

# **BUILDING A K-COMMUNITY THROUGH THE K-ECONOMY**

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## **ABSTRACT**

This paper focuses on the strategy that has been drawn by the Knowledge-based Economic Plan for fortifying the development of the country's K-economy. With the strength of the electronic industry cluster since the late 1980s, where a large portion was generated by American, Japanese, and Taiwanese multi-national companies, Information and Communication Technology (ICT) linked with the electronic industry was developed through the Multimedia Super Corridor programme (MSC). MSC was made the catalyst and was the base for the development of the ICT industry. Through the MSC and the process of linked development, the long term economic growth will be driven by knowledge and technology. In the Ninth Malaysian Plan (2006-2010), better known as the RMK-9, much effort is being and will be taken by the government in preparing a more secure platform to enable the country to easily shift toward K-economy and K-Malaysia. Since ICT happens to be a main factor in the process of K-economic development and a K-Malaysia, efforts have been and will be increased by the government to streamline the access to ICT services and facilities that is more encompassing in all aspects of daily life. The development of human capital toward K-labour is also a critical aspect under the RMK-9 for bridging the digital divide through access to ICT services and facilities. Therefore, ICT training programmes and education is currently and will be augmented and broadened to schools, pre-universities, and institutions of higher education. Overall, the pathway for K-economic development of the country is still at the early stages of development. There exists dualism in the development of the country's K-economy from the aspects of infrastructure and infostructure. The development of infrastructure is more advanced than the development of infostructure. There exists a digital divide between the rich and poor, and the urban and rural residential areas. This illustrates that the journey toward achieving the levels of advancement experienced by the developed countries is still very long, especially with the targeted levels of information community, K-economy and K-Malaysia that have been identified.

**Keywords:** Economy based on knowledge, knowledge-based community, infrastructure, infostructure, digital divide.

## **INTRODUCTION**

In retrospective, the growth of the economy in the past era was based on production economy or P-economy where a large part of the output and gain was generated by input, which includes labour, capital, and raw materials. This approach is often questioned since it is bounded by the principle that returns would decrease without the insertion of (new) high quality technology in the input-output process. In realising those boundaries, technology was made the new main generator for growth in broadening and shifting the production boundaries, while at the same time, it adds product value by using the same combination of total input.

This paper directs attention toward the strategy that has been formulated by the Knowledge-based Economic Plan, also better known as PIEBP, for fortifying the development of the country's K-economy. The seven requisite PIEBP strategies, which are the enablers of K-economy toward achieving a K-community, are discussed. The development of K-labour is also conferred. The role of the K-economic movement institutions is also highlighted with the focus of discussion is the role of the MDC and the level of prime application development of MSC. Infrastructure development and K-economy infostructure as well as the cost in the ICT industry were also studied. This paper then discusses the technological capacity of the country in terms of science and technical (S&T) fields, and research and development (R&D). The role of both the public and private sectors that respectively contribute toward the development of the ICT industry and K-public service is also given attention and discussed. This paper is finalised with the discussion regarding the digital divide and the strategies that can overcome this divide.

With the strength of the electronic industry cluster since the late 1980s, where a large portion was generated by American, Japanese, and Taiwanese multi-national companies, Information and Communication Technology (ICT) linked with the electronic industry was developed through the Multimedia Super Corridor programme (MSC). MSC is supervised by the Multimedia Development Corporation (MDC). MSC has been made the catalyst and forms the base for the nation's ICT industry specifically, and the development of the K-economy generally. Through the MSC and the process links of its development, the long term economic growth would be driven by knowledge and technology. The K-economy will be the nation's economic development paradigm in this era.

In heading toward stability and growth of the economy, Malaysia through a regional and global economic shock that was not expected in 1997 manifested from the Asian financial crisis. Consequently, the accreditation that was given by the World Bank in 1993 for Malaysia's success in managing its economy during the early 1990s has been debated by local and foreign economists. Regardless, with the economic recovery policy through financial and fiscal policies for resolving the 1997-1998 economic crisis, Malaysia has facilitated its economic growth. The early stages of implementation of this policy was controversial, especially from the theoretical perspective, and had received acknowledgement from the International Financial Fund in 1999 and 2000, which was at first sceptical about the success of the recovery strategy. Soon after, Malaysia had again faced a global economic shock that was caused by the US and Japan early 2001, the Severe Acute Respiratory Syndrome (SARS) epidemic, the US-Iraq war in 2003, and the bird flu outbreak that started in 2004 in Asia. However, the experience in resolving the 1997-1998 economic crisis has enabled the policy-making in the public and private sectors to be more than ready in overcoming the negative impact from the shock of the global economic crisis.

The private sector was given turns in driving the nation's economic growth in the 1990s through the Privatisation Policy and the Malaysian Incorporation Policy that were significant in the affirmative policy era, which was the New Economic Policy (1970-1990). Currently, mergers and taking-over are the main agendas for a private firm in the financial and product sectors that wish to fortify their competitiveness in the domestic and international market in this new era.

## REQUISITE PIEBP STRATEGIES

The Malaysian government is committed to the development and the establishment of the country toward the boundaries of development and usage of Information Technology (IT), and thus the development of a K-economy. The justification of this is clearly outlined in Vision 2020: *... in the era of information that we are currently facing, the Malaysian community must be rich with information. It is no coincidence that no rich and developed countries are information poor, and no countries that are information rich are not developed and backward.*

The government commitment toward the use of computer technology is also explained in Vision 2020 (Mahathir, 1991)

*... now, knowledge is becoming the basis of not only power, but also harmony. Again, we must go forth. Currently, the Malaysian people are amongst the most that use computers in this region. Computer knowledge is a must if we want to advance and develop. Every effort must be implemented to ensure the Malaysian community is rich with information.*

In relation to this, the Malaysian government has launched the PIEBP in order to facilitate the nation's economic development toward achieving a K-economy and at the same time, achieve the Vision 2020 objectives. There are seven necessary strategies under the PIEBP for the formation and development of a K-economy, which are (1) to develop a knowledge-based human resource; (2) to create relevant institutions for the initiation, movement, and generation of economic change toward a K-economy, (3) to guarantee relevant incentives, infrastructure, and infostructure for facilitating the application of knowledge in all economic sectors and expand knowledge adoption, control of knowledge, and an intensified labour industry; (4) to increase the efforts in S&T and R&D for fortifying the innovation system of the nation; (5) to encourage the private sector to be immediately ready to drive the K-economy; (6) to change the public sector to become more skilled in acquisition, usage, dissemination, and management of knowledge, K-public service; and (7) to implement a programme to bridge the digital divide between different wage, ethnic, and age groups; the rural and urban communities; as well as between states.

These seven requisite PIEBP strategies have been incorporated into the Ninth Malaysia Plan which is effective from 2006 to 2010. During the RMK-9 period, huge efforts will be taken by the government to prepare a stronger base for enabling the nation to easily shift toward a K-economy. In the view that ICT happens to be the main enabler in the process of K-economic development, efforts will be increased by the government to streamline access to ICT services and facilities that is more encompassing in all aspects of daily life. In enduring that every individual Malaysian citizen can share the benefits of a K-economy, several efforts to bridge the digital divide will be implemented, some of which include the establishment of telecentres in areas outside coverage, the research into the costs associated with telephony and Internet usage, as well as the ownership of a personal computer.

More specifically in the case of filling the digital gap that exists in rural communities, 217 telecentres will be established under RMK-9. These telecentres, which include 42 Rural Internet Centres, 39 Rural Info Areas, 58 Community Access Centres, and 75 Computer Literacy Classes, will enable the rural communities to gain access and use information for improving their social status and economy.

The development of human capital toward K-labour happens to be a critical aspect under RMK-9 for bridging the digital divide through the access to ICT services and facilities. Therefore, training and education programmes in ICT will be increased and spread to schools, pre-universities, and institutions of higher learning. With the ever rapidly developing ICT, the demand for ICT workers who are of high quality, skill, and creativity, also sharply increases to enable the use of existing technology and the development of new technology, as well as to firmly establish the product competitiveness and ICT services in Malaysia.

#### **To realise a knowledge-based human resource**

The quality of human resource is among the important inputs in ensuring the success of a K-economic development. There are three approaches for improving the quality of human resource, firstly, the increase in quality of education at the primary, secondary, and tertiary levels. In addition to this, the strengthening of the knowledge culture and infrastructure would support education in the long-term. Secondly, the increase in training and re-training amongst the managers and workers in the mid-term, where the objective is to increase the level of knowledge and skills in line with the demands of new technology and the current market. Thirdly, the recruitment of experts from outside the country would smooth the progress of meeting the demands of shortage of experts in human resource in the short-term. All these approaches, from the short-term to the long-term, will result in K-labour and increase the level of quality of human resource. In brief, education and training have a critical role for increasing the quality of human resource and the basis for K-economic development.

#### **Institutional movers of the nation's K-economy**

In the context of the institution, the Malaysian government has established several institutions that are associated with the planning, investigation, and development of science and technology for facilitating the country's K-economy, such as the MDC, Ministry of Energy, Water, and Communication (KTAK), Malaysian Communications and Multimedia Commission (MCMC), Malaysian Technology Development Corporation (MTDC), Ministry of Science, Technology, and Innovation (MOSTI), the Malaysian Institute of Microelectronics Systems (MIMOS), the National Information Technology Council (NITC), and the National Council for Scientific Research and Development (MPKSN). However, the roles of these institutions in characterised individually, and thus there sometimes occur and overlap in functions amongst these institutions. This gives rise to problems in the efficient coordination of the implementation of national K-economic development programmes. MDC was founded by the government in 1996, where it was given the responsibility to develop and supervise MSC projects. Therefore, the contribution of the MDC towards the national K-economy is reflected by the success of the MSC. In order to achieve the MSC objectives, the government has identified seven premier applications, which are Electronic Government, Tele-Medicine, Smart School, Multi-purpose Smart Card, C&P Cluster, Electronic Business, and Technopreneur Development.

The progress of MSC which is supervised by the MDC covers three major phases: (1) Phase I (1996-2000); (2) Phase II (2003-2010); and Phase III (2011-2020). Currently, the MSC progress is at the early Phase II stage. Table 1 shows the MSC development plans according to the phases.

Table 1: MSC progress according to phases

Phase	Brief Description
I:1996-2002	<ul style="list-style-type: none"> <li>• MDC develops and advances MSC</li> <li>• Invite world class firms to the MSC location</li> <li>• Launch 7 premier MSC applications</li> <li>• Institutionalise cyber laws</li> <li>• Develop world class smart cities: Cyberjaya and Putrajaya</li> </ul>
II: 2003-2010	<ul style="list-style-type: none"> <li>• MDC will connect MSC with 4-5 other cyber cities that will be identified in Malaysia and also the world</li> <li>• Establish network corridors between cyber cities</li> <li>• Establish a second level cluster of world class companies in other countries other than Malaysia</li> <li>• Lobby the cyber laws at the global level</li> </ul>
III: 2011-2020	<ul style="list-style-type: none"> <li>• Achieve K-community status by 2020</li> <li>• Full application of IT and multimedia in social, economic, and political activities</li> <li>• Develop 12 other smart cities and connect them to global information super highway</li> <li>• Establish an International Cyber court of Justice</li> </ul>

Source: [www.mdc.com.my](http://www.mdc.com.my)

Referring to the MSC objectives, through the implementation of the seven applications, the increase of the national productivity and competitiveness through the use of IT and multimedia is realised. In the long-term, the government wishes to make the MSC as the multimedia and ICT hub for the region and the world. In order to ensure the success of the MSC premier applications, several main committees and agencies have been established, which are (1) International Advisory Panel; (2) MSC Implementation Council; (3) MSC Flagship Co-ordination Committee; and the MSC Premier Application Driver Committee. The premier government agencies that are responsible for the planning and monitoring of each premier MSC application is the Malaysian Administrative Modernisation and Management Planning Unit (MAMPU), Ministry of Health, Ministry of Education, the Central Bank of Malaysia, Ministry of Home Affairs, MOSTI, Ministry of International Trade and Industry (MITI), and MDC.

#### **Guarantee the incentive, infrastructure, and infostructure**

A large capital investment fund from both the public and private sectors is sorely needed to build the infra- and infostructure for developing the national K-economy structure. A widespread infostructure development is critical because of its role as the enabler for the process of change from the P- to the K-economy. Infostructure is also a contributor to the national economic productivity and growth. However, the development of infra- and infostructure requires the financial support and investment from the public and private sectors. In relation to this, the PIEBP has outlined a monetary and fiscal incentive plan that is productive and cost-effective for the development of the K-economic infra- and infostructure. This financial incentive plan is focused upon three aspects, which are (1) the financial mechanism from the aspects of method, source, rules, laws, and institutions that are needed for developing a K-economy; (2) the existence of a Strategic K-economic Development Fund; and (3) the critical research into the weaknesses or flaws in the Pioneering Venture Capital Programme, especially from the rules and enforcement aspects.

Infrastructure under the P-economy covers the construction of roads and highways, sewage works, electricity grid, and telephone system. Infrastructure can be categorised into two further categories, which are the physical and service infrastructures. From the ICT perspective, physical infrastructure covers the relevant computer hardware and telecommunication components, like the personal computer; telephone line; cable installation and routers of the net base; mainframe computer; hardware and software; and multi-usage and multi-user databases. The service infrastructure also includes the database; network; multimedia; Internet service; telecommunication and ICT services; access to the Internet; and a law system for accessing information.

From the Internet ethics perspective, Malaysia is currently heading toward a more ethical use of the Internet. In Malaysia in 1999, Undernet – one of the largest Internet Relay Chat in the world – had imposed a ban on all (chat) users from Malaysia when it was discovered that 182,000 local users had abused the facilities provided by them, which included activities of indecent chatting. Ethical Internet guidelines were drawn by the Malaysian Communications and Multimedia Commission in order to create a more ethical Internet usage culture.

From the aspect of supervising the Internet, the ICT and multimedia development without the rules and regulations would affect the use of ICT as well as the progress of the MSC. Therefore, if the Internet is not supervised, it can give rise to several other issues for Malaysia in the long-term, more specifically from the aspects of: (1) national safety, (2) economic safety, (3) safety of the teenagers and minors, (4) individual standing, (5) information safety and integrity, (6) status of online transaction laws, (7) information secrecy, and (8) intellectual property rights. In realising these Internet issues, the Malaysian government has taken the first steps by forming a comprehensive legal framework for encouraging investment in the multimedia-based business and the use of multimedia applications. In 1997, three Acts were formed, which were (1) Digital Signature Act 1997, (2) Computer Crime Act 1997, and (3) Communications Act 1997. In 1998, two more Acts were approved, which were the Communications and Multimedia Act 1998, and the Malaysian Communications and Multimedia Commission Act 1998. Both these Acts were formed to replace the Communications Act 1950 and Broadcasting Act 1988.

Issues regarding the safety of the ICT system are also important. Therefore, several safety strategies for ICT systems have been implemented by the Malaysian government to guarantee a safe electronic environment, i.e. with the establishment of the following institutions: (1) ICT Security Division in MAMPU, (2) ICT Security Officers at the department and ministry levels, (3) Government Computer Emergency Response Team (GCERT), and the publication of the Malaysia Management of ICT Security (MyMIS) Handbook. At the national level, several incentives have also been implemented, such as the establishment of the National ICT Security and Emergency Response Centre (NISER) that gives consultation services associated with ICT security. Malaysian Computer Emergency Response Team (MyCERT) was also formed to address the issues of ICT security in the private sector.

Overall, the national K-economic development pathway is still in its early developmental stages. There exists a dualism in the development of the national K-economy from the infrastructure and infostructure perspectives. The infrastructure development is more advanced than the infostructure development, where there exists a

digital divide between the rich and poor, and also between rural and urban areas. This illustrates that the journey toward achieving the levels of advancement experienced by the developed countries is still very long, especially with the targeted levels of the information community, K-economy and K-Malaysia that have been identified.

### **Increase the efforts in Science and Technical (S&T) fields and Consultation and Research (C&P)**

S&T and C&P are deciding factors in generating innovation and knowledge. Therefore, each country has its own basic technology for its economic development, especially in the effort to achieve a K-economy. With this basic technology, they are able to adapt imported foreign technology into the local setting. If higher and more technology is required, the S&T and C&P capacities should be increased. This is needed to driver, develop, and manage technology, including skills, knowledge, and experience, and the institutional structure and economic linkages. However, the national technology effort largely follows the structuralist concept, i.e. it focuses upon the aspects of learning and adapting the technology.

The transformation toward a K-economy entails an increase in the S&T and C&P capacity. This can be achieved through education and training at all levels of education in order to yield knowledgeable labour, especially workers in S&T and C&P. Additionally, activities of increasing ICT infrastructure and infostructure related to support the development and dissemination of C&P technology, to encourage the S&T realisation and to improve management of S&T will be in place by 2020. This will prepare the basis for the national innovation system that will function well and become the requisite to the National Science and Technology Policy.

### **Influence the private sector to drive the K-economy**

OECD has identified that a strategic industry could be used as a guide for a country that desires to drive its economy towards a K-economy system. A strategic industry can be divided into (1) high technology industry, (2) mid-high technology industry, (3) service industry, and (4) new technology industry (like biotechnology). However, in the context of the national K-economy development, Malaysia has identified the information communication technology (ICT) as the pathway for growth of the state K-economy. Even though Malaysia has industries with high technology such as the aerospace and automobile industries, these industries are at the early growth stages as compared to the ICT industry which has matured in its development. The development pathway for the ICT industry can be traced back to the early 1970s as compared to the automobile industry which started in the mid-1980s, and the aerospace in the mid-1990s. Furthermore, for the ICT industry, there exists C&P for the increase in local technology invention development in ICT so that the industry is more able to compete at the global level. For the automobile and aerospace industries, a large part of their technology is imported from the USA, EU, and Japan.

The ICT industry gives a significant contribution to the Malaysian economy and at the international level, from the aspects of (1) output, (2) energy utilisation, (3) Foreign Direct Investment (FDI), and (4) international trade, that is, both export and import. Moreover, this industry has generated economic growth for the country in the 1990s and early 2000s. It has become the foundation for the pathway formation toward K-economic development. The strength of the electronic industry that is based on foreign multi-nationals has become the base for forming an industry with high technology, which also

includes the national automobile and aerospace industries. Additionally, the existence of the MSC shows the strength and first steps made by electronic industry and the development of the IT industry toward the national K-economy. The government will continue to encourage investment in high technology and intensive knowledge activities, especially when it involves foreign direct investment. It will set up monetary and fiscal incentives, as well as special incentives, which are competitive for highly innovative and strategic activities. This incentive mechanism will provide preference for investors involved in and injecting C&P, designing, testing, prototype building, packing, and distribution, as well as new industries and services with a knowledge-based economy.

Along with the ICT industry, efforts need to be increased in the level of knowledge content in the agricultural, manufacturing, and service sectors. The increased knowledge use will strengthen and improve the dynamic competitiveness of the said sector and contribute to the ever accelerating economic growth. Additionally, Malaysia has also acquired world class knowledge, technology, and skills in several ICT related industries and because of this, it is favourably positioned to use this advantage for moving the economy in the other sectors towards a knowledge-based economy. This makes Malaysia able to attract foreign expertise as well as investors to those sectors.

#### **Change the public sector to a K-based service sector**

The conversion of the public sector to become a K-based service sector refers mostly to the concept of an electronic government (EG). The two main objectives of EG is to renew and improve the effectiveness and skill of the Malaysian administrative government machinery and as a catalyst for the development of MSC. The EG objectives, besides the computerisation of the government agencies at the state and federal levels, include the set up of more efficient services through IT and multimedia. Some of the benefits from the implementation of this application are for: (1) increasing the level of services given by the government to the community; and (2) increasing the skills and effectiveness of government administration. Following the MDC, the seven premier EG application projects are at several stages of implementation, which include: (1) e-Services, (2) e-Procurement, (3) Generic Office Environment (GOE), (4) Human Resource Management Information System (HRMIS), (5) Project Monitoring System (PMS), (6) Electronic Labour Exchange (ELX), and (7) e-Syariah.

#### **Research programme for bridging the digital divide**

According to the Institute of Strategic and International Studies (ISIS) Malaysia (2002), the digital divide can be defined as the differences in access to ICT. Access to ICT refers to the aspects of: (1) physical ownership or information and communication readiness such as the radio, TV, telephone, computer, software and network; (2) financial tools to use the service products; and (3) basic skill or ability to use ICT products and services as it should be used. The differences in access to ICT, briefly, are influenced by the different levels of income between individuals, household, and regions. In relation to this, the research objective is to measure the access to ICT facilities and services, specifically the Internet and telephone, between states in Malaysia. From the methodological perspective, this research uses the Internet users per 1,000 population and telephone users for each 1,000 population to measure the Internet digital divide and telephone digital divide between states in Malaysia. The Internet and telephone data was obtained from ISIS and the Department of Statistics, Malaysia.

#### **Research Analysis Results**

### A) Internet Digital Divide

From the perspective of Internet users, Table 2 shows that *Wilayah Persekutuan* has the highest monthly household income compared to the other states, while Kelantan is the lowest. A cross-sectional analysis for the year 2000 (the latest data obtained) shows that there exists an Internet digital divide between states which is decided by the average monthly household income. The states with low levels of development and high levels of poverty will have low levels of Internet coverage, which include Kedah, Sabah, Terengganu, and Kelantan. Therefore, the financial tools for using ICT products are important in influencing the Internet digital divide.

Table 2: Internet digital divide in Malaysia, 2000

State/Territory	Average Monthly Household Income (RM), 1999	Total Internet Subscribers, 2000	Internet Subscribers per 1000 Individuals
WP KL	4,105	134,870	104
Selangor	3,702	335,262	85
P. Pinang	3,128	63,648	52
Johor	2,646	77,747	30
Melaka	2,260	17,234	29
N. Sembilan	2,335	22,373	27
Perak	1,743	55,345	27
Pahang	1,482	21,682	27
Sarawak	2,276	43,219	22
Perlis	1,431	3,710	19
Kedah	1,612	28,494	18
Sabah	1,905	40,692	17
Terengganu	1,599	15,041	17
Kelantan	1,314	16,101	13

Source: ISIS (2002)

This would mean that even though the Internet had been introduced to this country well over a decade ago, it is still an urban phenomenon. The Internet usage services are still concentrated in the more advanced states and urban areas. In order to address this issue, the government has increased efforts in providing ICT facilities and Internet access for groups which have less access to services. During the period research, a total of 16 Rural Internet and 15 InfoDesa centres were founded all over the country, as shown in Table 3. Other than providing Internet access, these centres also train the local community members, develop content applications, as well as function as local centres for obtaining information about government services. Additionally, the government also encourages the involvement of the community to ensure that these centres become an entity belonging to the community.

Table 3: Number of rural Internet and InfoDesa centres<sup>+</sup>

Rural Internet Centre	InfoDesa Centre
1. Sungai Air Tawar, Sabak Bernam, Selangor	1. Kampong Kok Klang, Padang Besar, Perlis
2. Kanowit, Sarawak	2. Kampong Bujang, Kuala Muda, Kedah
3. Kubang Pasu, Jitra, Kedah	3. Kampong Sungai Gulang-Gulang, Sarawak
4. Kepala Batas, Pulau Pinang	4. Kampong Buntal, Santubong, Kuching, Sarawak
5. Batu Kikir, Negeri Sembilan	5. Kampong Bayangan, Keningau, Sabah
6. Sg. Rambai, Melaka	6. Kampong Parit Tengah, Batu Pahat, Johor
7. Lurah Bilut, Pahang	
8. Mata Air, Perlis	
9. Pangkalan Hulu, Perak	

10. Sipitang, Sabah 11. Gua Musang, Kelantan 12. Benut, Pontian, Johor 13. Merbok, Kuala Muda, Kedah 14. Ajil, Terengganu 15. Kota Marudu, Sabah 16. Bau, Sarawak	7. Kampong Mengkuang Tun Sardon, Bukit Mertajam, Seberang Prai Tengah, Pulau Pinang 8. Kampong Padang Menora, Tasik Gelugor, Seberang Prai Utara, Pulau Pinang 9. Kampong Selanyau, Bekenu, Miri, Sarawak 10. Kampong Dagek, Alor Gajah, Melaka 11. Kampong Tehel, Jasin, Melaka 12. Kampong Pamah Kulat, Ulu Dong, Raub, Pahang 13. Kampong Seberang Kota, Kuala Kedah, Kedah 14. Kampong Sungai Haji Muhammad, Hilir Perak, Perak 15. Kampong Jimah Baru, Port Dickson, Negeri Sembilan
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Note: \* Until the end of August 2003.

Source: Malaysia Plan 8 Mid-term Research

#### ***B) Telephone Digital Divide***

What was observed to have happened in the case of Internet digital divide previously, can also be extended to the case of the telephone digital divide. Table 4 shows the coverage of telephone usage according to state for the years 1993-1998, inclusively. Except for WP Kuala Lumpur, all states show an increase in telephone coverage. The phone coverage trend has decreased following the increase in cellular telephone usage. Even so, the cross-sectional analysis for the year 1998 still shows that a telephone digital divide exists. Once again, the income and economic advancement are the deciding factors for the digital divide between states.

This digital divide phenomenon has motivated the Malaysian government to broaden the telecommunications infrastructure facilities to cover the whole country, especially in the poorer states, in order to achieve ICT that is balanced and encompassing. Focus will be given to the broad dissemination of ICT to the rural areas and to those who less enjoy the benefits of development. Computer facilities and Internet access will become cheaper and easier to own. In addition, efforts will be put into making the community aware of the importance of a knowledge-based economy, especially amongst the poor and low level household income group to ensure equal opportunities.

Table 4: Telephone digital divide per 1,000 population

State	1993	1994	1995	1996	1997	1998	Change 1993-1998
Pulau Pinang	193	218	245	268	295	296	+
Selangor	205	230	253	270	291	289	+
WP Kuala Lumpur	385	229	253	284	300	266	-
Melaka	17	189	213	233	256	260	+
Perak	131	154	179	203	222	233	+
Johor	148	168	193	209	226	232	+
Negeri Sembilan	141	157	184	203	226	230	+
Kedah/Perlis*	98	101	126	145	170	170	+

Pahang	89	102	117	133	145	152	+
Sarawak	112	104	116	126	135	140	+
Terengganu	67	76	89	101	121	123	+
Kelantan	53	58	68	77	88	92	+
Sabah	73	67	74	80	83	83	+
Malaysia	142.6	128.1	144.8	159.8	174.6	175.4	+

\* This value is for the states of Kedah and Perlis

Source: Malaysian Social Statistics Bulletin (Department of Statistics, Malaysia, various years)

## CONSLUSION

The seven requisite PIEBP strategies are enablers of a K-economy towards an informed society (K-community), as discussed in this paper. PIEBP was launched to accelerate the national economic development toward achieving a K-economic status and at the same time achieve same objectives under Vision 2020, as well as to create a K-Malaysia. These seven requisites have been translated into the Ninth Malaysia Plan (RMK-9) for the years 2006 to 2010. In RMK-9, many concentrated efforts will be taken by the government to provide the foundation that is more stable in order for the country to easily move towards a K-economy. ICT is one of the main deciding factors in the K-economic development process, and it will be streamlined by providing various accesses to ICT services and facilities that are more encompassing in all aspects of daily life. In order to achieve this, the effort to bridge the digital divide needs to be increased, some of which include the establishment of telecentres in areas outside coverage, review the costs of telephone and Internet subscriptions, as well as encourage personal computer ownership, other than increasing ICT-competency of its human resource through the eight institutional movers of the national K-economy.

The seven strategies that have been discussed in this paper is evidence that Malaysia confident that the transformation and achievement of a K-economic status can be performed the streamline of ICT as well as increase the degree of electronic informatisation in this country. The degree of informatisation in Malaysia is relatively low when compared to more advanced countries, such as Singapore, Japan, United Kingdom the United States of America. This is a great challenge for the country since that status mirrors the journey towards a K-Malaysia to be positioned at the level on par with the advanced countries, which is a long journey indeed.

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