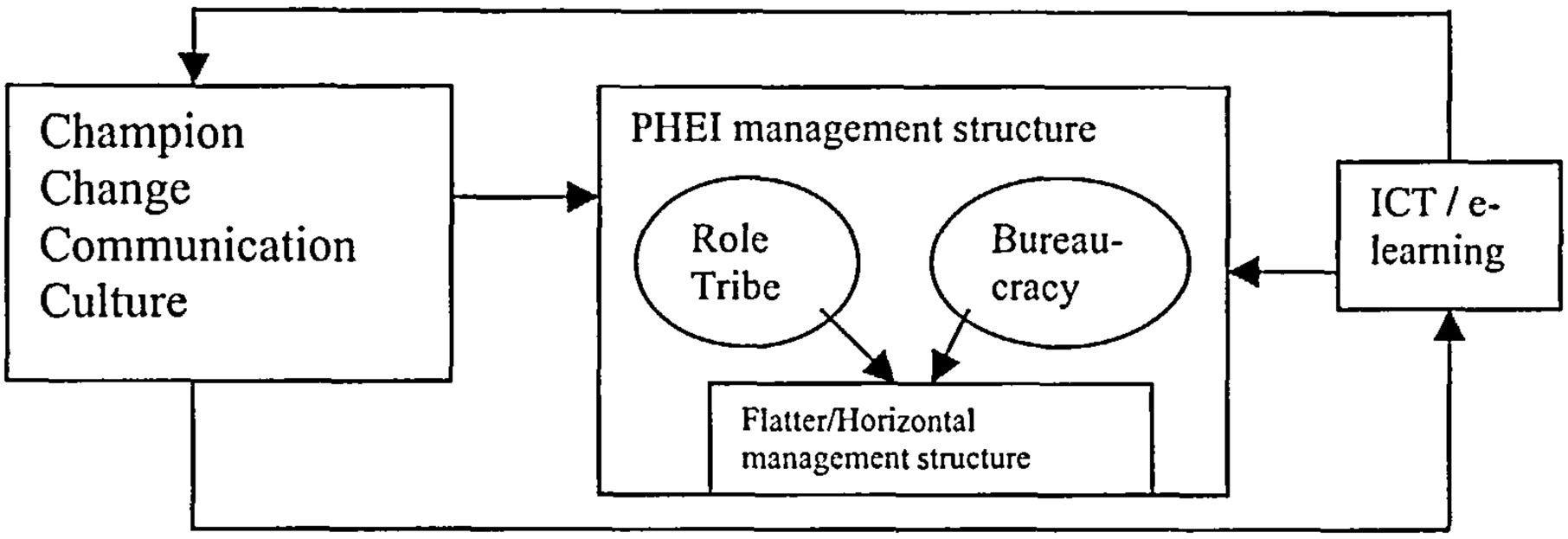

Figure 23. Redefinition of PHEI identity with e-learning implementation.

The review of literature on organisational theory shows that within an Asian context, or any context with its own peculiarities, an organisation does bring with it a culture of its own which influences management structures. The nature of hierarchical organisations and the summary of models have inherently their own structures, which may change with implementation of a new phenomena, in this case e-learning, or resist change. The review of literature on e-learning shows that the evolution from distance learning to technology integration has resulted in a state of learning which can be referred to as e-learning with all its inherent implications. The evolution of e-learning at work and educational institutions need to address the hi-touch and hi-tech implications of e-learning for inclusion into management structures for an effective approach to change. What was not emphasised, however, is the transition process and evaluation of its implications in terms of management structures, which require the building up of the components of champion, change, communication and culture necessary for a holistic integrated change mechanism.

It was also seen in the literature review that much of the idea of change was one that promoted a flatter or team approach to change. Schein (1996) seems to be taking a democratic approach to change rather than purely top-down initiatives. He suggests organic change where participation is at all levels. Whitaker's (1993) model also suggests

the same. Scott (1999) and Bajunid (2001) both discuss key ingredients in the educational change process. A unique mix of external, system and local factors shapes each change situation. Scott brings together the three elements in one model and therefore, effective change appears to be holistic change. Further, Bates (2000) points out that if new technology is usually accompanied by major changes in the organisation of work, then the introduction of new technologies for teaching will require a major shift towards postindustrial forms of organisation for universities and colleges, with teaching and administration devolved to small and flexible units in an overall planning and management framework.

Therefore, the primary issue facing higher education is the need to initiate, implement, and manage meaningful, planned change (Lick, 1999). Managing change requires understanding that learning itself must change; adaptability is the priority, more than the change agent itself. Still, effective leadership and management of people will return as the touchstone for success (Drew and Bensley, 2001), the technological age notwithstanding. A socio-technical approach to reform becomes more apparent when technology and innovations are believed to play key roles in the schools of the future. What happens is the replacement of hierarchical rigid structures with new structures and procedures, which are flexible and adaptable to change, thereby enhancing staff participation and organisational development (Gamage and Pand, 2003). Rosenberg (2001) argues that the bottom line is that e-learning cannot thrive without careful attention to the "four Cs": *Champions* who will lead e-learning efforts, an integrated *Change* strategy to bring it all together, *Communications* that position e-learning's value, and a *Culture* of learning. The 4Cs become a holistic transition to e-learning.

In looking at the role of the champion for e-learning in PHEIs, even though there may be an acknowledged champion for e-learning, not all members of the organisation necessarily perceive a clear agenda by the champion. However, it also appears that the presence of the champion allows the abdication of e-learning responsibility for many of the other managers. Rosenberg's (2001) idea of a champion is a clear supporter and speaker of the cause. What PHEIs have is more of an employee fulfilling a role, rather

than a champion passionately working towards the success of e-learning. Considering the newness of the concept of e-learning, restrictions from the Ministry of Education, and the bread and butter of the PHEI itself which is traditional bricks-and-mortar learning, the employee role may be for the best. However, more research needs to be done to track the progress in PHEIs as e-learning becomes more the norm rather than the exception in its identity.

What then are the changes in management to accommodate e-learning? This research has shown that since there is no clear policy of change, PHEI, and perhaps even HEI management in general, do not seem to know what exactly needs to be done. Some have initiated change within department levels for reasons other than the advancement of the PHEI in e-learning. Perhaps the change could be more effective if there was clearer communication and transparency of policy for the change to take place. Based on literature review in the preceding sections, it was argued that the change agent cannot be separated from the external context - they both contribute to the evolution of the organisation. The organisations that will truly excel in the future will be the organisations that discover how to tap people's commitment and capacity to learn at all levels in an organisation (Senge, 1994). This learning provides an openness resulting in adaptability to change. And after all, change is only as good as the commitment of the people to make it work. Mission, strategy and goals exist for an organisation to succeed in the sense of accomplishing its mission, surviving, and growing. Through these it must fulfill what its various environments demand and afford (Schein, 1999). E-learning definitely requires change. However some questions still remain as to the exact nature of these changes, and hence more research needs to be conducted to shed further light on this.

In terms of effectiveness of communication among management, many managers simply may not be aware as a whole of the issues relating to e-learning and its direction within a PHEI. Communication is also perceived to be vague between the Ministry of Education and the institution. In Malaysia, PHEIs management need to be more transparent in incorporating change when implementing e-learning, or any new phenomena, and this remains an area for further research. Secrecy and lack of communication cannot succeed

in this Information Age. In a time when information is becoming more democratised, transitions and champions or leaders need to be more clearly defined to lead organisations through the change process. Communication between the different levels of management, and management and staff can create a team spirit that will allow a better understanding of e-learning and hence greater success in its implementation.

The underpinning context in which the champion, change and communication strategies can work, however, is that of culture. As culture is continuously evolving, many questions still remain, especially how to address it in making e-learning work. A culture of openness and learning could encourage greater communication. Malaysian PHEIs may be victims of a closed mindset within the organisational environment due to external and internal factors. Within the overall mix of what influences people's behavior, culture's role may be declining, squeezed between the greedy expansion of government and globalization (Dimmock, 2000), which seems inevitable for all nations. A conscious effort must be made to face this inevitability. Therefore, the discourse of educational management must include peculiarities of each nation's need, and the subject of more research. The use of education for nation building in developing nations with a multicultural society, including the inevitability of technology, is an example of such a need – and this cannot be dismissed.

The study shows that organisations do not necessarily meet nation-building needs as the change process within the Malaysian PHEI is taking some time. With the nation's emphasis on the knowledge economy looming in the horizon, the PHEI is trying to partake by implementing e-learning, but what the implementation is doing is showing how much more the institution needs to do to make the change. What the research shows is that e-learning implementation is more a team process than a top down effect. A hierarchical organisation must deal with the implementation in a more collegial manner rather than a bureaucratic one. E-learning brings with it a more democratic approach to management with flatter organisational structures (see Figure 23). The approach to management is further compounded by Rosenberg's (2001) prediction that the combined public and private higher education e-learning market will explode and could easily equal

or surpass the corporate e-learning market. Tan (2002) showed that private higher education in Malaysia recently has changed towards a market model and a fully-fledged education marketplace. The transformation of Malaysian private education from a colonial transnational model to one making Malaysian higher education a major export in the region, with the inevitable inclusion of e-learning, is taking place. This study is significant in helping PHEIs in Malaysia cope with the new markets that Tan and Rosenberg identify, mainly by learning from the implementation in this particular case study.

Therefore, this research is significant for several reasons. Firstly, e-learning is a force to be reckoned with in education, where lifelong learning is taking on a significant presence now. Secondly, there has been no study on the impact of e-learning implementation on the management structures of PHEIs in Malaysia thus far. Thirdly, the information here will help private colleges to adapt and embrace e-learning more successfully in the future. Finally, the research will contribute to Malaysia's growth as the hub of education in the region by aiding the understanding of the issues, which need to be addressed when embracing the inevitable, that is e-learning. One of the greatest growths in the country in terms of education is that of the tertiary, private sector. With the winds of change blowing across the region economically, politically, and socially, PHEI's can play a great role in forming the identity of a nation.

As PHEIs, like other organisations, strive to become knowledge-based they need to meet the challenges of harnessing knowledge and information to sustain competitive advantage. Effective management of teams is needed to turn the university into a knowledge-based organisation, but facilitating and ensuring a team approach is a skilful process, where communication is vital (Dhillon, 2001). Furthermore, globalisation and the new information technologies permit a deconstruction of the functions of the vertically integrated typical university (Chipman, 1999). So PHEI's need to consider a flatter organisational structure which can promote greater communication and transparency, which will in turn foster a culture of openness to change. Devolution of

power to smaller units of management and more teams, will perhaps allow the champions of the respective projects more independence and clout in promoting their cause.

Reflections On The Findings

The concept of online learning began with the educational system (DeNigris and Witchel, 2000). The innovative concept that a quality educational program could be delivered outside the classroom was truly a revolutionary concept. Prior to this, instruction was bound to four walls and a physical location. The thought that this did not have to be was heightened by the awareness that the internet could effectively communicate information, instructional design, and the instructor's and student's personality for a mobile society. The direction of learning is now beyond computer-based learning but includes connectivity via the internet (Rosenberg 2001; Asirvatham 2003). However, the concept and implications of e-learning are very wide. Also, e-learning is provided through a variety of ways (Thorne, 2003).

The different ways of e-learning provision highlight the fact that it is perhaps also important to transform perceptions of learning to understand the implications of the relatively new phenomenon of e-learning. Areas of transformation include both knowledge and performance (Rosenberg, 2001). However, as this research shows, the areas of transformation also includes management structures. If perceptions of learning need to change, so must perceptions of teaching. And if teaching is to change, an organisation's identity needs to be addressed as a whole. A PHEI in Malaysia needs to address the implementation of e-learning at the management level, to allow the redefinition of teaching and learning to take place. As this is new ground, e-learning connotes a sense of feeling things out, which is better done as a team so various input can be pieced together to provide a clearer direction for change. Hence the term "e-learning" needs to be understood beyond just its literal meaning, but to include connected learning and teaching that is managed as e-learning itself evolves.

The research done in this thesis does support the notion in the review that e-learning implementation requires a democratic, devolved approach to holistic change. Much of the strengths and weaknesses of the management structure is brought out to the open with the inclusion of e-learning. A flatter organisational structure would help cope with the demands of technological inclusion and national needs within the higher education setting in general, and the private education setting in particular as per this research, in Malaysia. As e-learning requires a management of change which both public and private need to address, there may not be much difference between HEIs and PHEIs. However, it is emphasized here that e-learning implementation requires a management of the transition in PHEIs in Malaysia that may bring about the redefinition of the identity of the institution itself, as seen in Figure 23. A more open communication has to exist for successful implementation of e-learning. An identity based on top-down communication with a preponderance on role cultures will need to re-think their function, to consider flatter organisational structure when participating in the education market where e-learning is one of the emerging important factors of standards.

The Future

It is indeed a worthwhile effort to investigate e-learning in a region where there is tremendous potential for growth. The latest trends in education are exciting. Universal higher education in the twenty-first century will likely be the norm, and a developing nation's growth tool will be to take part in this education path. Furthermore, knowledge workers have emerged as crucial players in economic performance and well-being. Local and global divisions are dissolving in many instances – a common culture of knowledge with shared aspirations is emerging. This research can be the basis of how e-learning contributes to this system, and its role in a developing nation's knowledge workforce could be explored further as e-learning requires organisations to think differently about education. Managers can also be more actively involved in the development of employees and held accountable for their performance. E-learning puts development tools in the hands of employees.

Furthermore, the limitations of this study can be used as a stepping stone from which greater in-depth work can be done to overcome the challenges that e-learning implementation in a developing nation's PHEIs. Results of the use of a case study is limiting, and therefore a larger scale study with/or complementary surveys can be used to provide greater generalisabilty of results. Other data collection, e.g. forms of quantitative studies, or triangulation methods, e.g. investigator triangulation could also be used to ascertain findings that may be more conclusive for a cross-cultural or comparative organisational approach instead of just one nation or organisation. Within the cultural context of a developing nation with its various policies and purposes for education, e-learning with all its inherent changes and evolutions in learning provides a fascinating field of study.

The evolution of education has come so far with content and technologies. These exciting days bring much hope to people around the world. Unity in diversity is not a far-fetched notion or an unrealistic utopia. Managers need to realise that they are no longer just dealing with their immediate subordinates or bosses, but what the actions they take in their capacities have a ripple effect on people around the world. The responsibility an individual has for the rest of the world cannot be underestimated, and can no longer be seen as isolationist. The internet is democratizing education and each person's contribution in the workplace and the world. As John Chambers, president and CEO of Cisco Systems said, "There are two fundamental equalisers in life- the internet and education." It is time for education to truly make an equalising difference.

Appendices

APPENDIX 1 – QUESTIONNAIRE

Dear Colleague,

I am currently working on my doctoral dissertation with the University of Leicester on the topic of The Management of E-Education in Malaysian Private Institutions of Higher Learning. I will be using Sunway College as a case study. As part of the pilot study, I have attached a copy of the questionnaire I wish to use as part of the survey to be carried out. In line with the shift to e-education that many colleges/universities are undertaking, including Sunway College, the survey seeks to assess the readiness of private tertiary institutions in Malaysia to move towards e-education. Private education is a business, and e-education is leveraging on current market needs after all.

Rest assured that in the pilot study the responses are not indicative of the research question as the sample set is very small. The pilot is to ascertain the suitability of the research instrument (in this case the questionnaire) for use in actual data collection for the dissertation. Hence your feedback on the clarity and suitability of the questionnaire, in addition to the actual responses, will be much appreciated.

Thank you for your time.

Yours truly,

Ratna Malar Selvaratnam
Lecturer
WMU, Sunway College

A Diagnostic Approach to Assessing Your Campus's Readiness for E-Business

Please **circle** the most applicable answer at the end of each question.

Y	=	Yes
N	=	No
NY	=	Not Yet
NA	=	Not Applicable

A. E-Business Strategy

To assess if the institution has planned a strategy for e-business

1. Do you have an electronic business strategy?	Y	N	NY	NA
2. Do key stakeholders buy into the plan?	Y	N	NY	NA
3. Have you clearly defined the goal of your e-business strategy?	Y	N	NY	NA
4. Do you have a robust implementation plan for this strategy, including key milestones?	Y	N	NY	NA
5. Have you created a feedback loop and a time at which you will review the results and reevaluate the strategy (Market conditions may change and negate your strategy)?	Y	N	NY	NA
6. Have you developed strategic alliances or partnerships with any vendors for Web-based applications?	Y	N	NY	NA
7. Have you determined the return on investment of your strategy? Have you defined success and set clear milestones to gauge progress and considered your exit strategy should market conditions change?	Y	N	NY	NA
8. Have you developed your funding plan? Do you have a plan to recoup your initial investment?	Y	N	NY	NA
9. Have you developed your strategy based on information from current and prospective users? Are you building sites that meet their needs?	Y	N	NY	NA

10. Have you developed a brand for your institution/ department and a corresponding process to maintain, protect, and strengthen this key asset? Y N NY NA

11. Have you developed a promotional campaign for your Web strategy? Y N NY NA

12. Have you adequately identified the downside risks? Do you have a plan to address them? Y N NY NA

B. Organization and Capabilities

To assess the insitution's plan for e-business implementation

1. Do you have clearly identified business leaders and administrators responsible for e-business? Y N NY NA

2. Are the appropriate people in the organization/ department responsible for electronic commerce? Y N NY NA

3. Have you appointed Web designers responsible for the appearance of your Internet applications? Y N NY NA

4. Have you communicated e-business roles and responsibilities across the entire institution? Y N NY NA

5. Can you be as entrepreneurial as you need to be? Y N NY NA

6. Can you move rapidly enough to achieve your goals within your stated time line? Y N NY NA

7. Have you appointed Web architects whose roles are to turn business requirements into a system design, capabilities for on-line transaction processing (for students, principle investigators, alumni, and vendors), and related services? Y N NY NA

8. Does the organization have access to appropriately qualified resources? Y N NY NA

9. Do you have a plan to retrain staff? Y N NY NA

10. Have you rethought your human resources performance and reward systems? Y N NY NA

C. Delivery and Operations

To assess the institution's readiness for e-business in terms of software

1. Have you put in place a process for creation, publication, evaluation, and quality assurance of all Web content on an ongoing basis? Y N NY NA

2. Have you defined a uniform set of Web design principles for use across the department/institution that have been communicated and used by all Web applications? Y N NY NA

3. Has your institution put in place backup systems that automatically allow access to your Web site should the primary system fail? Y N NY NA

D. Process

To assess the institution's readiness in content integration

1. If you plan to offer full programs (degree or non-degree) over the internet, do you have the supporting processes in place? Y N NY NA

2. Has your department/institution developed Web-based applications to provide enabled services and transactions over the Internet (for example, on-line applications, on-line registration, and on-line alumni pledges)? If so, have you developed the plan to change the process? Y N NY NA

3. Have you linked your new processes to your existing systems? Do these Internet-based applications feed data directly into your core administration (for example, student, financials, human resources, research, or advancement) without manual intervention? Y N NY NA

4. Do you have on-line links with suppliers for functions such as ordering goods and services, remitting payment, and submission of proposals or quotes? Y N NY NA

5. Do you use off-line methods to promote your Web site? Y N NY NA

6. Do you offer a customer help line that is available 24 hours a day, 7 days a week, to assist customers with technical problems encountered while using your Web-based applications? Y N NY NA

E. Systems and Technology

To assess if the institution is technology ready

1. Does your institution/department use accepted Internet standards for both internal and external systems? Y N NY NA

2. Have you assessed the current suitability of IT technical resources for e-business? Y N NY NA

3. Has your institution/department implemented automatic systems to check the consistency and quality of Web sites? Y N NY NA

4. Are the technologies being used to support e-commerce suitable and scalable? Y N NY NA

5. Are the current electronic delivery channels appropriate based on user preferences? Y N NY NA

6. Is the organization able to respond to and capitalize on rapid changes in underlying technologies and delivery channels? Y N NY NA

7. Are the e-commerce services implemented to minimize additional investment and duplicated business logic? Y N NY NA

F. Performance Management

To assess if there is a plan in place for quality assurance

1. Have you already considered how you will monitor the success of your Internet-based services and

functionality (for example improved services, increased enrolments, reduced costs, reduced queues or cycle time for registration and other transactions, increased revenues)?	Y	N	NY	NA
2. Do you have a plan to collect and analyze information and data regularly (for example, feedback from students and business partners, press coverage, traffic, matching of achievements with original objectives of the Web site, improved communication with all stakeholders, and image)?	Y	N	NY	NA
3. From a user perspective, is the e-commerce service providing satisfactory service levels?	Y	N	NY	NA
4. Are service levels and usage monitored on a regular basis?	Y	N	NY	NA
5. Does the organization/department have in place a means to monitor and report on key performance indicators and the realization of business benefits?	Y	N	NY	NA

G. Security

To assess to institution's readiness for e-education security

1. Has your institution/department approved a security officer responsible for e-business security?	Y	N	NY	NA
2. Have you established a set of security standards that have been communicated institution/ department-wide?	Y	N	NY	NA
3. Have you implemented some form of authentication (for example, log-on Ids and passwords) to control access to sensitive areas of your Web site?	Y	N	NY	NA
4. Have you created controls (for example firewalls) to protect the underlying network infrastructure and Internet connections?	Y	N	NY	NA
5. Have e-commerce projects adequately considered and addressed the implementation of security that				

is appropriate for the e-commerce solution? Y N NY NA

6. Has the organization taken reasonable steps to minimize the potential for a security breach? Y N NY NA

7. Have you implemented confidentiality and process integrity controls over your e-business application? Y N NY NA

H. Tax and Legal

To assess the institution's Profit and Loss considerations of e-business.

1. If your organization/department generates any revenue from sales over the Internet, have these revenue sources been reviewed for exposure to unrelated business income tax (UBIT)? Y N NY NA

2. If your organization/department receives fees for providing any type of services over the Internet (such as Internet access, e-mail, or search services), have these activities been reviewed for exposure to UBIT? Y N NY NA

3. If your organization/department has any publications that appear on-line that include any type of advertising (such as advertisements, placards, running banners, and so forth), have these activities been reviewed for potential exposure to UBIT? Y N NY NA

4. If your organization's/department's Web site has a chat room where users can participate in electronic discussions, are discussions monitored for content that could jeopardize your tax-exempt status, such as the endorsement of political candidates? Y N NY NA

5. Has a policy on intellectual property been developed that stipulates ownership of content and revenue sharing procedures? Y N NY NA

*

Questions adapted from:
Kidwell, J., Mattie, J. and Sousa, M. (2000), 'Preparing Your Campus for E-Business', The "E" is for Everything, San Francisco, Jossey-Bass.

Pilot Study Feedback

Did you have any problems reading and answering the questions?

Thank you for your time and effort.

Appendix 2

Feedback for 1st round of pilot study

The suggestions were to:

i) clearly indicate it was an objective questionnaire

ii) have a clearer overall objective and explanation of subheadings

iii) provide easier response options (e.g. circle appropriate option)

iv) number the questions (it was in bullet form before)

v) add other questions i.e. on physical infrastructure, remuneration etc

vi) clear definitions of some terms e.g. stakeholder

vii) be aware of sensitive wording of question

viii) have an open ended section at the end

ix) consider use of a different online document format

Feedback for 2nd round of pilot study

1. What were the problems with reading and answering questions?

It was suggested that the questions be broken up if there were more than one response needed, e.g. A7, A8, and A9.

2. How was the understanding of the questions?

The following need clearer definition:

Question	Term
A2	key stakeholders
A4	key milestones
B5	entrepreneurial as you need be
E7	duplicated business logic
H1	UBIT
A9	sites
D4	suppliers
F4	regular
F2	image

3. How accurately were the questions answerable?

i) Perhaps use Likert scale

ii) Consider qualitative counterpart/inclusion for response;

iii) Each management role may not be able to answer all questions as it may be beyond the individual's scope (one of the respondent in the first round of pilot indicated this too)

iv) Questions are dense and may result in respondents not thinking through their answers

v) Language is of a high level for Malaysian standards and may affect response

4. Miscellaneous feedback:

i) Include more questions on back-up systems (for data) perhaps in discussion of security

ii) Include signature and email contact of researcher on front page

iii) Include page numbers

iv) Indicate if every question is to be answered

v) Make it more visually accessible e.g. boxes to tick

vi) Highlight answer key and include on every page

vii) Refer to and include perhaps local cyber law issues

viii) Consider if management does have access to information

ix) Include online money transactions business aspects?

x) H4's 'endorsement of political candidates' may not be applicable to our culture

xi) F3 is unclear whether the e-business has already taken off or whether still dealing with readiness issue

Appendix 3

Dear Colleague,

I am currently working on a doctoral degree with the University of Leicester. The dissertation topic is *The Impact Of E-Learning On A Private Institution Of Higher Education In Malaysia: A Case Study.*I will be using Sunway College as a case study. As part of the data collection process, I have attached a copy of the questionnaire I wish to use as part of the survey to be carried out.

In line with the shift to e-education that many colleges/universities are undertaking, including Sunway College, the survey seeks to assess the readiness of private tertiary institutions in Malaysia to move towards e-learning. Private education is a business, and e-learning is leveraging on current market needs after all. This research will prove valuable in setting a diagnostic guide for all campuses heading towards a well thought out e-learning destination.

Your responses will be anonymous and confidential. However, please feel free to contact me if you need any clarification. I would appreciate it if you would slot your responses into my mailbox (no.120) by 11/03/03.

Thank you for your time.

Yours truly,

Ratna Malar Selvaratnam
Lecturer
WMU Programme,
Sunway College.
Tel: extn B-111
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The Impact Of E-Learning On A Private Institution Of Higher Education In Malaysia: A Case Study.

The objective of this questionnaire is to determine how prepared Sunway College (SYC) is for e-learning.

Please **circle** the most applicable answer at the end of each question. Please refer to the following answer key:

1 = strongly disagree
2 = disagree
3 = neither agree nor disagree
4 = agree
5 = strongly agree

A. Your Business Readiness

To assess if SYC is ready for business based on e-learning

1.	SYC is using Intranet technology to run its business.	1	2	3	4	5
2.	SYC is using Internet technology to run its business.	1	2	3	4	5
3.	SYC's workforce is prepared in terms of skills to compete and win in the high-tech, new economy.	1	2	3	4	5
4.	SYC's workforce is prepared in terms of knowledge to compete and win in the high-tech, new economy.	1	2	3	4	5
5.	SYC's workforce is prepared in terms of motivation to compete and win in the high-tech, new economy.	1	2	3	4	5

B. Coping With Change

To assess SYC's plan to cope with the changing nature of learning and e-learning.

6.	SYC has a clear definition of "e-learning."	1	2	3	4	5
7.	SYC has a plan to overcome any bad prior experiences you and others have had with technology-based learning.	1	2	3	4	5

8. You have enough access to the Web.	1	2	3	4	5
9. SYC differentiates between instructional needs (training) and informational needs (knowledge management).	1	2	3	4	5
10. Right decisions are made in SYC about when to use instructional needs and when to use informational needs.	1	2	3	4	5

C. Instruction and Information

To assess SYC's values on instruction and information

11. SYC has expertise in instructional and informational design.	1	2	3	4	5
12. SYC is ready to move beyond a predominant reliance on classroom training to a more balanced approach with e-learning.	1	2	3	4	5

D. Change Management

The role of change management in SYC in building a durable e-learning strategy

13. Senior management supports e-learning.	1	2	3	4	5
14. SYC has a change management plan for introducing e-learning in the organization.	1	2	3	4	5
15. SYC can demonsrate the business benefits of e-learning.	1	2	3	4	5

E. Reinvention

To assess how far SYC has reinvented itself to support e-learning

16. SYC has a plan to help the training function reinvent itself for the digital age.	1	2	3	4	5
17. SYC's economic model is predominately dependent on selling seats in the classroom.	1	2	3	4	5
18. SYC has a climate that fosters learning in alternative locations.	1	2	3	4	5

19. SYC is willing to allow e-learning to thrive, perhaps at the expense of some of the more traditional parts of the organization. 1 2 3 4 5

20. SYC is prepared to invest in and incubate e-learning for several years in order to get it firmly established. 1 2 3 4 5

F. Industry

To assess SYC's relationship with the e-learning industry.

21. SYC is prepared to deal with a large and increasingly complex e-learning marketplace. 1 2 3 4 5

22. SYC has a good handle on what it is buying in the e-learning marketplace. 1 2 3 4 5

23. SYC can differentiate quality e-learning products and weed out redundancies. 1 2 3 4 5

24. SYC is prepared to outsource some of its functions and manage them externally so that it can concentrate its resources on more valuable areas. 1 2 3 4 5

G. Personal Commitment

To assess your commitment, in your role within SYC, to e-learning.

25. You are personally committed to e-learning. 1 2 3 4 5

26. You are ready for e-learning. 1 2 3 4 5

*

I. Do you have any further comments?

Questions adapted from:
Rosenberg, M. (2001),* e-Learning, *London, McGraw-Hill.

Appendix 4

INTERVIEW Schedule

Please state your name and designation for the record.

1. What is your vision for teaching and learning?
2. Where does technology fit within this vision?
3. What do you understand by e-learning?
4. What steps are you aware of that Sunway College (SYC) has taken to implement and support e-learning?
5. What e-learning programs will be implemented in SYC?
6. Define SYC's priority target groups and the use of appropriate programs for the use of technology-based delivery.
7. Who are new target groups that could be reached through the use of technology?
8. What are SYC's key areas of investment and resource allocation for technology based teaching?
9. How ready is SYC in terms of software?
10. How ready is SYC in terms of technology?
11. What is SYC's areas of already existing technology support?
12. What are the organizational and support staffing for technology-based teaching that still needs to be provided in-house?
13. What plan does SYC have for quality assurance?
14. What training and development initiatives does SYC have for staff to use e-learning?
15. How are innovation and the skills use of technology for teaching properly recognized and rewarded?
16. What is the impact of e-learning on management culture?
17. What are the successes/challenges of e-learning implementation so far?
18. How do you see e-learning transforming Sunway College?

19. What changes has e-learning made to your work so far?

20. Any further comments?

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