Final report: information highways: policy and regulations in the construction of global infrastructure in ASEAN

Lowe, Vincent; Ng, Alina


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Final Report

Information Highways:
Policy and Regulation in the Construction of Global Infrastructure in ASEAN

Prepared by
Dato’ Dr Vincent Lowe
Ng Alina
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Chapter 1 - Literature Review

Introduction

No listing or survey of studies that have been conducted or that has been published can truly reflect the complexity of communication issues facing any developing country. The range of issues is so wide, extant and all encompassing, and developments in the field are so rapid and fast moving, that no literature survey can conclude that the studies have reflected or are reflecting all the trends present in communication development. There will inevitably be policies, sectors, issues and concerns that are not reflected or addressed in the studies. However, this is by no means a defect, as long as the scholastic studies have given critical perspectives, have academic, heuristic as well as public policy value, and they enhance understanding and widen perspectives.

Communication literature covering communications in Malaysia can be said to fulfil these criteria, if not totally, at least partially. The literature that has been written however, do reflect the main trends – and these are trends present in all of Asia. This survey has shown that attention had been given to durable issues such as the freedom of expression and the balance to be struck between the right to free speech with other conflicting interests e.g. the right of the Government to protect its integrity, national security and consumerism. The scope of this question, with globalisation, has been extended to questions on the homogeneity of cultures and the effect of the importation of western cultures into third world countries. Technology has been examined from the point of view of how principles of the rule of law can be threatened by the pressure of technology development in the telecommunication field. A large part of the literature concerned studies on governmental initiatives to deal with the development of the information. Such literature describes for instance, how governments attempt to have the correct blend of laws and policies. In this regard, scholars have noted the “intense contradiction between economic liberalization and a continued desire for political control and censorship at cultural levels” This dilemma occurs particularly within the Malaysian broadcasting industry, as the industry moves through its various phases of development. Yet another study describes the phases and the effects of each phase, following the development of Malaysia’s television broadcasting industry from its early phase as a government owned and operated entity to its privatized stage as purely commercial enterprises. A study comparing the development of Malaysia’s Multimedia Super Corridor (MSC) and Singapore One as Asia-Pacific’s telecommunications hub, is perhaps typical of comparative studies that will be the hallmark of work done in the future. The specific literature reviewed is discussed in the following paragraphs.

Social impact of the media

The literature written on the social impact of the media mainly discusses the shape and mould of different cultures which have been exposed to the ideologies and beliefs introduced by the media. The contradiction between the media’s role in reflecting society’s mores and at the same time setting agenda and values for a society marks the
main theme of some of these articles. Concern is expressed over the media as the primary source of beliefs and opinions of stereotypes through its portrayal of particular images to represent qualities of beauty, sensuality and sex appeal. Some articles comment that commercial media portrayal of gender for example, is often misleading and represents an inappropriate version of values within a particular culture (Gupta and Jain, 1998). There is no agreement on where the onus lies, on how to view a particular commercial. It is not clear if the evaluation should lie with the commercial TV director or with the consumer is a debatable point. The prescription, that women should be depicted in non-traditional roles as Gupta and Jain suggested, may not find widespread agreement, as some might see this as instilling an unconventional image of Indian women.

The issue of how to depict culture across national borders provides much grist for debates. What constitutes a depiction of genuine culture? The prescriptions are by no means clear. It has been said, for instance, that where a particular culture is to be portrayed across borders, regard must be had for the distinct nature of culture and the difficulty of portraying the particular culture (Kharas, 1997). Scriptwriters and producers are said to be in a dilemma in creating a television show which blends enough local culture to be appreciated by domestic audiences and yet should have enough international appeal to allow such shows to be exported overseas.

As a result of globalism, there is a rethinking of the media imperialism theory. "Third world" cultures are no longer mere passive recipients of the ideologies of the west, as suggested by some writers. Rather they propose a glocalisation thesis. Such a thesis, they claim, can better explain how a mix of cultures has occurred in a way that "makes differences into sameness and sameness into difference, but in a way that makes the same no longer the same, the different no longer simply different" (Jian Wang, 1997). Glocalisation is defined to mean the "compression of the worlds and the intensification of consciousness of the world as a whole" (Robertson, 1992). The existence of a hybrid of cultures in an age where technological advancements within the communication realm has eased cross-cultural communications, can be attributed to both the global and the local in a single process of social change. However, for as long as the third world countries are comparatively more receptive to Western culture and ideologies, it is difficult to envisage the glocalisation thesis as a credible explanation for cross-cultural international media flow. Whilst the new thesis remains attractive, empiricism may still show a stronger inflow of western culture to the east than vice versa. It might be interesting to speculate, in that regard, that the inflow of Western ideologies to the East may have a stronger influence on peripheral values than on core traditions.

On the question of news, where news is interpreted as the product of unspoken social values and beliefs by which people manage their daily lives (Berkowitz, 1997), then in the context of intercultural news communication, it is important for news media to maintain its national cultural identity and not be influenced by foreign news culture (Xu Xiaoge, 1998). Taken to its logical conclusion, does this require foreign news media to be selected and presented in a manner which will not influence local culture. Also, how does a newspaper cover foreign news according to these criteria? Where access to the Internet is available with the push of a button, it is difficult to understand the need for
Asian news media to have distinct principles and practices of communication to prevent the influence of foreign news culture. This may be justified on the basis of preserving national identity and cultural distinctiveness, but practically, this is hardly feasible. This argument also lacks strength when pitted against the view that cultural values are a matter which reside within the individual who will act as filters in intercepting foreign news. Ultimately the flow of foreign culture into local culture cannot be prevented and the only effective filter against foreign sourced culture is values within the individuals.

The social impact of new communication technologies is another topic features in the studies surveyed. New technologies, it is admitted changes the way in which the workforce operates. One such discernible shift is in moving those rich with information up the social ladder. Overall, global (network) villages will emerge, the gap between the information rich and the information poor will emerge, the potential for the invasion and abuse of privacy will be apparent, intellectual property rights become more difficult to protect, and there will be a greater need for cyberlaws and overall protection for communication through the Internet (Low, 1997).

On large governmental initiatives to transform their countries into the global information network, one study by Low compares the Malaysian initiative to develop the Multimedia Super Corridor and Singapore’s transformation of the city/country into a digitally wired state, via Singapore one. The author foresees the need for both these countries to work together complementarily rather than compete with one another.

Print media in the digital age must adopt new technologies and succeed in the Internet business to disseminate their news (Black, Pereira 1997). Black advocates that print media has a distinct competitive advantage in that consumers still find reading a leisurely activity and should address local community and international news in their publications. Pereira, on the other hand, emphasizes that in the information age, consumers will appreciate and demand content-rich print business. Therefore, the print business should provide value added editing services and analysis whilst employing new technologies as means of delivery and to their readers leaving their readers to decide on their modes of consumption. Above that, there is suggestion that media and business should move towards environmental interaction (Bellamy, Santorre, 1998). Santorre goes further to explain that journalists should take the opportunity to use newspapers to educate its readers on the correlation of human activity and its impact on the environment. Good newspapers, opined the author, will survive the cyberspace challenge by avoiding being first with the news but rather by being skillful in gathering, processing and disseminating news which are the attributes of good journalism (Cheong Yip Seng, 1997).

**Government initiatives to address the coming of the Digital Age**

With the coming of the digital age where information is an even more valuable resource, most governments face a dilemma in drawing a balance between liberalising the economy and maintaining political control of the content of information at cultural level (Badarudin, 1998). Often, the policies adopted in the information infrastructure conflict between the twin aims of opening the market to encourage investment and controlling
the consequences of increased information to the market (Hudson, 1997). One prime example of this is the free flow of information through the Internet and the concern of the Government of gambling and pornography Internet sites. The difficulty, according to Hudson, in having an open market is that in a liberal market economy, there is a need for setting rules against competition and setting standards e.g., network quality, network standards, compatibility, revenue sharing and interconnection agreements. The open market policy is challenged as Asian Governments encourage investments in communication, as they fear that information from an external source will contaminate the country. To Hudson, both policies are in conflict. On a practical level it is indeed difficult if not impossible to prevent access to information when the market is opened. Governments which control access to information by monitoring cable distribution or enforcing bans on satellite antennas for example are effectively regulating and at the same time hampering the market.

Comments were made that there is a need to regulate the media accompanying the coming of the digital age and that the state must reassess the current status and power of regulatory authorities (Parekh, Klerk, 1997). The need for regulation according to Parekh and Klerk is in the areas of network interconnection, applications of standards, prevention of anti-competitive practices, enforcement of intellectual property and censorship, regulation of different service providers and regulation of differing economic considerations within the market. Klerk has also identified the more important additional roles that regulatory authorities can and should play – that of safeguarding pluralism and exercising a qualitative control over programmes. Recent trends had also shown that deregulation of the broadcasting industry and commodification of the content and audiences had shifted the orientation in programming towards entertainment and the constitution and view of the audience as an important public to being merely consumers (Badarudin, 1997).

Freedom of expression and the rule of law

The literature written on the freedom of expression is predominantly concerned with preserving the political integrity of the Government and maintaining the freedom of the press (Doronila, Pudjomartono, Datta-Ray, Locsin Jr., Oetama, 1997). Datta-Ray challenges the argument that freedom of the press is dependent on economic growth and explains that a deprivation of that freedom will eventually be regarded as the norm in a restrictive country. On a practical level, especially with developing Asian countries, more often than not, freedom of the press gives way to political and economic stability. Rather than aim for absolute press freedom as that in the Philippines, it may be more acceptable if the press reported information in an unbiased way that will also not jeopardise political or economic stability. Most Governments seem to perceive openness and press democracy can be implemented on a gradual basis. One way of monitoring this is to subject the print media business to publishing permits as Pudjomartono points out. Another aspect where the freedom of expression conflicts with consumerism is where puffery in advertisements can be seen to be misleading to the consumers (Steele, 1997). In this time and age, regulating puffery as suggested by Steele may fetter economic development. The caveat emptor principle should prevail in resolving the problem rather
than subject advertisements to fettering regulations. Venkateswaran (1997) had proposed setting external mechanisms to ensure that countries that are apparently diluting the freedom of expression comply with minimum standards protecting that freedom. Whilst the suggestion is valid, little is known as to the extent external pressures may influence the entrenchment of such a right within a country.

The idea of the rule of law is also seen as challenged by the impact of global media. According to Kirby (1996), as technology allows media to travel across borders, it is difficult for the laws to be certain, in that process diminishing the responsibility of the judiciary to uphold the law and protect the aggrieved. In its subjectivity, the “rule of law” may still exist where it means equality before the law, where the law is promulgated by a democratic process and where the law provides answers to disputes, even in the age of globalisation. Where it does exist, though not in absolute terms, Kirby further states that global media must be accountable to the government of laws. With the emergence of new jurisprudence in Cyberlaws regulating cross borders issues, global media is regulated accordingly in that regard.

Conclusion

The research that has been done could have been more path-breaking, considering the massive and vast changes in the media landscape. There is a need to clarify changes taking place. Beyond the concept of convergence, is there anything more that researchers could add? For instance, can one distinguish between different kinds and levels of convergence? Technological convergence - is it matched by market convergence? Are there dysjunctions between these different forms of convergence. One certainly is that the prolific generation of new channels is outstripping the supply of content. What does happen to content in this circumstance? Does it get reformatted, recycled or repackaged? With what effects? Perhaps that is why synergistically, media in their different forms have merged. print with TV.

The changes that have occurred are crying for revisits of old theory. Precious little new theorising has taken place. Is media merely transmission, or does the fact that interactivity allows manipulation of existing content or adding to content make any difference. In education, does interactivity lead to better learning. What is the ratio and qualitative difference between media output and interactive input? Another instance, does the de-massification of audiences lead to permutations of interest groups, allowing media to be only senders or organisers, repackagers of information, and not originators. How do communities arise — autonomous audience groups who are determinants of their own contents? The rise of IT reporting — how much of this is hype indistinguishable from the industry press. What does this do to reporting styles and values?

To raise these questions is merely to ask if it is not possible for researches to proceed beyond frames of reference that no longer hold -- and to reflect on issues which are new and yet more pertinent -- to do justice to a field that has gone beyond its own borders.
Chapter 2 – Description of the communication infrastructure in Malaysia

Introduction

This Chapter examines statistical data pertaining to the country. The first portion of the paper describes the socio-economic profile of the country. The latter portion discusses statistics that relate to the telecommunications industry in Malaysia.

1. Socio-economic Profile of the Country

1.1. Geography

Area

Malaysia's total land area is about 329,758 sq km. The country covers the peninsular, which is south of Thailand and the provinces of Sabah and Sarawak comprising the northern part of the island of Borneo. Peninsular Malaysia covers 131,598 sq km. Sabah and Sarawak cover the rest. These two States are separated from the Peninsular by approximately 1,000 km of the South China Sea. Malaysia is made up of a federation of 13 States and the federal territories of Kuala Lumpur and Labuan.

The country is located in South East Asia and her neighbours comprises Thailand in the north, Singapore in the south, Indonesia in the south west and the Philippines in the far east. Much of the natural landscape in the country reveal tropical rainforests, of which much is concentrated in the centre of the peninsular and in most parts of Sabah and Sarawak. The country also has a number of scenic islands surrounding it. These islands are a popular tourist destination offering its visitors activities such as snorkelling and scuba diving.

Climate

There are no distinct seasons and temperatures vary very little the year round, ranging from 21 to 32 Centigrade. The hills have cooler temperatures. Average annual rainfall varies from 2,000 to 2,500 mm and humidity is high all year around. November to February is the rainy season for the east coast of Peninsular Malaysia, the north-eastern part of Sabah and the western part of Sarawak. In some years, rainfall is concentrated in short periods and some flooding can occur. During the months of April, May and October, the west coast of the peninsular experiences occasional thunderstorms in the afternoons. The country is sheltered from adverse natural occurrences such as earthquakes and hurricanes. Volcanoes are also non-existent in the country.
1.2. Society

Population

Malaysia is a multi-racial country with a population estimation of 21.7 million\(^1\). The country has a young population. 42% of the country's population falls within the 15-39 age group. The predominant ethnic groups in the country are the Malays, the Chinese and the Indians. An estimation of the population of each ethnic group in 1997 is Malays (10,233,200), Chinese (5,445,100) and Indians (1,541,700)\(^2\).

Larger cities and towns in the country tend to be more heavily populated following migration of the younger population from the rural areas to urban townships. The main cities and towns in the country are populated as follows:-

<table>
<thead>
<tr>
<th>Town / City</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kuala Lumpur</td>
<td>1,145,342</td>
</tr>
<tr>
<td>Ipoh</td>
<td>468,841</td>
</tr>
<tr>
<td>Johor Bahru</td>
<td>441,703</td>
</tr>
<tr>
<td>Petaling Jaya</td>
<td>350,995</td>
</tr>
<tr>
<td>Klang</td>
<td>368,379</td>
</tr>
<tr>
<td>Kuala Trengganu</td>
<td>228,119</td>
</tr>
<tr>
<td>Georgetown (Pulau Pinang)</td>
<td>219,603</td>
</tr>
<tr>
<td>Kota Bahru</td>
<td>324,581</td>
</tr>
</tbody>
</table>

*Source: Population and Housing Census of Malaysia, 1991, Yearbook of Statistics Malaysia, Department of Statistics Malaysia*

Government and legal system

Malaysia practices parliamentary democracy and is ruled as a Constitutional Monarchy, with His Majesty the Yang di-Pertuan Agong (the paramount king) as the Head of the country. The Yang di-Pertuan Agong is elected to the throne for a five-year term from and among the hereditary Rulers of the nine states in the Federation and acts on the advice of Parliament and the cabinet.

Parliament comprises the 70 seat Dewan Negara (Senate), which has 40 appointees and 30 elected members, and the Dewan Rakyat (House of Representatives) whose 192 members are directly elected for a five year term. Each member represents a constituency. Members of the Senate are appointed by the Yang di-Pertuan Agong and the state legislatures. The Prime Minister heads the Cabinet, which is accountable to Parliament. The ruling party, Barisan Nasional, a coalition of parties representing the various ethnic groups in Malaysia,

\(^1\) Source: Economic Planning Unit, Department of Statistics, 1997 Report on Population Estimates
\(^2\) Source: Yearbook of statistics, Malaysia 1997, Mid-year Population Estimates by Ethnic Group
commands a majority in Parliament ensuring a strong stable government committed to the development of the country.

The country’s judicial system consists of a hierarchy of courts. The Federal Court (known until 1994 as the Supreme Court) is chaired by the Lord President, the country’s most senior judicial figure, who rules on disputes between states and on the constitutional validity of acts passed by the national and state assemblies. A constitutional amendment passed in 1994 allowed for the creation of the Court of Appeal, which hears appeal cases from the High Court. There are 2 High Courts in the country – one covering Peninsular Malaysia and the other Sabah and Sarawak. Beneath the High Courts are the district and local courts.

Language

Bahasa Malaysia is the national and official language of the country. English is widely used all over the country especially in business and is a compulsory subject in all schools. Other languages used are Chinese and Tamil.

Religion

Islam is the official religion of the country. Freedom of worship is enjoyed universally and so it is common to see mosques, temples and churches sharing a neighbourhood. Buddhism, Taoism, Hinduism and Christianity are among other religions practised in Malaysia.

1.3. Economy

Production

In spite of the recent economic turbulence faced by the country, the Malaysian economy continues to maintain its stable status, advancing at a steady pace. One of the world’s largest producers of natural rubber and palm oil, Malaysia contributes to about 24% and 49.5% respectively to world output. The country is also a leading producer of tropical hardwood, pepper and cocoa and is a net exporter of crude petroleum and natural gas. Following export led industrialisation strategies in the mid-1980s to complement a manufacturing based industry, the country has since become a leading exporter of electronic semiconductor and audio-visual equipment. The country also exports products based on the country’s natural resources e.g. rubber, palm oil and timber.

Since the recent economic turbulence within the country, the Government has re-emphasised strongly the need for a productivity driven economy with maximum utilisation of capital and labour output. In that light, the country has been urged to shift to labour saving automated production processes and reduce the use of foreign labour. To increase the productivity of private sector companies, seen as the engine of growth of the country, corporate tax levied on these companies has been reduced by 2% in the last budget.
Currency

The unit of currency is the Malaysian Ringgit which is divided into 100 sen. Currency notes are issued in denominations of RM2, RM5, RM10, RM20, RM50, RM100, RM500, RM1,000. Coins are issued in 1 sen, 5 sen, 10 sen, 20 sen, 50 sen and RM1.

At 14 July, 1998, the exchange rate for the Ringgit is as follows:-

<table>
<thead>
<tr>
<th>RM1</th>
<th>US$4.27 (American Dollar)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>L6.971 (Sterling Pound)</td>
</tr>
<tr>
<td></td>
<td>Y0.03027 (Japanese Yen)</td>
</tr>
<tr>
<td></td>
<td>S$2.472 (Singapore Dollar)</td>
</tr>
</tbody>
</table>


The recent insulation of the Ringgit in an effort to avoid trading of the currency and to stabilise the economy has marked the Ringgit at US$3.80. The export of Malaysian currency over the value of RM10,000 out of the country now requires the approval of the Central Bank.

Transformation of the economy

The development of the Malaysian economy over the next 30 years has been mapped out in numerous development plans that span the period of 5 years each. Based on strong economic fundamentals, the thrust of these plans is to lead the nation to developed nation status by the year 2020. The country is in its 7th Malaysian Plan until the year 2000. Much of the of the strategic policies placed is to sustain the past economic progress (8% growth per annum) of the country in order to achieve the year 2020 aim.

For the last two and a half decades after 1970, there has been significant progress in economic growth with Gross Domestic Products (GDP) growing at an average of 6.7% per annum. Malaysia had transformed itself from a commodity-based economy into a manufacturing-based economy. This transformation can be attributed to macro-economic and structural adjustment policies and strategies undertaken by the Government in the mid-eighties, which significantly contributed to major inflow of foreign direct investments and the rapid growth of the manufacturing sector. The economic policies adopted so far had been reflective of global trends towards trade liberalisation, privatisation of state-owned concerns and reform of tax and tariff regimes and aims to move towards developing social justice, improving the quality of life, political stability and instilling positive social and spiritual values.

The Government had sought to foster greater collaboration between private and public sector by the introduction of the Malaysian Incorporated concept in 1983.

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3 Central Bank of Malaysia, Exchange Control Notices
4 Second Industrial Master Plan 1996-2005 p.3; Ministry of International Trade and Industry
5 Seventh Malaysian Plan, Economic Planning Unit, Prime Minister’s Department
The Government aimed for greater deregulation, simplified administrative procedures and provided better incentives to strengthen the private sector’s contribution towards economic growth. This has proven successful with the private sectors’ participation in activities like infrastructure development. Much of the policies to reflect the industrialisation challenges are reflected in the 2nd Industrial Master Plan 1996-2005. The focus is on industrial cluster development to increase competitiveness, enhancement of value added services and on increasing the productivity of the manufacturing sector.

The strategic direction the country will take into the millennium would be to transform itself into a knowledge-base industry with concentration on intellectual capital and intellectual property as the country’s resource. In this respect, the Multimedia Super Corridor (MSC) is hailed as the vehicle that will propel the country forward in that direction. The MSC initiative is the country’s signature policy for the new economy and combines a variety of laws, policies and regulations with the necessary telecommunication infrastructure to create the most conducive environment for the new multimedia/IT industry to take shape. This idea is elaborated in detail in Chapter 4.

The recent economic crisis facing the region has made the Government implement tight policy measures to restore economic stability and confidence in the country. Strategic actions to increase export competitiveness and to reduce imports and capital outflow from the country have been implemented since the 1998 budget speech announcement. In that regard, the Government has urged the country to use locally produced good, promote the use of locally branded products and compete with low cost producers in countries like China and Vietnam without compromising quality.

14. Transport

Road

Peninsular Malaysia has an extensive road system. The main road system is that running from the Thai border to Singapore. Sabah and Sarawak is less well served. There are in total over 92,000km of roads of which about three-quarters are paved. Local bus services cover over 1000 routes. 90% of Malaysian freight traffic is carried by roads.

Sea/river

Ferries link Peninsular Malaysia with Sabah and Sarawak where rivers are frequently the best and sometimes only means to more remote settlements. Sarawak has ports in Kuching and Sibu; Sabah at Kota Kinabalu and Sandakan; and Peninsular Malaysia at Port Kelang, Penang, Pasir Gudang and Kuantan.
Malaysian Railways has 1,800km of track. On the peninsular, the main line runs up the west coast from Singapore through Kuala Lumpur to meet up with the Thai network; a branch line splits off at Gemas (south of Kuala Lumpur) and provide connections to the north-eastern town of Kota Bahru. Sabah has a single coastal line track; Sarawak has none.

**Air**

There are two main domestic operators – Malaysian Airlines, the national carrier which serves the peninsular and Pelangi Air which runs flights across Sabah and Sarawak. Malaysian Airline operates international flights to destinations throughout the world from Kuala Lumpur International Airport at Sepang. Some international services also fly from Penang, Kota Kinabalu in Sabah and Kuching in Sarawak.
2. Communication in Malaysia (Statistics)

2.1. Fixed telephone Lines

The incumbent operator, Telekom Malaysia still remains as the dominant provider of fixed telephone service in the country, even after four years of introduction of competition in the domestic networks and services\(^9\). The small market share of telephone lines provided by the new entrants is attributable to the time needed to build their networks from "zero-base" infrastructure. The overall penetration rate of 20 telephone lines per 100 population contributed to 12.5% growth from the previous year. Operators such as Bina Sat Com., Celcom and Mutiara placed their priority in the development of their cellular networks rather than their fixed network. The advent of cellular phones due to the nationalisation of cellular phone companies and liberalisation has created a free market with open competition. The Multimedia and Communication Bill has provisions for equal access to ensure a level playing field\(^10\) and cellular phone operators may now interconnect with fixed line networks to meet universal service obligations.

<table>
<thead>
<tr>
<th>Service Provider</th>
<th>TMB</th>
<th>Bina Sat Com.</th>
<th>Celcom</th>
<th>Time Telekom</th>
<th>STW (Prismanet)</th>
<th>Mutiara Telekom</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utilised Capacity (Lines)</td>
<td>4,162,599</td>
<td>23,948</td>
<td>10,000</td>
<td>30,000</td>
<td>9,000</td>
<td>800</td>
<td>4,236,347</td>
</tr>
<tr>
<td>Available Capacity</td>
<td>6,414,000</td>
<td>203,000</td>
<td>50,000</td>
<td>45,000</td>
<td>37,000</td>
<td>60,000</td>
<td>7,306,000</td>
</tr>
<tr>
<td>% of Capacity Utilisation</td>
<td>64.9%</td>
<td>3.4%</td>
<td>20%</td>
<td>66.7%</td>
<td>24.3%</td>
<td>0.8%</td>
<td>-</td>
</tr>
<tr>
<td>Market Share</td>
<td>98.26%</td>
<td>0.56%</td>
<td>0.24%</td>
<td>0.71%</td>
<td>0.21%</td>
<td>0.019%</td>
<td>-</td>
</tr>
</tbody>
</table>


\(^9\) Competition was introduced in 1993 when the second license was awarded to Bina Sat Con Sdn. Bhd. Since then 5 other licenses were issued to various local companies to compete with the incumbent Telekoms Malaysia Bhd.

\(^10\) Chapter 3 Malaysia Communications and Multimedia Bill
Residential and Business Telecommunication Services Subscribers

![Graph showing residential and business tel subscribers from 1991 to 1997.]


Public Telephone and Telepoint (Smartfon) Subscribers

![Graph showing public tel and telepoint subscribers from 1991 to 1998.]

Source: Report, Statistics Telecommunication Industry Malaysia 1997, Department of Telecommunication Malaysia, Ministry of Energy, telecommunications and posts
Services provided by Telekom Malaysia Berhad

![Bar Chart: Telex, Leased Circuit, Electronic Mail for years 1991 to 1997]


The number of subscribers for these services are as follows:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Telex</td>
<td>7,981</td>
<td>7,576</td>
<td>7,268</td>
<td>7,032</td>
<td>6,764</td>
<td>4,548</td>
<td>4,095</td>
</tr>
<tr>
<td>Leased Circuit</td>
<td>18,782</td>
<td>21,385</td>
<td>24,861</td>
<td>29,938</td>
<td>37,476</td>
<td>40,898</td>
<td>46,269</td>
</tr>
<tr>
<td>E-mail</td>
<td>561</td>
<td>755</td>
<td>885</td>
<td>1,034</td>
<td>1,162</td>
<td>1,186</td>
<td>1,148</td>
</tr>
</tbody>
</table>


As the incumbent operator, Telekom Malaysia will have to meet highly competitive market arena with the liberalisation of the market. As the designer, installer and operator of the telecommunications backbone in the Multimedia Super Corridor (MSC), the company is the Corporate Information Superhighway (COINS) at the end of 1997 to continuously upgrade the capacity of the link.
With the introduction of equal access under the Multimedia and Communications Bill, Telekom Malaysia will be under increased pressure from other entrants in the liberalised market. However it is likely that the company will withstand the competition on its long standing service to the country and the breadth and range of services offered, including services to segments of the society within the lower income bracket and to rural areas of the country.

Over the past few months, Telekom Malaysia had increased TMNet, its internet line’s capacity by 11 times to 45 megabits from its previous capacity of 4 megabits. In 1997, TMNet activated a 45 megabit T3 link to the United States giving it the international capacity needed to step up the company’s promotion of Internet access in the country. By the end of this year, the company intends to have three T3 circuits, totalling 145 megabits via submarine cable and a further T3 via satellite to keep Malaysian citizens in touch with the online community. This investment in internet line capacity will contribute to the development of e-commerce activities in the country.

Other services provided by Telekom Malaysia include basic telephony and payphone services as well as cellular phone services. Having set for itself some pretty stiff objectives to reach its goals of becoming a regional telecommunications hub, it is likely that the company will withstand competition, if not flourish as it continues to enhance the delivery of products and services which the consumer requires. The threat to the services of telecommunication operators would be call back services and the emergence of larger conglomerates from mergers and acquisitions of international companies, the mergers of AT&T, British Telecoms and Binariang is an example.

2.2. **Cellular Phone Subscribers 1997**

<table>
<thead>
<tr>
<th>Operator</th>
<th>Subscribers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cellular Communications Network Sdn. Bhd.</td>
<td>1,004,000</td>
</tr>
<tr>
<td>Mobikom Sdn. Bhd.</td>
<td>288,847</td>
</tr>
<tr>
<td>Binariang Sdn. Bhd.</td>
<td>343,721</td>
</tr>
<tr>
<td>Mutiara Telecommunications Sdn. Bhd.</td>
<td>175,522</td>
</tr>
<tr>
<td>Cellular Communications Network Sdn. Bhd.</td>
<td>300,000</td>
</tr>
<tr>
<td>Telekom Malaysia Bhd.</td>
<td>89,985</td>
</tr>
<tr>
<td>Telekom Cellular Sdn. Bhd.</td>
<td>93,474</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2,460,706</strong></td>
</tr>
</tbody>
</table>

*Source: Report, Statistics Telecommunications Industry Malaysia 1997, Department of Telecommunication Malaysia, Ministry of Energy, Telecommunication and Posts*

Cellular phone operators compete in an open liberal market. This has resulted in continuous upgrade of existing new services and a proliferation of better ways to send, receive and manage information over mobile telecommunications network. An example would be the capacity to send and receive electronic mail through mobile telecommunication networks. Where the communications and Multimedia Bill allows mobile phone operators to meet universal service obligations with the equal access provisions, it is foreseeable that mobile phone services will expand to non-urban and rural locations in the future.

2.3. Radio Paging

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Subscribers</td>
<td>62,000</td>
<td>80,000</td>
<td>109,000</td>
<td>128,818</td>
<td>149,268</td>
<td>133,442</td>
<td>138,856</td>
</tr>
</tbody>
</table>

Source: Report, Statistics Telecommunication Industry Malaysia 1997, Department of Telecommunications Malaysia, Ministry of Energy Telecommunication and Posts

2.4. Internet subscribers

<table>
<thead>
<tr>
<th>Internet Service Provider</th>
<th>1996</th>
<th>1997</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jaring</td>
<td>50,176</td>
<td>100,103</td>
</tr>
<tr>
<td>TM Net</td>
<td>13,769</td>
<td>105,000</td>
</tr>
<tr>
<td>Total</td>
<td>205,103</td>
<td></td>
</tr>
</tbody>
</table>


The Ministry of Energy, Telecommunications and Post has recently called Internet Service Providers (ISPs) to form a consortium to form a common gateway to prevent
duplication. In that regard, the Ministry has presented ISP licences to 5 new players. The 5 new ISPs are envisaged to start services by the end of the year.

2.5. **Number of TV Transmitting Stations by Region (1997)**

<table>
<thead>
<tr>
<th>Station</th>
<th>Central Region</th>
<th>Northern Region</th>
<th>Southern Region</th>
<th>Eastern Region</th>
<th>Sabah</th>
<th>Sarawak</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>TV1 &amp; TV2</td>
<td>8</td>
<td>36</td>
<td>16</td>
<td>29</td>
<td>21</td>
<td>21</td>
<td>131</td>
</tr>
<tr>
<td>TV3</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>8</td>
<td>6</td>
<td>5</td>
<td>29</td>
</tr>
</tbody>
</table>

*Source: Report, Statistics Telecommunication Industry Malaysia 1997, Department of Telecommunication, Ministry of Telecommunications and Posts*

The country has seen three different phases in television broadcasting over the past three decades. The industry started in 1963 as a single channel funded by the Government with the role of assisting the Government in building the nation. It moved towards privatisation of the industry with the introduction of a private commercial television station and eventually to the present liberal and open market with globalisation. Currently, besides TV1, TV2 and TV3, the country now has Metrovision and NTV7 in addition. Pay TV services is also available with Astro and MegaTV.

The increasing competition and satellite broadcasting does not relegate the control the Government has with these broadcasting stations. Content is still subject to the laws of censorship, regulated by the Ministry of Information and the Ministry of Home Affairs. The introduction of the V-chip to control programmes at domestic home level provides an additional mechanism to prevent the broadcast of offensive or immoral content in the home. It is indeed interesting that the Government intends to liberalise the market at economic level and yet maintain political control of the contents at cultural level. With open competition in the market, broadcasted content has also been subject to change as advertisements, which provide funding for these broadcasting stations are made to appeal to the audience, now become known as consumers as content becomes commercialised and commodified.

News over these broadcasting stations is also subject to political control to a minimal extent. News are reported in a manner which do not create political stability or undermine economic development as usually seen in Asian countries (Datta-Ray, 1997). Commercial content is reflective of current trends, as opposed to the situation portrayed by the media in India (Gupta and Jain, 1998). There is also observable peripheral influences by western media on local production. Although puffery in advertisements may be apparent, the country leaves the broadcasts of commercial content unregulated in so far as representations made to the consumers about the product.

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Chapter 3

Soft infrastructure for the Information Highway in Malaysia - laws, policies and practices that relate to the utilisation of Information Technologies

Introduction

This chapter examines the legal framework, the policies and practices that relate to the utilisation of Information Technologies in Malaysia. The discussion here will include issues relating to the Internet, satellite broadcasts, media and the provision of telecommunication services to the masses. A portion in the next chapter specifically discusses in greater detail the Multimedia Super Corridor as a nation wide initiative to maximise the utilisation of information technologies and multimedia.

1. The Legal framework

With the advent of information flow through the Information Highway conventional issues of law relating to intellectual property and basic commercial transactions emerge in new light. The question one ponders on is whether there is a need for new laws or whether existing laws may apply to unconventional legal problems.

This paper addresses issues that relate to 4 different modes of information dissemination - the Internet, broadcasts, satellites, telecommunications and the media.

1.1. Legal issues arising from the Internet

This portion examines 4 basic legal issues that arise from the use of the Internet as a medium to transmit information and conduct basic commercial transactions. The issues are discussed in turn. Firstly, intellectual property protection that may be afforded to transmission of information via the Internet and the imposition of liability on service and network provider. Secondly, commercial transactions that take place over the Internet, specifically electronic commerce transactions. Thirdly, the criminal misuse of computers and fourthly, fundamental civil rights that apply to cyber-living.

The first issue regarding intellectual property over the Internet is where copyright protected works are distributed via the Internet. This issue is not specifically addressed by Malaysian statute or case law.

With the ease of distributing information over the Internet, it comes as no surprise that there are countless instances of copyright infringement sometimes by innocent parties – by “innocent”, one means unaware of the infringing act. In this respect, vulnerability for copyright infringement takes 5 forms:- (1) unauthorised use of works by persons creating the system, (2) unauthorised use of the system of the persons operating the system, (3) upload of infringing copies on the Internet by subscribers, (4) download infringing
copies on the Internet by subscribers and (5) transmission of infringing copies over the Internet.

The applicable law here will be the Copyright Act 1957 recognising copyright in the works. Given the difficulty of tracing the end user, the argument is that the service or network provider should bear liability for their subscribers uploading, downloading, browsing and transmitting copyrighted content even where they have no knowledge or involvement with the infringing act.

What standard of liability service and network providers should be subject to is at present an unresolved legal issue.

Second, where transactions take place over the Internet 2 fundamental issues arise – the security of the transaction and extra-jurisdictional issues that arise from cross borders transactions.

With regards to issues of security, the Digital Signature Act 1997 operates as a framework to regulate encryption and decryption technologies used to secure transactions via the Internet. The Act will be discussed in greater detail in the next Chapter. Above that, Internet security will be examined under the Multipurpose Card Flagship and the Electronic Government Flagship. The Concept Requests for Proposals (CRFPs) specifically identified this as a requirement for companies bidding for the Flagship contracts. The Multimedia Development Corporation (MDC) has appointed experts to screen responding organisations to the CRFP and advise the lead agencies on the most effective security system to be acquired.

Where the transaction cross borders and different laws of different jurisdiction can apply to a single dispute, it is always resolved by principles of International Law. With regards Malaysia’s e-commerce policy, the National Electronic Commerce Committee actively supports the development and adoption of a Uniform Commercial Code as proposed by President Clinton’s Global Electronic Commerce Policy announcement. Also, the Committee advocates the enforcement of Internet related taxation with international co-operation and co-ordination.

Third, the criminal law becomes relevant in two aspects of information technology usage. Computer technology have in the first place facilitated the growth of existing crimes such as fraud and theft and have at the same time given rise to activities such as computer hacking and the development and distribution of computer viruses. The Computer Crime Act 1997 deals with criminal activities such as damaging computer systems and destroying computerised data. The larger stumbling block, practically is detection of the crime. The Act has provisions that allow enforcement of the law in other

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1 It is important that there is a harmonisation of laws to avoid a discrepancy in practices. An example is the European Union’s Directive on Data Protection to be in effect in October where the Community will impose strict international rules on the collection, exchange and use of personal information on European citizens which may prohibit the flow of information to states without rules of the same.
jurisdiction\textsuperscript{2} but practical considerations of enforcing that law is an issue that law enforcement authorities face.

The forth issue regarding cyber-living raises fundamental issues of law that the Malaysian legislature and judiciary have yet to address. Some of the issues would include privacy over the Internet e.g. whether interception of one's e-mail is an invasion of privacy. Other issues would be whether a duty of care is owed where online system providers provide news feed and other third party information, which may be misleading and tantamount to misrepresentation. Another issue is whether online service providers may be liable for losses suffered by their subscribers where they fail to provide adequate back up although it may be argued here that the losses are pure economic losses or that the losses are too remote.

1.2. **Legal issues arising from broadcasting**

The transmission of information for reception by the general public is the exclusive privilege of the Government of Malaysia. The Broadcasting Act 1988 previously mandated that a licence must be obtained to broadcast matters in Malaysia. The installation or working of a radio or television broadcast receiver or offer for sale, sell or have in one's possession with a view to sell a radio or television broadcast receiver is also required to get a licence. Most of the powers of regulation lie with the Minster who may specify the conditions to the grant of a licence.

With converging technologies, specifically that of broadcasting, telecommunication and computing, the Malaysian Government has repealed the Broadcasting Act and replaced it with the Communications and Multimedia Act which will put in place a new licensing regime for the converged industry. License issued under the old Act shall be valid for a period of 12 months. Broadcasted content is subject to usual rules of decency. The new law makes it an offence to provide content which is offensive, indecent, obscene, false or menacing.

Broadcasted content may be controlled and monitored by parents by importing the V-Chip technology in the receiving apparatus. Before that is workable, a rating system that identifies the audience and a programme content code (e.g. violence, sexual situation, vulgar language) must be in place. There is yet to be such a system in the country. The issue about parental control as a means of filtering out unwanted programmes is not a matter of utmost concern in Malaysia. However, it is likely that the developments in convergence and the growth of the Multimedia Super Corridor may see the proliferation of contents for home viewing and may even render the existing system of control at the point of transmission ineffective. If so, then parental control of contents at the point of reception is feasible.

Where broadcasts are works eligible for copyright protection, the Copyright Act 1987 had been amended to afford better protection to broadcasters.

\textsuperscript{2} S9 Computer Crimes Act 1997, Act 563
Transmissions of visuals, sounds and information capable of being lawfully received by the public or transmitted to members of the public for presentation are now eligible for copyright protection. The original provision of the Act afforded protection only to transmissions that were received by the general public. Further amendments allow for protection for the transmission of encrypted signals where the means of decrypting are provided to the public by the broadcasting service or with its consent.

1.3. **Legal issues arising from telecommunication**

The telecommunications sector was previously regulated by the Telecommunications Act 1950. The establishment, maintenance and workings of telecommunications in Malaysia had been the exclusive privilege of the Government and much of the functions under the Act was performed by the Malaysian Director General of Telecommunications. It is noted that the two features essential to the deployment of the information infrastructure for an information society – interconnection of networks and interoperability services and applications were not reflected in the Act. The Act was also silent as to obligations on telecommunications providers to provide universal service.

The Act was antiquated in light of the development, which was taking place with the converging multimedia and communications industry. As the broadcasting, telecommunications and computing industries converge, it was vital that applicable legislation reflect current trends. There was a need for legislation that allow multicarrier environments with a shift in focus from a carrier-to-carrier type regulation to regulation in the interests of intermediate markets and end users.

The Malaysian Communications and Multimedia Bill 1998 was proposed to deal with these issues. The Bill aims to reflect these points:- (1) principles of transparency and clarity for the industries’ clear understanding of the rules, (2) deregulation in light of our market liberalisation policies and (3) flexibility with generic rules to have widespread applications within the industry. The Bill repeals the Telecommunication Act 1950 and introduces provisions that address issues of interconnectivity, interoperability and equal access of networks and facilities. The Bill promotes an open and competitive market and prohibits conducts that lessens competition and liberalises the industry by a move towards eliminating monopolies.

The Bill also seeks to establish a regime to ensure that all network facilities providers, network service providers and applications service providers can gain access to the necessary facilities and services on reasonable terms and conditions in order to prevent the inhibition of the provision of such services. The Bill provides for the establishment of an access list listing all companies providing services, facilities and application services requiring these companies to comply to standard access obligations.

With the new Bill, the telecommunications industry is also subject to open market rules. Companies cannot engage in activities that reduce competition. The Communications and Multimedia Commission may direct a licensee in a...
dominant position as defined in the guidelines of the Commission to cease a
count which has the effect of substantially lessening competition in the
market and to implement the appropriate remedies. Telecommunication
providers are also subject to rules of consumer protection - ensuring the
quality of the services provided, by providing certain application services, by
providing resolution of consumer disputes, by setting rates reflective of the
market rates and by providing universal telecommunication services to
underserved areas and underserved groups of the community.

In sum, the telecommunications industry would be subject to legal rules that
would allow the industry to expand. Monopolies and unfair practices at the
expense of smaller market players will be eliminated by the new legal regime.
Above that, consumers are ensured of better provision of services with the
introduction of greater competition in the industry.

1.4. Legal issues arising from the media

The traditional legal issues that had surrounded the media were issues of
intellectual property, in specific, copyright to works that are published on print
media e.g. the newspaper.

Electronic media face a variety of legal issues. An example would be
broadcasts and satellite transmissions from space. An issue yet to be resolved
is the use of air space for satellite and broadcast transmissions. The Paris
Convention or the International Convention for Air Navigation recognises
sovereignty of each state over its own air space. However, that does not
address situations where satellite or broadcast transmission spills over to the
air space of another state. It is unresolved if this will constitute a trespass or air
space. Malaysia has not a law that addresses this issue and it is unclear what
the international stance on this matter is.

The international community also recognises the importance of identifying the
legal status and regulating the use of air space over the geostationary orbit.
Recent increase in the number of new satellite launches and the finite amount
of space available calls for a reassessment of the existing international treaties
to ensure that space on the orbit is utilised fully. Negotiations are currently
underway in the United Nations' Legal Subcommittee of Committee on
Peaceful Uses of Outer Space. Malaysia was represented on that subcommittee
but the policy stance of the country is unclear at present.

It is unclear if the amendments to the 1987 Copyright Act on the definition of
broadcast would encompass a satellite transmission to a broadcasting station³.
Where a satellite 22,300 miles above earth’s orbit transmit a signal to a
recipient station, it is not likely that the transmission would be regarded as a
“broadcast” eligible for copyright protection so that where the signal is
intercepted, some legal redress is available.

³ “broadcast” means a transmission, by wire or wireless means, of visual images, sounds or other
information which – (a) is capable of being lawfully received by the public; or (b) is transmitted for
presentation to members of the public, and includes the transmission of encrypted signals where the
means for decrypting are provided to the public by the broadcasting service or with its consent.
Unlike the United States of America under the Federal Aviation Administration, which enunciated space law that protected satellite transmission by prohibiting the copying of substantial part of the works, making multiple copies and using the work inconsistent with US or foreign copyright law, Malaysia does not have such laws. The use of air space in Malaysia and the protection of satellite broadcasts within Malaysia remains at present unregulated. Traditional laws of trespass and theft of information may have to be invoked to deal with space disputes over air space and satellite transmissions. The entire paraphernalia of laws inherited from the British colonial regime is the predominant legal structure here.

The irony is that even with the ease of transmission and receipt of media content, the legal structure to control content still remains in place. The Sedition Act, the Official Secrets Act, the Internal Security Act and the Printing Presses Act are samples of laws available to control the dissemination of media content. The recent application of the Internal Security Act for the dissemination of rumours over the Internet has had a chilling effect on Internet users.

With regard to multimedia, the issue arises with regards the protection of new works and commercial marks. Malaysia’s Multimedia Super Corridor initiative as an experimental test bed has brought about creative uses of multimedia and unconventional representation of commercial entities. From this trend stems the problems related to copyright and trademarks.

With regards copyright, it is unclear if a transitory storage of a computer programme in the RAM constitutes a copy for the purposes of determining copyright infringement. Section 13 Copyright Act 1957 states that a copyright holder may control the reproduction of his work in any material form and is silent with regards the specific issue of RAM copying. Furthermore, databases arranged in a methodical manner that do not constitute intellectual creation are not protected by copyright. Content produced through multimedia constitutes to an extent an arrangement of separate pieces of work to form a complete whole – an encyclopedia for example and this may not qualify the author for copyright protection.

The Multimedia Super Corridor will also bring with it companies that identify their goods and services using marks that comprise sounds of multimedia marks that may not fall within the traditional protective scope of the Trade Mark Act 1973. Countries like France and Germany have laws that define exclusively marks that are protected and include sound marks and three-dimensional configurations. It is unclear if Malaysia will adopt a similar approach in light of the development of the Multimedia Super Corridor.

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4 Random Access Memory (RAM) stores some or all of a programme when it is executed
5 S8(1)(b) Copyright Act 1987 requires that collections of works eligible for copyright must by reason of the selection and arrangement of their contents, constitute intellectual creation
6 S3 Trade Mark Act only protects marks defined to mean a device brand, heading, label, ticket, name, signature, word, letter, numeral or any combination thereof. Though not exclusive, non traditional marks may not fall within the scope of S3.
2. **Malaysia’s current policy stance on information technologies for the Information Age**

Malaysia’s long term objectives to move into the information age is reflected in various development plans. The fundamental strategy is to transform the nation into an information based society from the previously resource based industry where much of the country’s economy depended on the manufacturing sector and its commodities for wealth creation. In this respect, the Malaysian Government recognises the importance of shifting its investments to intellectual capital and skilled manpower as resources of the country.

The economic crisis facing the country now has caused the Government to refocus the economy on productivity driven economies. In a move to retain capital flows within the country, the Government has consistently stressed the need to strengthen economic fundamentals and maintain sustainable growth. In this regard, information technology is seen as the current policy strategy that will increase productivity of the country’s export industry. The manufacturing industry for example, has been encouraged to use robotics for efficiency.

This paper will discuss four development plans that reflect the country’s policy towards our Vision 2020 of becoming a developed nation – the Seventh Malaysian Plan, the Second Industrial Master Plan, the National Information Agenda and the National Telecommunications Policy. Malaysian’s Multimedia Super Corridor is the country’s policy initiative, which reflects the country’s aim towards Vision 2020 and is discussed in greater detail in the next chapter.

2.1. **The Seventh Malaysian Plan**

The country’s development is mapped in development plans spanning 5 years each. The Seventh Malaysian Plan (1996-2000) emphasises on sustaining economic progress and achieving a higher standard in the quality of life within the country. This plan envisions a move into a more progressive industrialisation that places new emphasis and demands on more capital intensive, high technology and knowledge-based industries – the multimedia and information technologies industry for example, is such an industry.

The Seventh Plan specified that information technology is to play a role in national development by improving efficiency, productivity and competitiveness. Within the time frame of the plan, the Government intends to develop the infrastructure necessary to support information technology development and has started development of the Multimedia Super Corridor in August 1996. However, the development of information technology in the country has evinced the lack of a computer literate and technology skilled work force. With the Government’s policy of reducing reliance on foreign knowledge workers, the Government has substantially limited the number of knowledge workers in the country. In that regard and intending to have the
prerequisite number of people in the country to absorb technology transfer, the
Government will revise local education and training programmes that relate to
the industry. One of the first initiatives undertaken is the implementation of
the Smart School Flagship to develop a technology competent work force.
Above that, the Human Resource Development Fund, which is a scheme
introduced to encourage private sector training programmes, will be extended
in particular, to the energy, education and consultancy fields.

To promote, expand and upgrade information technologies applications in the
country, the 1998 budget had allocated a sum of RM400 million for
Government agencies to develop and implement information technologies in
the Electronic Government Flagship Project. The project is elaborated in
greater detail in Chapter 4 of this report. To encourage the use of technology
in ordinary households, the Government has also allowed a tax rebate of
RM400 for the purchase of personal computers by each family in its last
budget speech.

2.2. The Second Industrial Master Plan

The Second Master Plan builds upon the success of the first and spans until
2005. It intends to identify factors that will sustain and enhance the growth of
the manufacturing sector subcategorised to 8 industry groups with potential to
develop competitive industrial clusters individually. The industry groups are
reflective of the operating policy for achieving a broad-based, resilient and
internationally competitive sector by creating industrial clusters to focus the
efforts and strategies in industry development. The industry group particularly
relevant for the discussion of this paper is the electrical and electronic industry
group which is the leading industrial sector in the country in terms of
investment, industrial output, value-added, exports and employment.  

Much of the emphasis the Master Plan places on the development of the
industry is on its research and design capabilities, international marketing and
knowledge intensive information technology-based industries. Some of the
Ministries efforts are to review laws that hinder the formation of such clusters
at national level, enhancing supply capabilities of the small and medium sized
together and encouraging Malaysian companies to develop original brand
name products and grow into multinational corporations.

The Ministry focuses on the development of a knowledge-intensive industry
and envisages this through the Multimedia Super Corridor effort which will be
discussed in the next chapter.

2.3. The National IT Agenda

The National IT Agenda formulated by the National IT Council noted that we
have had very little success with a bottom-up method of governance and are in
need of a dedicated IT initiative. In this respect, the focus of the country
according to the Agenda should be on a top-down leadership leveraging the

7 Source Second Industrial Master Plan 1996-2005; Ministry of International Trade and Industry,
Malaysia
Multimedia Super Corridor (MSC) as a national test-bed to leapfrog the country towards the information society. The Agenda focuses on 3 basic elements integral to the country’s development towards the Information Age – people, infrastructure and applications. It integrates a merge of education, skills development and acculturation to develop the people element, envisages the installation of accessible network, affordable appliances and appropriate laws and regulation as the strategies to develop the infrastructure and promotes content development, interactivity, infotainment, edutainment and infocommunication towards IT application in the country.  

2.4 National Telecommunications Policy

The convergence of telecommunications and information technologies resulted in the growth of new and sophisticated services using the basic telephone line. In light of these changes, the National Telecommunications Policy was launched in 1994 to set the direction for the development of the telecommunications sector as well as the objective of becoming a regional telecommunications and information technology hub. Among others, the policy aimed at encouraging local manufacture of telecommunication equipment, promoting research and development and setting targets for the expansion of services, including information technologies.

To complement the National Telecommunications Policy, a telecommunication Master Plan will be developed to provide further direction for the orderly development of the industry including the policy on standards and locations of transmissions towers. The Master Plan will prescribe the level of competition, the measure to rationalise the sector and provide guidelines for competition, interconnection charges, tariff rates, the sharing of social costs and obligations, network development and resource utilisation. This will cater for the liberalisation of the telecommunications industry and the existence of a number of operators, particularly for basic network. Meanwhile, the role and function of the regulatory authority will be reviewed to meet the increasing challenges of a liberalised telecommunications regime. This is addressed in the Malaysian Communications and Multimedia Commissions Bill 1998 that is being debated in Parliament now.

2.5 Policies of the Malaysian Communications and Multimedia Bill 1998

The Malaysian Communications and Multimedia Bill 1998 had been proposed to provide for and regulate the converging communications and multimedia industries. A Commission to supervise and regulate the converging activities and to enforce communications and multimedia laws will be set up in this regard. The Bill was proposed to reflect the changing needs of the industry and the consumers where there are new emerging services, networks and facilities within the communications industry. The Government aims to attract new market entrants and to increase competition with the new laws. An open

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8 Source: National IT Council; National IT Agenda
9 19 July, 1997
10 Malaysian Communications and Multimedia Commissions Bill 1998
and liberalised market is intended to increase the quality of products and services offered by the industry.

The national policies for the communications and multimedia industry is set out in the proposed Bill\textsuperscript{11}. In sum, the Government intends to establish Malaysia as a global centre for communications and multimedia information and content services. By doing so, the local information resources will increase and more information based services and products will emerge to cater for an information-based society. The Bill will benefit the end user in the long term by encouraging open competition and new market entrants to provide newer and better services.

Reflecting current policies of other economic regimes, Malaysia intents to structure the industry to minimise monopolies. There are provisions in the Bill encouraging new market entrants by equal access, interoperability and interconnection regulations. The onus is placed on the incumbent or existing market players to facilitate the entry of new companies. There are rates that will be identified so that the newer entrants will not be subject to high rates imposed by dominant players for facilities like call-termination and also to avoid anti-competitive practices such as predatory pricing that will deny smaller market players a large portion of the market.

The Bill also reflects a converged market of network facilities providers, network services providers and other facilities or services facilitating the supply of network services or application services. Save for where content application services\textsuperscript{12} is provided the operator need only obtain a license or a class license for operation. A separate license is required for content application services to set-up a new regulatory framework to promote the growth and development of content application services reflective of the cultural diversity of the country.

The Bill also has provisions for the protection of consumers by ensuring that services providers provide quality services. Service providers are required to deal reasonably with consumers and address consumer complaints\textsuperscript{13}. The Bill has provisions to establish a consumer forum for complaints and has given the Minister\textsuperscript{14} powers to establish a list of required application services that must be provided to the consumers. Service providers must also provide services at rates based on various fair practice principles e.g., rates must be reasonable and non-discriminatory\textsuperscript{15}. Above that service providers are subject to Universal Service Obligations to ensure the rollout of new facilities and the availability of new services, particularly in areas which the Commission considers to be “underserved areas” or “underserved groups within the community”. A Universal Service provision Fund will also be established that

\textsuperscript{11} Section 3(2) Malaysian Communications and Multimedia Bill 1998
\textsuperscript{12} “Content application services” is defined to mean any application service which provides content i.e., sound, text, still picture, moving picture or other audio-visual representation, tactile representation or any combination which is capable of being created, manipulated, stored, retrieved or communicated electronically
\textsuperscript{13} Section 188 Malaysian Communications and Multimedia Bill 1998
\textsuperscript{14} Minister responsible for communications and multimedia
\textsuperscript{15} Section 198 Malaysian Communications and Multimedia Bill 1998
can be invoked if industry undertakings fail to be sufficiently comprehensive\(^{16}\).

3. **Practices in Malaysia with regards to information technologies and communications**

3.1 **Telecommunications sector**

The telecommunications sector is expected to be one of the highest growth sectors of the economy with the advancement of telecommunications technologies. The thrust of the sector will be to increase capacity as well as introduce new services through new technologies and by upgrading existing networks. Investments in new technologies are expected to spur the growth of telecommunications infrastructure and services, thus enabling the nation to acquire a competitive edge in information technologies.

The country’s telecommunication infrastructure is capable of permitting the transmission of mass information technology applications such as video, graphics, multimedia, desk-top publishing, virtual business, distance learning, telemedicine and other information technology applications. Further, 2 satellites were launched in 1996 to provide immediate and simultaneous point-to-point and point-to-multipoint telecommunications, broadcasting and information technology services throughout the country.

3.2 **Information technology and multimedia sector**

The Government has strategically placed information technology as the factor that will increase the productivity and competitiveness of the country. Various incentives have been provided to encourage its usage, fiscal incentives amongst others. The recent budget speech allowed a tax rebate of RM400 for families purchasing personal computers. Above that, there is a lot of focus is on making educators computer literate. A sum of RM12,458billion is allocated for education. The Government also intends to emphasise the development and upgrading of technology in teaching and education techniques. With an additional allocation of RM100million for computer loan facilities for teachers, the Government hopes that educationists will be more motivated in discharging their duties using technology.

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\(^{16}\) Section 204 Malaysian Communications and Multimedia Bill 1998
2.6. **Number of Radio Transmitting Stations in Malaysia (1997)**

<table>
<thead>
<tr>
<th>Operator</th>
<th>Central Region</th>
<th>Northern Region</th>
<th>Southern Region</th>
<th>Eastern Region</th>
<th>Sabah</th>
<th>Sarawak</th>
</tr>
</thead>
<tbody>
<tr>
<td>RTM</td>
<td>17</td>
<td>25</td>
<td>29</td>
<td>56</td>
<td>52</td>
<td>78</td>
</tr>
<tr>
<td>Radio Lebuhraya</td>
<td>1</td>
<td>6</td>
<td>4</td>
<td>6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Radio Rediffusion</td>
<td>2</td>
<td>12</td>
<td>6</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Suara Johor</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Radio Pelancong</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>MBNS</td>
<td>7</td>
<td>28</td>
<td>26</td>
<td>22</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Radio Kenyalang</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>11</td>
</tr>
</tbody>
</table>

*Source: Report, Statistics Telecommunications Industry Malaysia 1997, Department of Telecommunication Malaysia, Ministry of Energy, Telecommunication and Posts*
Chapter 4
Future Plans for the Development of Communication Facilities in Malaysia –
The Multimedia Super Corridor as a National Policy Initiative to Catalyse the Advent of the Information Age - Malaysia’s Future Plan

Introduction

This Chapter examines Malaysia’s future plans for the development of communication facilities in Malaysia. Besides setting out the policy framework for the future in plans like the Seventh Malaysian Plan and the National IT Agenda, much of the country’s infrastructure development plans for the future is in an experimental test bed that will be rolled out to the entire country by the year 2020.

The strategy adopted by the country is to create a zone to test the applications of multimedia and communication technologies. The harnessing of multimedia and information technologies within the zone is intended to leapfrog Malaysia into success in the Information Age by productivity led growth. By creating the ideal multimedia environment for world class companies to use as a regional hub and catalysing a highly competitive cluster of Malaysian multimedia and information technology companies that become world-class over time, Malaysia intends to enhance domestic productivity and create value from information age businesses.

The Multimedia Super Corridor (MSC) is the specific strategy adopted by the Malaysian Government to take the country into the Information Age. The concept was conceived as the Government rationalised the multimedia industry as the sector that will allow Malaysia to attain developed nation status in accordance with Vision 2020. The MSC idea was announced in August 1996 as an experimental test bed to test multimedia applications within a defined area. By examining other multimedia hubs like Silicon Valley, picking its key success factors and artificially creating the perfect environment for the industry to flourish, the Government intends to attract world class companies to operate in the MSC. However, it must be borne in mind that the creation of the MSC is not to recreate a Silicon Valley. The MSC is intended to provide the most conducive environment for the development of an industry that will contribute to the Malaysian economy and allow it to sustain itself.

The concentration of leading edge companies within the MSC will bring with it transfer of technology into the country. The Government’s commitment to the success of the MSC is reflected in a 10 point Bill of Guarantee. The guarantees include intellectual property protection and leading edge cyberlaws enabling multimedia and IT applications like telemedicine and a world class telecommunication infrastructure running on a 2.5-10 gigabit fibre optic line. The 15 by 50-km wide zone that stretches southward from Kuala Lumpur also promises a censor-free Internet. To overlook the development of the project, the Government had set up the Multimedia Development Corporation which will oversee
the grant of MSC status which qualify companies for the guarantees under the 10 point Bill and ensure the successful implementation of the MSC.

Qualification for the incentives under the Bill of Guarantees is that these companies obtain MSC status. MSC status is granted to companies that meet certain criteria set by the Multimedia Development Corporation.

This Chapter explains the components of the MSC initiative in detail. The paper will discuss the implementation of the MSC from 3 perspective. Firstly, the manner in which multimedia and IT application is employed in the MSC. The second issue discussed is the infrastructure that is put in place to create the best environment for the industry to develop and thirdly, the initiatives taken by the Government and the Multimedia Development Corporation to enhance the national human resource pool.

1. **Multimedia and IT application in the MSC**

   The idea of the MSC is to create an industrial zone with a concentration of multimedia or IT companies. Grant of MSC status is dependent on the company being a heavy user or provider of multimedia or IT and emphasis is placed on research and development of new and innovative uses for these applications. 7 Flagship Applications have been identified from independent developments around the world and are implemented in the MSC in a concentrated effort to have an encompassing multimedia environment.

   Strategically, the MSC is seen as the vehicle for the Malaysian Government to increase the productivity of the country and achieve developed nation status by year 2020. The 7th Malaysian Plan, the 5-year master plan to develop and guide the nation’s growth, promotes various advanced technologies to support the implementation of technology-based industrial strategies. Amongst the core technologies promoted are technologies encouraged to be developed in the MSC – information and communications, microelectronics, biotechnology and life sciences and advanced manufacturing technology. The manner in which this is done is by implementing the flagship applications, encouraging MSC companies to participate in developing innovative uses for multimedia and IT and encouraging research and development by these companies.

1.1 **MSC Status**

   To ensure that leading edge technology companies locate within the MSC, MSC status is granted to companies that are developers or heavy users of multimedia or IT products or services. These companies are subject to qualifying criteria before status is awarded. The criteria established by the Multimedia Development Corporation requires that the company:
   
   - *Be a contributor or provider of multimedia products or services or be heavy user of these multimedia or IT product or services* – some of the activities

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1 *Seventh Malaysian Plan 1996-2000; Economic Planning Unit, Prime Minister’s Department*
identified as qualifying under this criteria is content development, the provision of enabling distribution channels or gateways and contribution to end user environment in terms of network or products. Multimedia or IT user companies are also encouraged to apply for MSC status

- **Employ a substantial number of knowledge workers**\(^2\) – this is important to the Malaysian Government because the presence of knowledge workers is consistent with Malaysia’s long term goal of sustaining productivity driven growth. The minimum ratio expected is 15% of the total staff
- **Contribute by to the development of the MSC and the Malaysian economy by technology and knowledge transfer**

This criteria is pertinent in spurring the development of the industry that the Government envisage will leapfrog the economy into the Information Age. By concentrating a cluster of multimedia and IT based companies within Cyberjaya, the core of the MSC, with the prerequisite that they engage in activities and businesses that contribute to the development of the Malaysian economy, the Government ensures active participation of these companies in spearheading the country’s growth.

1.2. **MSC Flagship Application**

The Flagship Applications are 7 primary areas of multimedia / IT applications that have been identified. The development of the flagship applications is the responsibility of the government ministries and agencies. Progress reports are made quarterly to the MSC Implementation Council which is chaired by the Prime Minister and the Deputy Prime Minister.

There are 2 distinct categories for the applications:

a) **Multimedia Development Flagship Application** – these are multimedia applications intended to transform core elements of Malaysia’s technology infrastructure and social system. The applications are seen to transform the education system, government machinery and medical practice as well as create a common platform for a multipurpose card to contain secured information about the holder and perform such functions as data processing, storage and file management. Four flagships fall under this category:

<table>
<thead>
<tr>
<th>Electronic Government</th>
<th>Paperless administration of Government network for efficiency in intergovernmental collaboration and citizen access to Government.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smart School</td>
<td>Paradigm shift in teaching from teacher</td>
</tr>
</tbody>
</table>

\(^2\) Knowledge workers have been defined by the Multimedia Development Corporation to be individuals with 5 years professional experience in the multimedia/IT industry, individuals with a degree in any discipline or a diploma in IT with 2 years similar experience or individuals with a masters degree or above in any discipline.
focussed to a student focussed information driven mode of learning.

<table>
<thead>
<tr>
<th>Multipurpose Card</th>
<th>A card to contain pertinent information about an individual e.g. ID, electronic signature, access to government, banking, driver’s licence etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telemedicine</td>
<td>Network of computers within the country and around the world for access to medical expert advice and medical databases.</td>
</tr>
</tbody>
</table>

b) **Multimedia Environment Flagship Application** – these are environmentally enabling applications designed to create the most conducive environment for MSC companies to build centres for R&D activities, market their services throughout the region and identify new and innovative uses for multimedia and IT. The three flagships under this category are:

<table>
<thead>
<tr>
<th>Borderless Marketing</th>
<th>Promotion of electronic commerce to facilitate shift from manufacturing economy to a service based economy</th>
</tr>
</thead>
<tbody>
<tr>
<td>R&amp;D clusters</td>
<td>Collaborative clusters of research centres to improve Malaysia’s national human resource development and competitiveness and promote technology transfer to the country</td>
</tr>
<tr>
<td>Worldwide Manufacturing</td>
<td>Remote manufacturing co-ordination and engineering support hub that enables companies in high cost countries to electronically access lower cost manufacturing facilities across Malaysia and Asia as a virtual extension of their domestic operations</td>
</tr>
</tbody>
</table>

In light of the test bed nature of the MSC, the Government had in July, 1997 launched the Concept Requests for Proposal (CRFP) for the development Flagship Applications. The CRFPs set the general aims and objectives of the projects and called for bidders to propose the best solutions within the general framework. This exercise was an effort to encourage innovative solutions through research and development. With it, the Government intended to transfer technology into the country and create the best uses for technology in society.

The implementation of the flagship by the private sector with the supervision of the relevant ministry / government agency operates as a smart partnership where government officials are exposed to the workings of the private sector, thus ensuring a transfer of technology and knowledge. A paradigm shift in the operations of the relevant government machinery will occur. The Flagship Applications create opportunity for companies to test applications within confined
and controlled situations. Where the applications are proven successful, it will be rolled out to the entire country. The Smart Schools for example are tested out on 90 schools in the country and where proven successful, the applications will be rolled out to the other schools. This is also true with the Electronic Government Flagship, which is tested out with the Prime Minister’s Department in the first phase.

The Environment Flagship Applications are applications that are intended to contribute to the shift of the Malaysian economy from a manufacturing based to an industrial productivity driven one. Concentrating on research and development and offering opportunities to companies willing to utilise the infrastructure within the MSC to create new business and build new industries, these applications set the framework for future development. The research and development clusters, for example, sees joint collaboration between foreign and local partners and operates as a base for the development of knowledge workers within the country. These Flagship Applications are nurtured with the appropriate support in terms of the legal framework with the enactment of the cyberlaws and in terms of financial support with the Multimedia Grant Scheme and other financial aid.

2. **Infrastructure**

The Malaysian Government’s plan for the multimedia industry is to provide the infrastructure necessary for the industry to flourish. Within the MSC, the Government has promised in the Bill of Guarantees, a world class physical and information infrastructure. This will include the new Kuala Lumpur International Airport and the high capacity global telecommunications and logistic infrastructure. The Bill of Guarantees also promises MSC companies the freedom to source capital globally for MSC infrastructure and offers globally competitive telecommunication tariffs. To encourage use of the Internet as a source of knowledge there shall be no censorship of the Internet within the MSC.

The soft infrastructure promised by the Malaysian Government to spur the industry is extensive. Within the MSC itself, the Government promises competitive financial incentives in terms of tax exemptions and capital allowances for multimedia and information technology investments. Above that the Government allows an unrestricted employment of knowledge workers into the MSC by easing immigration rules on foreign workers and local hiring policies. The Multimedia Development Corporation has also focussed programmes for start-up companies, one of which, the MSC Access, provides advice and hands on assistance to small and medium sized enterprises within the country by partnering them with foreign counterpart of similar businesses. The Government’s policy for the MSC is to preserve the environment within the MSC as a protected zone offering living conditions which are world class, human friendly and eco-friendly. The policy signature of the Malaysian Government’s commitment to the multimedia and information technology industry is the Multimedia Development
Corporation as a central advisory and client orientated organisation, which caters for the needs of these companies.

Much more is done nationwide for the industry. 3 Cyberlaws have been enacted. The Telemedicine Act 1997 for the practise of medicine through multimedia and information technologies, the Computer Crimes Act 1997 making acts that destroy data stored in computers criminal offences and the Digital Signature Act establishing certification authorities to verify encryption technologies used for the purposes if electronic commerce are Acts enacted by the Malaysian Parliament to cater for the development taking place in the industry. The Copyright Act has been amended to meet standards imposed by the World Intellectual Property Organisation protecting multimedia collation of works.

The Multimedia and Communications Act is also under debate in Parliament. In consideration of the integration that is taking place with the different segments of the multimedia value chain and the evolution of the industry to one where there is an abundance of resources, it has been recognised that the previous regime of licensing is no longer practical. The new Act will organise a licensing structure that caters for an integrated broadcasting and telecommunications industry. This Act, the first of its kind in the world is a recognition of the Malaysian Government of the current trends of the industry and is reflective if its intention to prepare the most conducive environment for the converged industry. The Act envisages the establishment of a new Multimedia Ministry that will be responsible for the licensing of the new services offered by the converged industry.

3. **Human Resource Development Initiative**

Malaysia’s policy has been to increase the human resource pool with a focus on multimedia and information technology education. The country has had a traditional focus on art-related subjects and lacked broad information technology and media based teachings. One of the factors that contributed to this was the lack of multimedia and information technology experts as well as R&D activities. Just within the MSC, there is an expected skilled labour shortage of 1,800-2,000 by the year 2000.

The Malaysian Government has started addressing the problem by setting up the Multimedia University within the MSC to provide multimedia and information technology education with R&D activities. The University is corporatised and is owned privately. Much of the curriculum is focussed on computer system engineering, system analysis and design, multimedia and software content development and management. The University begins operation in the last quarter of 1998.

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The Multimedia Development Corporation has its own initiatives in this respect. Private Institutions of Higher Learning which offer courses that relate to multimedia, information technologies and engineering may apply for MSC status qualifying them for the incentives under the Bill of Guarantees\(^4\). These institutions will be bench marked against world class institutions in terms of facilities, courses offered and student to teacher ratio. The Multimedia Development Corporation has also launched a series of conferences with the theme “A Call of Excellence in Institutions of Higher Education” to create awareness amongst institutions of higher learning of the standard of education that needs to be achieved. The Multimedia Development Corporation has also set up the Higher Education Client Service Unit (HECSU) to assess MSC status applications from institutions of higher learning and assist these institutions in becoming world class by appropriate benchmarking procedures.

The Multimedia Development Corporation has also launched the Knowledge Worker Exchange (KwX), a subsidiary consulting company on human resource search and selection. This caters for the needs of local companies in need of specialised manpower. The company head hunts talents and procures candidates for these companies through an online database.

4. **Conclusion**

The MSC has captured the imagination and excited the multimedia and communications sector. The MSC has attracted world class companies and to date (21 September, 1998), there are 164 companies that have obtained MSC status. The currency downtown has to an extent put toil on the development of the MSC. The Smart School Project for example, will remain with the pilot 90 schools and its roll out to other Malaysian schools is postponed indefinitely. However, the currency control mechanisms issued by the Central Bank of Malaysia have not affected MSC companies. MSC companies have been given complete exemption from the exchange control rules. Given the positive response so far from the industry on the MSC, it is likely that the project will progress satisfactorily though not in the pace it started out with. It is foreseeable that the project will materialise as a reality of the Prime Minister’s dream. Since its launch in the last quarter of 1996, the vision has been concretising. The only question to dwell on is whether the MSC can withstand the competition from Singapore One. Perhaps the answer in this regard is not to regard the other as a competitor but to synergise efforts and collaborate on the joint development of both.

\(^4\) The courses recognised are degree courses and 2-year diploma courses. The qualification for the incentives under the Bill of Guarantees is dependent on the location of the institution. Unlike MSC status granted to companies, the grant of MSC status to these institutions do not require them to relocate their activities in Cyberjaya.