ASSESSING THE DIGITAL DIVIDE BETWEEN THE RURAL AND URBAN AREAS OF SARAWAK USING THE SYSTEM DYNAMICS MODEL

RESEARCH MANAGEMENT INSTITUTE
UNIVERSITI TEKNOLOGI MARA
40450 SHAH ALAM, SELANGOR
MALAYSIA

BY

PROF MADYA WONG MUK NGIIK
PROF MADYA DR JAMIL HAMALI
PROF MADYA YAP YIN
CHONG VUI HOK
DR KULDIP SIGNH
STALIN JOHNENY
ROBERT JINGUT

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Assistant Vice Chancellor

Institute of Research Management

Universiti Teknologi Mara

40450 Shah Alam

Dear Professor Doctor

FINAL RESEARCH REPORT "ASSESSING THE DIGITAL DIVIDE BETWEEN THE RURAL AND URBAN AREAS OF SARAWAK USING THE SYSTEMS DYNAMIC MODEL"

With reference to the above matter, enclosed herewith are three (3) copies of the Final Research Report entitled "Assessing the Digital Divide Between the Rural and Urban Areas of Sarawak using the Systems Dynamic Model" by a group of researchers in UiTM Sarawak.

Thank you

Yours faithfully

ANNIE WONG MUK NGIIK

Team Leader

Research Project

ABSTRACT

The rapid pace of development and adoption of ICT brings economic growth and development to many countries in the world, but it also has led to an undesirable phenomenon known as the 'digital divide' among them. In this study, "Digital divide" is the disparity in terms of access to ICT infrastructures and the effective adoption of ICT to enhance the quality of life. The purpose of this study is to identify the main determinants of digital divide in Sarawak and to develop the Digital Divide Index (DDex) to assess the extent of digital divide between the urban and rural areas in Sarawak using the System Dynamic technique (SD technique). The information used in this study are obtained from both existing government publications and a survey that covers a total of 1,034 respondents in selected localities in Sarawak. The analysis instrument is the System Dynamic model which incorporates three domains and twelve indicators. The respective domains and indicators are: Infrastructure (Supply of Electricity, Availability of Internet Services, Proximity to Internet Service Centres); Socio-Economic variables (Highest Educational Attainments, Occupational Hierarchy, Income, Skills, and Language Proficiency); and Social capital (Quality of Life, Personal Well-Being, Desire to know about other culture and Perception of neighborhood). This study reveals that there is significant digital divide between the rural and urban population of Sarawak. The main determinant of digital divide is found to be the socio-economic variable in particular the low parity share of the rural population in educational attainment resulting in the unequal diffusion of the benefits of economic development to the people in the rural area of Sarawak This study concludes that an effective affirmative action plan together with an effective delivery process is needed to propel the rural population to the knowledge-based economy where the skill level of the labor force need to be recalibrated from ICT illiteracy to functional literacy in ICT and finally to competency in ICT. In the absence of such a plan, the rural population may become economically excluded and marginalized. A number of recommendations are made to bridge the digital divide gap in Sarawak.

CHAPTER 1
INTRODUCTION

1.0 Background of the study

Over the past two decades, the spread of the global electronic network of computers, or the internet, and wireless telephony have generated an unprecedented global flow of information, products, people, capital and ideas. For instance, Moore's law by Gordon E. Moore (Wikipedia, undated) predicted that computing power will double every 18-24 months owing to the rapid evolution of microprocessor technology. Gilder's law by George F. Guilder (Wikipedia, undated) by on the other hand predicted that communications power will double every six months arising from rapid advances in fibre-optic network technologies (UNDP 2001a), which enabled the development of new types of services to be used in digital format. This unprecedented development of ICT has brought about economic growth and development in many countries in the world. Among others, it made possible the efficient and cost-effective exchange and flow of information, products, people and capital across national and regional boundaries. In many countries, particularly the developing countries, ICT have been employed to help the rural poor to overcome various barriers to development through improving their access to information, expanding their market base, enhancing occupational opportunities and enhancing government services.

Governments around the world, including Malaysia have recognised the potential presented by ICT in assisting in and accelerating the pace of development of their national economies. As a strategy towards achieving Vision 2020 and to leapfrog into the post-industrial era, Malaysia in 1996 through the National IT Agenda (NITA) formulated comprehensive policies and strategies with the aim of utilizing ICT as a strategic technology. Further recognizing that information and knowledge are the primary factors for change and value-creation, the government during the year 2000