The Cyber Space and Information, Communication and Technology: A Tool for Westernization or Orientalism or Both

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Abstract: Problem statement: The role of ICT and cyberspace and their existence have become prevalent popular phenomena to the extent that they are perceived to have the potential for transforming the world and launch it into a Digital era. The advent and advancement of ICT and cyberspace has also facilitated the globalization process and is used as an integrative tool, making the presence of the 'global village' evident. However, we as the end user of ICT has never thought about the advent of ICT and its history, its existence and the construction process of ICT. **Approach:** The Cyberspace and ICT was seen as dominated by the West as evidenced by factual documentations researched by the researcher. This situation has created gaps and imbalance of knowledge and skills between the West and the East. **Results:** Therefore, this paper examined the origins of both the terms cyberspace and ICT. By using qualitative approach, this study focused on the basic concept of cyberspace and the development of ICT, the military ascendancy and the western invention of cyberspace and ICT. The ICT application and experiences in the Malaysian administration establishments and academic institutions are contextual examples of the strategic applications of ICT. This study found three major factors that is used as a guide for the analysis of cyberspace and ICT. Paradoxically, sixty percent of the Malaysian experiences were based on their own strategies of development which did not indicate western dominance in these spheres. Implications from this study on the whole showed that the cyberspace and ICT were the products of westernization process towards the east. **Conclusion/Recommendations:** The findings of this research has great significance for future studies and towards the mapping of the pragmatic strategic needs of any one country, the possible modification of knowledge content and innovations of applications (software and hardware) that will implicate a lesser dominance of westernization.

Key words: Information Technology Infrastructures (ITI), Advanced Research Projects Agency (ARPA), Transmission Control Protocol (TCP), orientalism, multimedia software, encyclopedia, britannica, Local Area Network (LAN), America Online Incorporation (AOL), Internet Service Providers (ISP), Short Message Services (SMS)

INTRODUCTION

Cyberspace and ICT are two different concepts, which are the most popular and easiest way in global communication. Both of the terms have brought its own meaning, in the context of digital and information age around the late1980s and early 1990s, up to present time. Since then, various tools for communication in the cyberspace have emerged such as internet, emails, chat rooms, web sites, Short Message Services (SMS), 3G and a multitudinous others and have been developed by researchers, in the academic or non-academic world. Furthermore, the impact of cyberspace and ICT has transformed them to be the basic needs in daily lives, making the digital environment a necessity through the cyberspace channels. Without much regards to time and space, people now enjoy shopping on the internet and have easier access to booking flight tickets, registering

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courses for students, securing information for travelling and many others. In addition, the utilization of ICT has proliferated in many aspects of life, especially in the academia, governance, military and industries and also in the investigative spheres. In short, ICT has been identified as a major tool of any organization to compete locally and globally. The existence of the cyberspace and ICT, their impact and reach has been highly visible to date. Their prevalence have become the norm of the day, especially in urban societies, whereby the cyberspace and ICT has on countless occasions materialized many hopes, dreams, visions and aspiration, turning many impossibilities to be no longer impossible but are now achievable. In fact, the younger generation who loves chatting on the 'internet', who seek friends on the internet and also purchase goods and products via the internet, are utilizing the 'blogs' as means of expressing their opinion and concerns and to make comments on any national or international issues.

These phenomena have turned into the new culture in life. Thus due to this popularity and it is not surprising that the price for software, hardware and internet services are very reasonable. It is important that in order to get a more informed picture on the topic, definitions of the terms cyberspace and ICT are very crucial as a guide in understanding the concept of this study. The term cyberspace refers to the main concept of digital age, which is also known as the information age. It is an umbrella concept, or could be said as a major concept for explaining its components such as information communication technology, telecommunications, virtual reality and any medium which uses some kind of digital or any technology in computer science, information science and computer engineering. In order to have a very deeper understanding, a definition from Answer.com stated that:

Cyberspace is the global domain of electromagnetic as accessed and exploited through electronic technology and the modulation of electromagnetic energy to achieve a wide range of communication and control system capabilities. The term is rooted in the science of cybernetics and Norbert Wiener's pioneering work in electronic communication and control science, a forerunner to current information theory and computer science. Through its electromagnetic nature, cyberspace integrates a number of capabilities (sensors, signals, connections, transmissions, processors and controllers) and generates a virtual interactive experience accessed for the purpose of communication and control regardless of a geographic location. In pragmatic terms, cyberspace allows the interdependent network of Information Technology Infrastructures (ITI),

telecommunications networks such as the internet, computer systems, integrated sensors, system control networks and embedded processors and controllers common to global control and communications. As a social experience, individuals can interact, exchange ideas, share information, provide social support, conduct business, direct actions, create artistic media, play games and engage in political discussion and so on. The term was coined by the cyberpunk science fiction author William Gibson. Now ubiquitous, the term has become a conventional means to describe anything associated with computers, information technology, the internet and the diverse internet culture. Cyberspace is recognized as part of the US National Critical Independent.

The definitions from Answer.com at least give us an idea about the realm of the cyberspace. It is easy to say cyberspace is a set for all its components, a general idea and a main concept to portray the whole idea of the digital divides, software, hardware, internet networking, technology and tools which have been developed for transforming the impossible thing to be possible. At the same time, cyberspace is an abstract form of digital era, an environment or an atmosphere where many activities, technologies, research and development and social interaction occur concurrently and simultaneously, synchronously or asynchronously worldwide. Cyberspace would not exist and neither would happen if its components do not interact with one another. It should be noted that ICT is the term which is used to describe the components of cyberspace.

Defining ICT is sometimes confusing as to the way we understand the terms. This is because there is another term known as IT or Information Technology, being used as the term to describe another aspect of components in cyberspace. But no matter ICT or IT, both of the terms has its own meaning, thus great care is needed for the utilization of both terms. Actually ICT comes from the entity known as IT. The used of "C" for communication in ICT is to explain the idea of other tools in IT such as emails, chat rooms and blogs that are widely used as a communication tool in the local or global spheres. Information technology or IT as defined by the Information Technology Association of America (ITAA), is "the study, design, development, implementation, support or management of computer-based information systems, particularly software applications and computer hardware". IT deals with the use of electronic computers and computer software to convert, store, protect, process, transmit and securely retrieve information. The main difference is that IT is more widely used within the industry, whereas ICT is usually applied to the academia and education world such as in places of learning; in schools, colleges and universities. Both ICT and IT encompass all mediums

and is utilized to record information (magnetic disk/tape, optical disks (CD/DVD), flash memory and others, in addition to recording study records through scanning technology); technology for broadcasting information-radio and television and technology for communicating through voice and sound or images-from microphones, cameras, loudspeakers and telephones, right up to cellular phones (Zinoubi *et al*., 2006). It includes a wide variety of computing hardwares (PCs, servers, mainframes and network storage). The advancements in IT sees the rapid development of personal hardware market that comprises of mobile phones, personal devices, (MP3, MP4, MP5 and MP6 players) and many others The full scope of available application software's ranges from the smallest home-developed spreadsheet to the largest enterprise packages and online software services. Furthermore, the hardware and software needed to operate networks for transmission of information ranges from home networks right up to the largest global private networks operated by major commercial enterprises and, of course, the Internet. The Internet has become a global system linking computer networks through internet protocol or TCP/IP. The networks consist of millions of private, public, business and government networks, in the local or global area. Each of the networks is linked by copper wires, fiber-optic cables, wireless connections and other technologies. In general, ICT comprises of three major components; (1) the hardware, (2) software and (3) networking.

The explication of the definition of cyberspace and ICT provide us with a basic understanding to further our comprehension of the study done in this study. As both of the terms is perceived to have created new environments and cultures, this study as revealed through the write-up in this article aims to examine the cyberspace and ICT which has been perceived as Western invention and developed by the academic and non-academic institutions from the West. The West has created cyberspace and ICT for so many reasons and currently, it has become a major industry with multi-purpose elements used in the academia, the military, government establishments and institutions and for business purposes. In addition, it has spread out and disseminated through every corner of the world including the third world countries in Asia, Africa, the Caribbean and South America. Epistemologically, the idea to observe applications developed in the cyberspace through the ICT such as database, websites and blogs are taken into consideration for the evaluation of its contents and capabilities. This is because influence from the West are now moving very fast in the East, especially countries like Singapore, Malaysia, Thailand, Indonesia and lots more. In the case of Malaysia, it has its own planning for utilizing the ICT

as one of its key factor to achieve its national aspirations of Vision 2020 by the year 2020. In addition, it is interesting to note that numerous academic institutions, the private sectors and also government institutions and establishments has undergone some management transformation with the advent of ICT. Hence these developments should be examined, particularly in the academic sectors.

In general view, both cyberspace and ICT is a tool for westernization in the digital era. It means both of the concepts can refer to the transmission and reception of European ideas, of developing and disseminating the cyberspace and ICT technology, lifestyles, culture and institutions throughout the globe. Much of the scholarly attention has tended to concentrate on the intensity and nature of the transmission of western ideas and norms during the era of European colonialism and its attempts to transform the very consciousness of the peoples it encountered. Although the modes of transfer, the locales of interaction and the intellectual capital are no longer the sole domain of Europe, the nature of Westernization continues to be relevant as local traditions become more integrated (or subsumed) within supposed "universal" values. Societies that are unable to cope with the blistering pace of technological change, the fluctuations of an interdependent world economy, or the insensitivity of an "international" community often find fault with "Westernization," which is associated with these uncontrollable and unfamiliar pressures on local societies. As a result, the idea of Westernization continues to be a part of twenty-first-century historical discourse, framing the ways in which scholars examine the interactions among cultures, regions and nations. Hence, should cyberspace and ICT be viewed as a form of "Orientalism"? According to Merriam Webster Dictionary and Thesaurus, "Orientalism" has been used in 1769, whereby "Orientalism" is something (as a style or manner) associated with or characteristic of Asia or Asians and scholarship or learning in Asian subjects or languages. So in this article, observation through what has been done in the West especially in United States of America is very crucial to see the advent of cyberspace and ICT as a "construct" of the "West" and how we perceive "Orientalism" in cyberspace in relations to the utilization of ICT. So in this article, an observation on the military ascendancy of cyberspace and the western invention of cyberspace and ICT will be initially investigated. This will be followed by using Malaysia as an example of an oriental geographical area to observe the evolution and development of cyberspace and ICT. Henceforth, a short observation will be made

to justify that cyberspace and ICT are tools for Westernalism and Orientalism or both. At the end of this study, all the findings and observation will be analyzed, summed up and concluded in the conclusion.

The military ascendancy of cyberspace: Understanding the development of cyberspace and ICT needs a very meticulous research and observation. This is because much of the components in cyber space such as ICT for most of the younger generation in the digital era do not realize that the essence of cyberspace originated through military concept. In any material developments, the success of any development of any projects is not assured and cannot be guaranteed, even if there is a plan, a concept and a framework especially in sociological aspect (Zahirul Alam *et al*., 2009, Mehedi *et al*., 2005; Hussin and Ming, 2004). To discuss this matter in more detail, the understanding of military ascendancy of cyberspace is very crucial, in order to investigate the advent of cyberspace and ICT by the West.

Development and evolution of cyberspace started in the early 1950s, in the United States of America (USA). However, the statement needs to be proved by resources and relevant information especially through the sociological aspects. From all the available resources on this subject matter, studies from Mills (1956) have opened an epistemological space to understanding of the advent of cyberspace. Mills (1956) through his book, "The Power of Elite" has made penetrating analysis and fiery criticism on the organization of power in the US through three structures of concepts which intersect with one another. These three concepts; (1) economic (2) political and (3) military domains/order are the basic understanding in so many other phenomena and other relevant concepts such as globalization, free trade economy, civil society, terrorism and the others. All these concepts had been used to construct a new generation of America throughout the digital era. According to Mills (1956):

Within American society, major national power now resides in the economic, the political and the military domains. Other institutions seem off to the side of modern history and, on occasion, duly subordinated to these. No family is as directly powerful in national affairs as any major corporation; no church is as directly powerful in the external biographies of young men in America today as the military establishment; no college is as powerful in the shaping of momentous events as the National Security Council. Religious, educational and family institutions are not autonomous centers of national power; on the contrary, these decentralized areas are increasingly shaped by the big three, in which developments of decisive and immediate consequence now occur

The "Power of Elite" describes the relationship between the political, military and economic elite (people at the pinnacles of these three institutions), noting that these people share a common world view: the military metaphysic: a military definition of reality; possess class identity: recognizing themselves as separate and superior to the rest of society; have interchangeability (horizontal mobility): they move within and between the three institutional structures and hold interlocking directorates; cooptation/socialization: socialization of prospective new members is done based on how well they "clone" themselves socially after such elites. These elites in the "big three" institutional orders have an "uneasy" alliance based upon their "community of interests" driven by the "military metaphysic," which has transformed the economy into a permanent war economy. With that, the three structures analyzed by Mills are listed below:

- The economy, once a great scatter of small productive units in autonomous balance has become dominated by two or three hundred giant corporations, administratively and politically interrelated, which together hold the keys to economic decisions
- The political order, once a decentralized set of several dozen states with a weak spinal cord has become a centralized, executive establishment which has taken up into itself many powers previously scattered and now enters into each and every cranny of the social structure
- The military order, once a slim establishment in a context of distrust fed by state militia, has become the largest and most expensive feature of government and, although well versed in smiling public relations, now has all the grim and clumsy efficiency of a sprawling bureaucratic domain

Even though Mills did not specify the discussion about cyberspace, the military concept which has been explained by Mills could be used to understand the concept of cyberspace. This is because the strong influence of the US as a military power in the world has been sociologically constructed through an internal element in the country. For example, many retired army personnel are been offered to work in the state administration, hence less army personnel are interested to continue their services to the country. Due to the fact

that a large number of military personnel work in the US government, then it would most likely be that the style of administration will be in the military form. It has been known that army personnel are well disciplined and are persons who will obey commands and execute instructed tasks well. Thus, policies introduced or executed should benefit the public and nation and these should be looked into seriously as to their effect and impact. Policies should not be constructed out of personal interests and for personal gains as this would greatly affect the nation as a whole. Currently, the many changes due to the evolution and transformation processes that involved the interplay of personal interest entwined in political considerations, has seen a redefined generation. Then impact of this situation will affects the economic and politics greatly.

The scientific and technological developments which have increasingly become part of the military order are now the largest single supporter and director of scientific research. In fact, dollar-wise, military support in research initiatives has surpassed all other American researches put together. Since World War II, the general direction of pure scientific research has been set by military considerations, its major finances are from military funds and there are only very few cases of those engaged in basic scientific research who are not working under military direction (Mills, 1956). Thus, the power of military form of administration that is embedded in the US administration has motivated numerous inventions. It could be summed that the advent and development of cyberspace and ICT happens because of US military interest.

The western invention of cyberspace and ICT: The cyberspace has existed for a long time in the past, but public world awareness towards its role and existence has only surfaced in recent times. Numerous researches and developments have been on cyberspace and the ICT. The easiest way to understand cyberspace is through the Internet. The Internet can be used for almost any purpose and is accessible by any individual who connects to one of its constituent networks. It supports human communication via electronic mail (e-mail), "chat rooms," newsgroups and audio and video transmission and allows people to work collaboratively at many different locations. It supports access to digital information by many applications, including the World Wide Web. The Internet has proved to be a spawning ground for a large and growing number of "e-businesses" that carry out most of their sales and

services over the Internet (Inc. Encyclopaedia Britannica, 2009).

The development of the Internet was started in the United States of America during the 1950s. In October 1957, when the Soviet Union launched Sputnik, the US government responded with the creation of the Advanced Research Projects Agency (ARPA). In 1958, Licklider was the first director of ARPA who was interested in the relationship between computers and humans. He also proposed an idea of an intergalactic network, a project where scientists could share their research projects and collaborate together. The system was then interconnected throughout the country and was tied into Pentagon by control monitors. Inc. Encyclopaedia Britannica (2009) further stated that the idea of the Internet was first realized in ARPANET, established in 1969 by the Advanced Research Projects Agency (ARPA) of the U.S. Department of Defense. ARPANET was one of the first general-purpose computer networks. It connected time-sharing computers at government-supported research sites, principally universities in the United States and it soon became a critical piece of infrastructure for the computer science research community in the United States. Tools and applications such as the Simple Mail Transfer Protocol (SMTP), commonly referred to as e-mail, for sending short messages and the File Transfer Protocol (FTP), for longer transmissions rapidly emerged.

In order to achieve cost-effective interactive communications between computers and address any technical problems pertaining to short bursts of data, ARPANET employed a new technology, known as 'packet switching'. Packet switching is a rapid store-and-forward networking design that divides messages up into arbitrary packets, with routing decisions made per-packet. Early networks used message switched systems that required rigid routing structures prone to single point of failure. This led Paul Baran's US Military funded research to focus on using packet switching to include network redundancy (Krol, 1987), which in turn led to the widespread of urban legend that disseminated the belief that the Internet was designed to resist nuclear attack. Then a commercial packet was introduced in 1970. Telnet and Tymnet were two early internet technologies which used packet switching technology for interconnecting the computer to other networks and other devices. DARPA (Defense Advanced Research Projects Agency; formerly known as ARPA) has take the initiative to develop packet switching technology. It also supported initiatives for ground-based and satellite-based packet networks. The

packet satellite network was used by DARPA to link the United States with satellite terminals serving the United Kingdom, Norway, Germany and Italy. These terminals, however, had to be connected to other networks in other European countries in order to reach the end users.

The inception of the Internet was initiated from the effort to connect various research networks in the United States and Europe. DARPA has established a program to investigate an interconnection called "heterogeneous networks", a program which was based on an open architecture networking. This was followed by a plan of execution by DARPA that involved-a working demonstration for the project which had necessitated a new protocol to be designed, developed that included a system architecture. In 1974, Vinton Cerf at Stanford University in California developed a protocol and system architecture that was known as the Transmission Control Protocol (TCP). The TCP involved different types of machines on the networks throughout the world to route and assemble data packets. To date, TCP has been upgraded and its functions have been enhanced for the purpose of communications. Concurrently, Internet Protocol (IP) has been integrated with TCP and is known as TCP/I which is a global addressing mechanism that allows routers to get data packets to their ultimate destination. TCP/IP was adopted by the US Department of Defense in 1980. Thus, from the historical evidences and facts mentioned, it is very clear that the the conception, inception and realization of the Internet and its protocol arised from military needs and inventions before they were commercialized. The early 1980s demonstrated the very rapid development of acceptance from other researchers, technologists and businessman around the world, to adopt and endorse an open architecture of TCP/IP. Other US governmental bodies were also involved with networking including the National Science Foundation (NSF), the Department of Energy and the National Aeronautics and Space Administration (NASA).

After the development of TCP/IP as a component of networking, the rise of commercial internet services and applications started and it escalated and grows very fast with various other technologies integrated with TCP/IP. The introduction of the Personal Computer (PC) and workstation in the early 1980s, helped to increase a rapid commercialization of the internet. The needs of interconnection with other computers and communication channels again created the emergence of Ethernet and other Local Area Network (LAN). At

the same time, application, tools, hardware and software were developed by researchers, technologists and businessman According to Inc. Encyclopaedia Britannica (2009), in 1988, the Corporation for National Research Initiatives had received an approval to conduct an experiment linking a commercial e-mail service (MCI Mail) to the Internet. This application was the first Internet connection to a commercial provider that was not also part of the research community. The approval was quickly followed by the allowance of access by other e-mail providers and the Internet began its first traffic explosion (Inc. Encyclopaedia Britannica, 2009).

In 1993, the NSF received approval from the federal legislation of the US to open its own backbone namely, NSFNET to commercial users. Prior to that time, use of backbone has been legally established and administered by NSF. Then in 1993, the University of Illinois developed Mosaic, a browser that ran on most types of computers and interfaces, which allows access and retrieval of files through the Internet. Mosaic has integrated a set of protocols developed at the European Organization for Nuclear Research (CERN) by Tim Berners-Lee for a new Internet application called the World Wide Web (WWW). Ensuing that, Netscape Communications Corporation was formed to upgrade the capability of Mosaic in terms of browser and server software for commercial use. After the establishment of Microsoft Corporation in 1975 by Bill Gates and Paul Allen, with the earlier development of the Internet Explorer web browser circa 1994, due to its aggressive marketing initiatives, the world witness a huge leap and popularity in the use of Microsoft products. By the late 1990s, there were approximately 10,000 Internet Service Providers (ISP) around the world. Most of the ISP only provided local services until the America Online Incorporation (AOL) made a transition in the late 1990s to become the leading provider of Internet services in the world-with more than 25 million subscribers by 2000 and with branches in Australia, Europe, South America and Asia.

Around 1990 and 2000s, there have been numerous applications and computers that have been developed for academic, businesses, governmental purposes and many others. The rise of globalization has influenced the development of online application-online on the internet. There are different types of software which utilizes the capacities of a computer directly to a dedicated task. The 'Application' software is able to manipulate text, numbers and graphics. It can be in the

form of software focused on a certain single task such as word processing, spreadsheet or playing of audio and video files. For example, the word processing software enables the users to create and edit documents. The most popular examples of this type of software are MS-Word, WordPad, Notepad and some other text editors.

In addition to this, 'Database' software is a structured collection of data used to organize the data and enable the database users to achieve database operations. Database software allows the users to store and retrieve data from databases. Some examples are Oracle, MSAccess and others. On top of that, another soft ware known as Multimedia software allows the users to create and play audio and video media. They are capable of playing media files. Audio converters, players, burners, video encoders and decoders are some forms of multimedia software. Some examples of this type of software include Real Player and Media Player.

Malaysian effort towards ICT: The Malaysian government has taken a proactive action, to construct ICT as one of the tools for modernizing the country especially in the economic and social sector. Since the 6th Malaysian Plan (1991-1995), the implementation and execution of ICT was serious undertaken in a strategic action plan with five components:

E-Economy: To construct a knowledge-based economic learning for boosting the global and local economy to benefit the country and society.

E-Government: Collaborating with public, private and community for the provision of better services to society and transformation of the delivery system to the electronic environment.

E-Community: To develop an active electronic networking between communities and social group to raise the quality of life inclusively.

E-Learning: Involves formal and informal electronic networking to give new opportunies and constructing lifelong-learning ethos with its final aim to develop long-lasting culture.

E-Sovereignty: Electronic participation and involvement from the society and other to increase integration and creating nation-state spirit through the use of ICT.

To execute all this strategies, the National Information Technology Council (NITC) has been established in 1994 with 20 members from public sector, private sector and community organization in Malaysia, with its Chairman Tun Mahathir Mohamad. The role of NITC is to be an independent body and advisory group to the Malaysian Government for ICT development through five strategies. NITC also act as a consultation body to see an impact of the ICT development and its effectiveness to the society development.

Under the 7th Malaysian Plan, The National Information Technology Agenda (NITA) was formulated to realize the core objectives for NITC. NITA was seen as a key catalyst for transforming Malaysia into a valued based economy, through the development of the talent, infrastructure and applications to benefit the Malaysian society. During this period, the Multimedia Super Corridor was launched to create a world class environment for attracting the best multimedia enterprises to use this region as the hub for ICT (MOSTI, 2007). Then the expansion of ICT services among the general public and rural areas were given priority under 8th Malaysian Plan. The National Broadband plan was formalized for the planned operationalization of broadband access across the country. The Malaysian Information Communication and Multimedia Servies (MyICMS) 886 Blueprint was introduced in 2005, for the orderly integrated development three converging technologies, cellular telephony, internet and broadcasting (MOSTI 2007). Then under the 9th Malaysian Plan, ICT is seen as an important strategic driver for positioning Malaysia as competitive knowledge based economy and global ICT and multimedia hub. Focus is to expand the existing communications network across the country through the phased of MyICMS, reducing the digital divide and continuing the MSC through the second and third phases. Under the 9th Malaysian Plan, the talent and enhancing information security continue to be given high priority in the development of the information society (MOSTI, 2007).

If we take a look at the education sector, Malaysian Government efforts to introduce and widen the use of ICT in education and academic sector has been planned in a long period of time. It has been execute in various level with relevant strategies for users. In general, the administration and operational of the primary and secondary schools has been integrated with ICT. With that, management of the schools will be systematic and efficient. In other aspects, student will benefit more in

terms of registration, getting examination results and participating in any activities or discussing with friends and so do getting information or data through the web or portal. In higher education, especially in university, the use of ICT has been widely applied through various kind of application online and offline. Students can get so many information through the university web sites. The lecture notes also will be given through internet by several lecturers and process of learning will be much more easier. Besides, multimedia application has been developed to make the learning process easier and interesting. These has been applied not only to the university students, but some of the company has seen this as a potential to developed so many multimedia application for transforming learning process in digital environment.

ICT in the academic sector in Malaysia has shown very good progress since the government support the development in the academic and education sector. There are organizations such as MIMOS, which supports research and development in ICT. Funds and supports have been given to very potential and viable researches to benefit the society and country. Furthermore, an initiative from universities to use ICT as a tool of transformation into the digital environment has shown very successful implementation of the ICT. Research universities such as the National University of Malaysia (UKM), Malaya University (UM), Putra University of Malaysia (UPM) and the Science University of Malaysia (USM) their own portal and web sites. UKM for example, used its own online system to record the attendance of staff. There are also a system in place to apply rooms for conference, to record research projects and system to update personal details. In addition, students' registrations can now done online on the internet. Besides that, lecturers can used one of the systems to register their conferences and seminars. In short, ICT has slowly transformed UKM towards the beneficial utilization of the digital environment. A private university such as Open University Malaysia or OUM has transformed 90% of its management of students, lectures, teaching and supervision through their portals. Students now do not have to attend any classes as everything could be done on the internet. On scrutinizing the advantages of the other aspects of the internet, ICT and the utilization of the cyberspace environment, the web portal and database have been used by research institutes and by the academic and non-academic institutions for expanding the access to knowledge by the users, especially by students and others who are interested to gain more knowledge. At UKM, the Institute of the

Malay World and Civilization or ATMA has developed its own portal called, Portal Malaycivilization.com for positioning the Malay World Studies in global platform and at the same time, has created the opportunity to share its knowledge with students, scholars, researchers and the general public who are interested to know more about the Malay World. There are 14 databases in the portal and each of the databases can be accessed through its main web site. In addition to that, the National Science Council in Malaysia has its own portal for advertising its mission and vision and also the portal acts as a hub for the integration of any kind of research project which has the potential to be upgraded as national platform. The Institute of Language and Literature Malaysia or known as DBP has its own portal for displaying its 6 databases including the encyclopedia, digital library and lots more.

Westernization or orientalism or both: To illustrate and evaluate the cyberspace and ICT, there are three factors taken into consideration for determine either cyberspace or ICT is westernization process, orientalism or could be both. If we look at the evolution and development of cyberspace and ICT, the hardware, software and internet networking has been developed from US, Russia and Germany. Even Microsoft and Google has reported in 2000 that 60% of the manpower, or also the programmer are from India, but the leader of such organization are still American. Bill Gates has said, Asian are very hardworking and innovative, but not a business minded person. It will be no doubt to say cyberspace and ICT have been used as a westernization process to the east. Explanation from Mills (1956) and short history of cyberspace and ICT has seen a very clear view that cyberspace and ICT has turned some of the southeast Asian countries such as Malaysia, to use ICT as a tool to develop or enhance conventional system, in academic or non-academic sector, to the digital environment which benefit society. This is because; advantage of implementing the ICT has turn so many impossible thing to become possible. Even there are some disadvantages elements in shifting a registration system for example, but it still relevant to use and it can save cost and time. In Malaysia case, the ICT has been used as a key factor for integrated through application and ICT has played a major role for creating a new generation with knowledge and skills. In academic sectors, there are so many application on the internet and some of it has been used to transform the local knowledge to the global platform. This has been proved by the development of Portal Malayciviliztion.com which shows a very good response from users, in academic and non-academic area.

Contents for the application which has been developed are considered as a second factor for observation. Application such as web site, information system, multimedia, which operates online and offline, need a well plan for development. Besides allocating the budget, technical management, the most important part is its content. For application like Windows operating system, antivirus or oracle database system, contents has been determine by such organization who develop those kind of application. Besides, Encyclopedia Britannica for example, has been loaded with contents and culture from English. But applications developed in Malaysia, such as Malay History cd-rom, are based in contents and culture in the Malay World. Both of the examples actually tried to show that such application, even used the whole totally western technology for development, is still being orientalism if the contents are showing the local knowledge. The database in the Malaycivilization.com portal also uses its own Malay World contents to show its identity and characteristic. Contents of application actually differentiate the gap between the west and the east and it is easy to say that, if application for the local knowledge and local use, it will be totally orientalism.

Second factor of observation drive this study to explain knowledge management as the third factor. Contents of an application will be much more interesting and attract more audience if all information in a very well manage and organize. This is a very challenging process of application development because not all information in well organized. The data and information need to be study first before sort in the system, database or website. It is very crucial as it will determine information used is relevant or irrelevant. Evers (2008) has indicate, the key to produce a very quality application development, is through a wise implementation of knowledge management. To give a good example, we refer to one of the studies from, who has done a critical comparative analysis in the database development of the Malay World Studies by Royal Institute for Southeast Asian and Caribbean Studies, KITLV and ATMA. Both of the institute used its own skills in ICT for each of the database development. But implementation of knowledge management by KITLV and ATMA showed their own understanding in organizing contents of the Malay world studies on the cyberspace.

CONCLUSION

Cyberspace and ICT are two different concepts, which have been developed in the West. Evolution of the two concepts has created a new technology in hardware, software and internet networking. The military concept of the establishment of cyberspace and ICT drives to expand and broaden more application, technology and other concept, in organizing information and knowledge on the internet. The establishment of companies such as Microsoft, Sun Microsystem, Apple and Oracle, showed a very good example to say that the ICT has been commercialized and it has been dominated from such companies from the west. In technical aspects, all the development and in every single approach in ICT, are coming from the west. It can be said that the cyberspace and ICT is the westernization process of the east, only if we care for the general aspect of both terms. However, if we go deeper and consider the contents and its information and knowledge management, especially through the development of online and offline application from such institution in Malaysia, it shows a very good example of orientalism being applied through the westernization. Cyberspace and ICT are manifestation to the twin tower of knowledge, an integration of westernization and orientalism.

REFERENCE

Evers, H.D., 2008. Knowledge hubs and knowledge clusters: Designing a knowledge architecture for development. MPRA, 27: 1-21.

Hussin, S. and D.C. Ming. 2004. Enhancing and diversifying ATMA's databases to ensure sustainability. Sari, 22: 97-107.

Inc. Encyclopaedia Britannica, 2009. Britannica Ultimate Reference Suite. 1st Edn., Inc. Encyclopaedia Britannica, E.U.A., ISBN-10: 161535316X.

Krol, E., 1987. The Hitchhikers Guide to the Internet. 1st Edn., Board of Trustees of The University of Illinois, Urbana, pp: 46.

Mehedi, I.M., R. Varatharajoo, H. Harun and M.N. Filipski, 2005. Architecture for combined energy and attitude control system. Am. J. Applied Sci., 2: 430-435. DOI: 10.3844/ajassp.2005.430.435

Mills, C.W., 1956. The Power Elite. 1st Edn., Oxford University Press, New York, pp: 423.

Zahirul Alam, A.H.M., W.A. Lawal, S. Khan and M.M. Rashid, 2009. Design of multi-valued quaternary based analog-to-digital converter. Am. J. Applied Sci., 6: 1521-1525. DOI: 10.3844/ajassp.2009.1521.1525

Zinoubi, J., A.O.M. Mahmoud, T. Naffouti, R.B. Maad and A. Belghith, 2006. Study of the flow structure of a thermal plume evolving in an unlimited and in a semi-enclosed environment. Am. J. Applied Sci., 3: 1690-1697. DOI: 10.3844/ajassp.2006.1690.1697