

Exploitation of ICT for Strategic Education Marketing in Malaysian Public Institutions of Higher Learning (MPIHL)

Mohaiminah Hj Khayon and Professor Dr. Rose Alinda Alias

Graduate School

Faculty of Computer Science and Information Systems

Universiti Teknologi Malaysia

81310 Skudai Johor Malaysia

E-mail: min9841@yahoo.com, drrosealinda@yahoo.com

Tel: 607-5535097, 607-55377803

Abstract

The advances in information and communication technology (ICT) and the astounding developments brought about by the Internet have robustly transformed the marketing landscape and how marketers conduct business. ICT allow marketers to deploy customerization and technologicalship marketing in a financially prudent way of creating and sustaining relationship with customers. OECD (2004) report shows that ICT is having far reaching impacts on performance and the success of individual organizations, in particular when it is combined in investment in skills, organizational changes and innovations. This trend will continue and the transformation of any organization, be it public or private, will depend upon the exploitation of ICT (Goodridge and Clayton, 2004). Numerous researches that investigated various ICT usage, adoption, diffusion and utilization can be found in information systems (IS) and marketing literatures. However, review on past studies show that abundant research has been done on electronic data interchange (EDI), and only Internet and e-mail has been studies in details. Different ICT have been studied individually by different researchers. A study is hitherto need to be done to examine the absorption and exploitation of all adopted ICT together in an organization for the purpose of comprehensive marketing activities in particular and organizational transformation in general. Therefore, this study attempts to fill the gap by exploring the extent of ICT exploitation for strategic education marketing in organizations in developing country. The focus is on the Malaysian Public Institutions of Higher Learning (MPIHL) in relation with radical changes undertaken at the Ministry of Higher Education Malaysia (MOHE) level and the Malaysia Prime Minister emphasizes put forth in *Rancangan Malaysia Ke 9*.

Keywords: Information and communication technology (ICT), strategic education marketing, technology exploitation, customerization, technologicalship marketing

1. Introduction

Several worldwide fundamental changes and trends, and the emergence of new era in IHL have prompted the Malaysian government to initiate new ventures in achieving the Vision 2020. The establishment of the Ministry of Higher Education Malaysia (MOHE) in 2004 is to fulfill twofold goals; to make Malaysia the centre of regional excellence in the provision of 'world class' higher education, and to make higher education the instrument of national integration. The transformation in MPIHL was initiated by the introduction of The Education Act (amendment) 1996 and The Corporatisation Policy (1998). The general aims of the first act are to manage IHL more efficiently and competitively; to function effectively as 'market' organization; and to provide 'world class' education. The second policy bring about many changes in public IHL system and structure in order to prepare MPIHL for the new corporate environment

of providing world class education and becoming effective business organizations (www.mohe.gov.my). In the backdrop, there is widespread acceptance that ICT is a central component of business operations and extensively used in marketing activities. Adjacent to this is the belief that strategic marketing is ICT driven. OECD (2004) report shows that ICT is having far reaching impacts on performance and the success of individual organizations, in particular when it is combined in investment in skills, organizational changes and innovations. This trend will continue and the transformation of any organization, be it public or private, will depend upon the exploitation of ICT (Goodridge and Clayton, 2004). This scenario provides the impetus to explore and understand the extent of the ICT exploitation for strategic education marketing in MPIHL. Thus a comprehensive study is essential to answer the following question:

How and to what extent have the Malaysian Public Institutions of Higher Learning exploited ICT for their strategic education marketing?

This study will try to assess the level and extent of ICT exploitation for strategic education marketing in the organization. More specifically, this study seeks to discover the impact of the exploitation and whether the transformation stage has been reached in strategic education marketing. In order to answer this question, the researchers will propose a comprehensive framework which is an integration of several models and framework that reside within the IS and marketing domain.

2. Resume of literature review

2.1 Scenario in the IHL

IHL throughout the world are currently enduring a thunderstorm of changes so fundamental that the very idea of the university is being challenged. IHL are experimenting with new ways of funding, forging partnerships with private companies and engaging in mergers and acquisitions. These changes are happening for four reasons; massification, soft revolution, globalization and intense competition (The Economist, 2005). IHL in general thus is becoming more competitive from a variety of perspectives. Internally, institutions must manage costs, while at the same time adjusting to a growing need to specialize and communicate a unique message to an expanding marketplace. From the applicant's vantage point, prospects are faced with more options than ever before. A comprehensive marketing strategy can, therefore, directly affect the bottom line of an institution through measurement and understanding of its position in the marketplace.

The Chronicle of Higher Education Review (2005) postulates five trends that will reshape higher education by 2015. They were: changing life cycles of many nation's population ages; developed countries, especially America's growing vulnerability in science and technology; the need to understand other cultures and languages; increasing challenges to higher education's commitment to social mobility; and public support for other ways of knowing. Thus, IHL throughout the world should have the flexibility to adapt rapidly to the outside world. The more effective higher institutions respond to such trends, the better off they are and the nation will be.

The emergence of IHL globalization era is widely seen in the internationalisation and cross-border higher education activities. Cross-border education takes place in various forms such as student mobility,

programme mobility and institution mobility (OECD Observer, 2004). Internationalisation process further hastened by the advances in ICT and the astounding developments brought about by the Internet. ICT have robustly transformed the marketing landscape and how marketers conduct business. ICT allow marketers to deploy customerization and technologicalship marketing in a financially prudent way of creating and sustaining relationship with customers.

In conjunction with such developments, the Malaysia government has established the Ministry of Higher Education Malaysia (MOHE) in 27 March 2004. The goals of the government are twofold; to make Malaysia the centre of regional excellence in the field of higher education, and to make higher education the instrument of national integration. The formation of this new ministry indicates the thrust of the government to have more focused agenda in the higher education in the country (Sulaiman, 2005). One of the core thrust is an internationalization of Malaysia higher education. To spearhead this thrust, the Marketing and Commercialization of Higher Education Section was set up under the Institution of Higher Learning Management Department. At the backdrop, two main policies pertaining to MOHE transformation are The Education Act (amendment) 1996 and The Corporatisation Policy (1998) (www.mohe.gov.my). The Malaysia Prime Minister in his recent 9th Malaysian Plan presentation stated that the government will multiply its effort in developing Malaysia as the regional centre of excellence in tertiary education, including promoting and exporting higher education through strategic marketing approaches and education product branding (Rancangan Malaysia ke 9, 2006).

2.2 ICT Role in Marketing

Kotler (2003) stated that marketing should be adapted to the New Economy and further proposed that the 3 major drivers of the New Economy are: digitisation and connectivity (computer and networks such as Intranet, Extranet and Internet); dis-intermediation and re-intermediation (new types of intermediaries such as click-only and click & mortar marketers); and customisation and customerization (in which the New Economy revolves around information business).

Keegan (2002) posits that marketing clearly is undergoing a revolution as a result of the explosion of ICT and the World Wide Web. The Internet represents one of the most important key drivers of the ICT revolution. Whilst the issue of interactivity/interactions and interfaces are gradually being recognised as 'The Achilles' heel' in this age

of robust technologies and the interactive nature of Internet medium 'a holy grail' for global marketers, this study will integrate it with two new marketing-driven business paradigms, coined by Wind and Rangaswamy (2001) as customerization and Zineldin (2000) as technologicalship marketing. Customerization is ICT intensive at the marketing side rather than at the product side. It is customer-centric, collaborative and digitisation is the key. The customer is a codesigner of the marketing solution (personalised products, services and experiences). Customerization is technologically feasible and will complement the globalization movement. Technologicalship marketing is marketing based on technology tools used by organizations to acquire and manage their relationship. Most of the marketing activities should be based on technology and a desire to make a relationship work. A technologicalship partnership is a type of relationship which offers a natural linkage between the internal environment and the interaction process because it emphasizes how ICT, consumers and organizations are a function of win-win interaction. It is a general approach that can be used to consumer marketing-business to consumer/mass markets (goods, services, information).

ICT in marketing must focus on modernizing marketing, driving it forward, transforming businesses and customer satisfaction. ICT transformation requires a corresponding change in corporate culture (Davenport, 1994). Based on the scenario pertaining to MPIHL presented above, the idea of marketing universities has become an imperative due to the growing competitive environment of IHL. Although most MPIHL have instinctively marketed or promoted themselves in order to achieve diverse objectives, the concept of strategically marketing universities is still new and not fully embraced in academia. Thus, exploitation of ICT for strategic education marketing is still in infancy, which is parallel with conclusion from Shaw (1994) and Leverick *et. al.* (1997). In fact, higher education marketing is still in its infancy (Maringe, 2005). Consequently, organizations such as universities whose enduring operation or growth depends on the support or patronage – financial or otherwise - of discrete groups of audiences must seriously explore ways to market itself in a manner similar to that of businesses marketing their goods.

Such escalation is exemplified by Harvard University when its endowment was reported to sum up to a staggering \$19.2 billion in 2000 (D'Souza, 2004). In 1999, Harvard endowment was \$14.4 billion. In one amazing year Harvard University's wealth jumped

nearly a third, whereby the \$4.8 billion dollar increase alone was larger than the total endowments reported the year before by some of US's other top universities, including the Massachusetts Institute of Technology (\$4.3 billion) and Columbia University (\$3.6 billion). The monumental question is, so what's Harvard University doing that others aren't? The author stated that it is a good question that worth answering. "Because Harvard's structure and marketing system can teach us one heck of a lot." He also quoted Linda Doyle, CEO of Harvard Business School Publishing, "Since we can't bring everyone to campus, we extend the brand to the places where people work or to their homes," "So how do you get customers who won't come to your campus all excited? Harvard does it with *Harvard Business Review*, *Harvard Business Online* and dozens of publications and interactive and digital media. In fact, Robert Clark, Harvard's dean, says there is evidence that the *Harvard Business Review* and the electronic media tend to increase a student's desire to attend live sessions at the campus." Harvard evidently has propagated the benefits derived from ICT exploitation for strategic education marketing.

2.3 Technology Utilization

Models in information technology (IT) implementation have been created in 1987 which is drawn from Zmud's breakthrough research with Kwon. Cooper and Zmud (1990) then collaborated and developed their model of IT implementation in which they defined IT implementation as an organizational effort directed towards diffusing appropriate IT within a user community. The authors also highlighted all the other important terms that are relevant in each stages such as adoption, acceptance and adaptation. They further defined acceptance as the technology that is employed in organizational work and employees are encouraged to commit to applying the technology. Other models that are related to acceptance are the Technology Acceptance Model (TAM) (Davis, 1989) and the Theory of Planned Behaviour (TPB) (Ajzen, 1985).

Several researchers in management of information system (MIS) later further developed models to study technology utilization choices of end users. Two of the most well known and frequently employed models are the TAM and the Task-Technology Fit Model (TTF) (Goodhue, 1995). TAM is a specific adaptation of the Theory of Reasoned Action (TRA) (Ajzen and Fishbein, 1980) to study IT usage. In general, TRA and TAM state that behavior is determined by intention to perform the behavior. Actual behavior and intention have been found to be highly correlated (Davis, 1985; Ajzen and Fishbein,

1980). Davis examines the external variables that determine or influence attitude towards IT use. The TAM identifies Perceived Ease of Use and Perceived Usefulness as key independent variables (Davis, 1989). The former also influences the later. The TAM includes the very important assumption that the behavior is volitional (voluntary or at the discretion of the user).

Goodhue and Thompson (1995) in the Task-Technology Fit Model found out the core to this model is a formal construct known as Task-Technology Fit (TTF), which is the matching of the capabilities of the technology to the demand of the task or the ability of IT to support a task. TTF Model has four constructs: Task Characteristics, Technology Characteristics, which together affect the third construct Task-Technology Fit, which in turn affects the outcome variable, either Performance or Utilization. TTF hypothesize that IT will be used if, and only if, the functions available to the user support or FIT the activities of the user. Rational, experienced users will choose tools and methods that enable them to complete the task with the greatest net benefit. IT that does not fulfill this requirement will be cast aside. A common addition to TTF is Individual Abilities (Goodhue, 1988; Goodhue and Thompson, 1995), which inclusion is supported by both Work Adjustment Theory from which TTF originally derived and recent MIS studies in which experience with particular IT is generally associated with higher IT Utilization (Guinan et al, 1997; Thompson et al, 1994)

Dishaw and Strong (1999) later combined TAM and TTF that result in a better model of IT utilization. The combination captured two different aspects of users' choices to utilize IT. TAM, and the attitude/behavior model on which it is based, assume that users' beliefs and attitudes toward a particular IT largely determine whether users exhibits the behavior of using the IT. TTF model take a decidedly rational approach by assuming the users choose to use IT that provides benefits, such as improved job performance, regardless of their attitude toward the IT (Goodhue, 1995). Both aspects, attitude toward the IT and rationally determined expected consequences from using the IT, are likely to affect users' choices to use IT.

Research on IT utilization behavior has a number of research streams other than TAM and TTF, such as a model tailored for personal computing (Thompson et al, 1991). Notable in this area is the study of Perceived Computer Self-Efficacy by Compeau and Higgins (1995) which examines users' belief

regarding their ability to perform specific tasks using a software package. Computer Self-Efficacy (CSE) is defined as a judgment of one's ability to use a computer. The CSE construct is a specialized definition of Self-Efficacy (SE), which is a person's belief in their ability to accomplish a specific task. The concept of SE was developed by Bandura (1986) from the social Cognition literature. There are three general dimensions of SE: magnitude of the ability, certainty or strength of the belief, and generalizability of the ability. In IT literature, CSE has been studied as the antecedent of Perceived ease of Use in the TAM Model (Venkatesh and Davis, 1996; Fenech, 1998). Bandura further noted that SE is affected by past experience, by observing others, by persuasion, and affective arousal. Thus, SE studies often include Experience as a control or as an antecedent of SE. In the IT literature, Agarwal et al (2000) included Relevant Prior Experience in their model explaining Ease of Use via CSE.

Dishaw, Strong and Bandy (2002) extended their combined studies of TAM and TTF by adding user's Experience with the tool use to explore the hypothesize that knowledge is increased through experience, and in turn a tool will be perceived as easier to use. The experienced user will also see more potential uses of the tool as they become more experienced, and thus should also perceive a software tool as more useful. Current IT literature has shown that CSE affects Perceived Ease of Use and is affected by Experience. Companies spend a lot of money on software, much of which is underutilized (Dishaw, Strong and Bandy, 2002), which there is similar scenario in service-oriented organization such as IHL. This combined TAM/TTF with CSE model leads to a better understanding of the antecedents of software use. If managers, especially marketing managers in IHL, had a better understanding of why users choose to use software and how frequently they are willing to use it, they could take actions to promote better utilization of the software that the organization has acquired. Understanding the antecedents of use would provide great value to organizations. This model has been used to study students who are using tools such as Microsoft Access, SPSS, Microsoft Project, ProModel, or a CASE tool.

In this paper, the researchers would like to investigate if the TAM/TTF Model with CSE could be of use to understand the phenomena of ICT exploitation for strategic education marketing. Figure 1 represent the Model that will be used. ICT when fully absorbed, changes people's behavior and drives much more intense and productive use of ICT. Organization that

goes a step beyond adopting and adapting, that is absorbing the benefits of ICT's services and applications, will quickly and deeply achieve significant benefits in terms of productivity,

innovation, growth and quality of life as well as significant competitive advantage over organizations that do not.

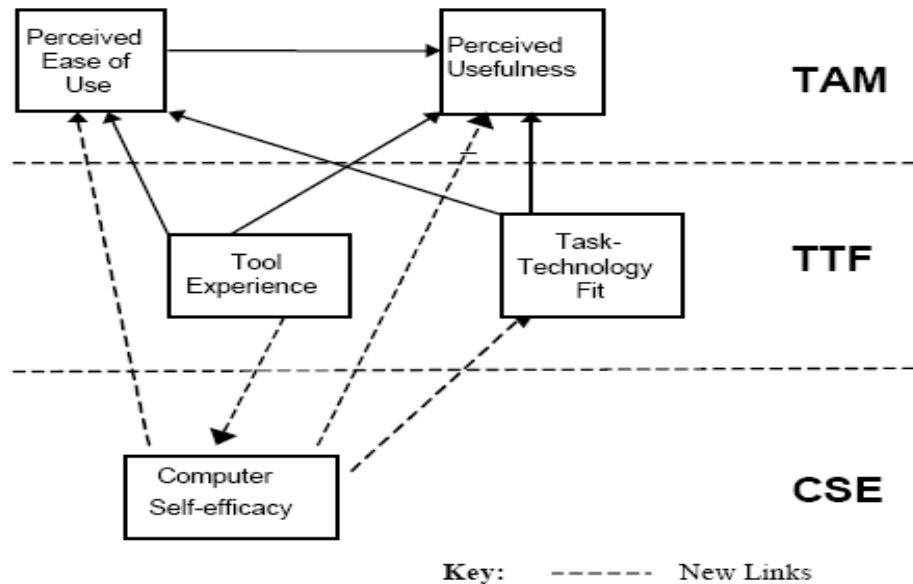


Figure 1: TAM/TTF Model with CSE

2.4 The Marketing Environment

Marketing orientation requires organizations to monitor their environment and to adjust their offering so that consumer needs are fulfilled, thereby facilitating the organization in meeting its own objectives (Palmer, 1994). Kotler (2006) defines an organization's marketing environment as the actors and forces outside marketing that affect marketing management's ability to build and maintain successful relationships with target market. Successful organizations know the vital importance of constantly watching and adapting to the changing environment. This definition implied that the marketing environment consists of three elements of actors and forces – technology, organization and people. These elements are similar with the technology-organization-environment (TOE) model developed by DePietro (1990) to study technology adoption at organizational level. The technology element refers to the competency of the technology to the organization; the organization measures firm size and scope, the centralization, formalization and

quality of human resources; and environment describe the external relationship of the organizations which includes its industry, competition and relations with buyers and suppliers. This model is very influential in understanding IT adoption in an organizational context and has been used in various IT use and adoption studies (Xu et al, 2004; Dedrick and West, 2004; Gibbs and Kramer, 2004).

The Multiple Perspectives Framework (MPF) is developed by Alias and Wood Harper (1997) for exploring I/S quality. The exploring of I/S quality activity is equivalent to the 'Analysis of Human Activity' in the Multiview methodology adopted from Soft Systems Methodology (SSM) pioneered by Checkland (1981) is similar to the exploration of ICT exploitation for strategic marketing. The activity involves understanding the situation concerned through a multi-level context/process analysis of the organizational and external context, and within a cultural stream of analysis. This activity is depicted in Figure 2.

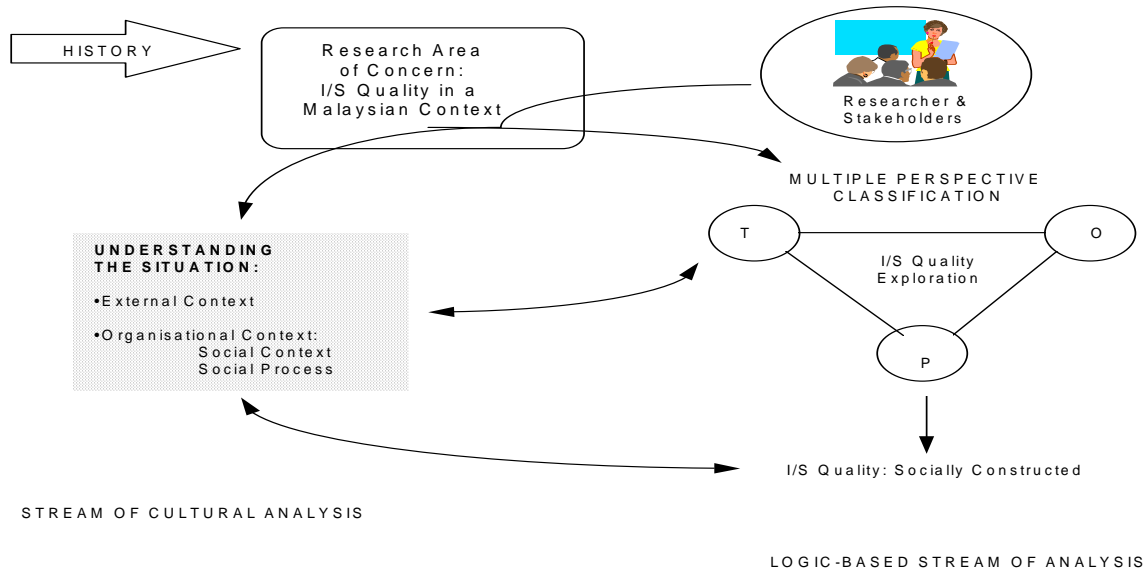


Figure 2: Multiple Perspectives Framework for Exploring I/S Quality

2.5 A Comprehensive Framework

This study will propose a comprehensive framework which is an integration of several models and framework to answer the research question in a comprehensive manner. They are the MPF for

exploring I/S quality (Alias and Wood Harper (1997) and the TAM/TTF Model with CSE (Dishaw, Strong and Bandy, 2002). Figure 3 represent the theoretical framework that will be utilized to explore the phenomenon.

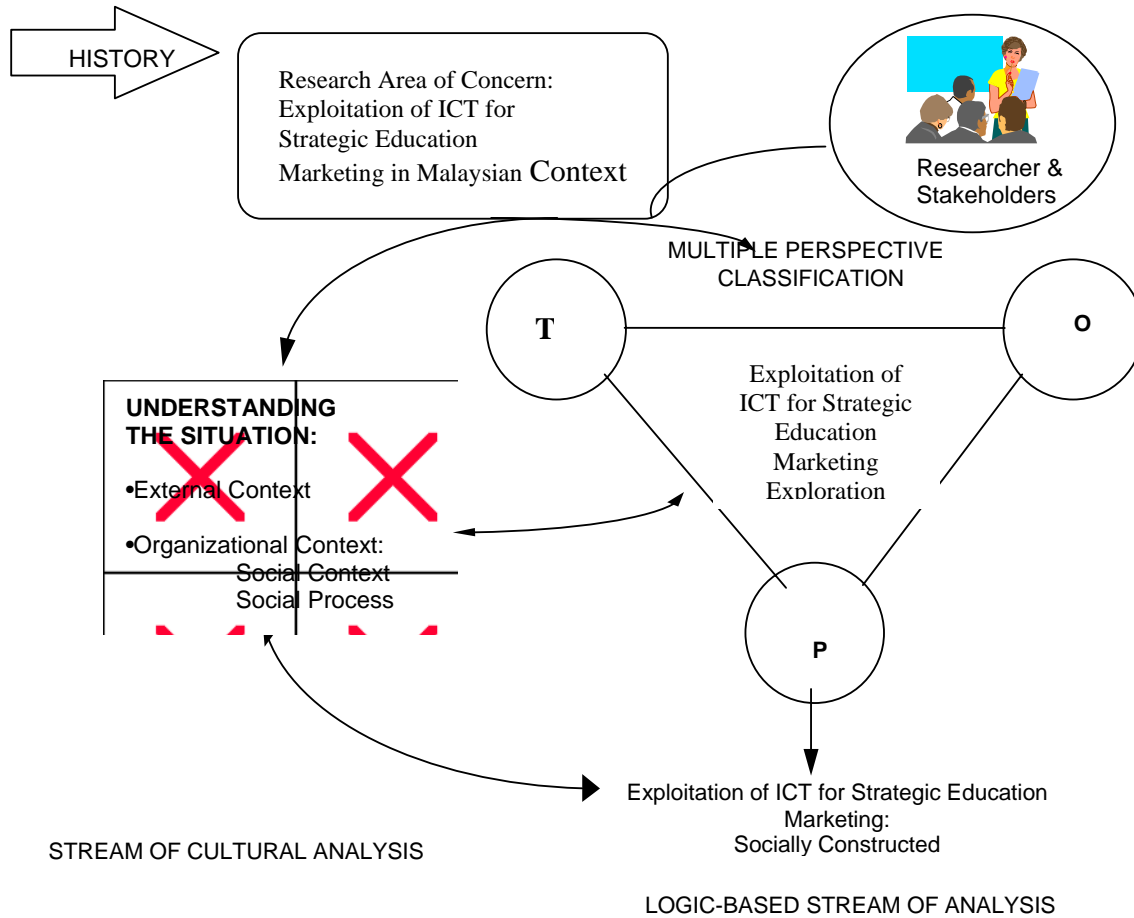


Figure 3: Multiple Perspectives Framework for Exploring the Exploitation of ICT for Strategic Education Marketing in MPIHL.

3. Methodology

This research will utilize both secondary and primary data. The secondary data will be used to review relevant information already published that could unfold the problem indicated. Case studies and field survey could be used to determine actual situation encountered by MPIHL, hence will validate the research. This study will employ two recognized and accepted qualitative methodologies; case studies and survey (Yin, 1994; Dick, 1998).

4. Conclusion

This research should provide detailed understanding of how and the extent of ICT exploitation for strategic education marketing. It should provide researchers and practitioners with a comprehensive narration on the essential components that must be in place for ICT exploitation and the process and

characteristics of strategic education marketing within MPIHL.

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