

## **CHAPTER III**

### **TELECOMMUNICATIONS INDUSTRY IN MALAYSIA**

A hi-tech landmark had risen above the Kuala Lumpur landscape. The telecommunication tower in the heart of the City changed the skyline and reflected the ever changing world of telecommunications. Not too many years ago, each country in the world had a single operator and a single public switched telephone network. Today, there are more than one type of services. Public Switched Data Network, an Integrated Services Digital Network, Cellular Networks, a Synchronous Optical Fiber Network, Intelligent Networks, a Satellite Network, Global Network and Personal Communications Network are some of the current services available today. These represent not only new products and new systems, but are really entirely new approaches and concepts. Technological advanced and consumers demand have paved the way to a more competitive market. The demand and cost characteristics of telecommunication markets have been radically altered by technology and consumer demand. Today, the concept of a natural monopoly was no longer relevant. Competition was expected to move prices closer to costs and stimulate usage of the network. Licenses were already in place to transform the Malaysia telecommunications environment from a single player to a multi players' scenario, from a single public switched telephone network to many new networks. All these networks offer opportunities to provide better quality service to the users. The world seems to be getting smaller each year and people were moving farther and faster. They way people doing businesses were changing. The flow of foreign investment into the Kuala Lumpur Stock Exchange (KLSE) offers the greatest impact. Foreign funds' managers wanted to be able

to communicate differently from their telephones. New telecommunications networks are frequently required to accommodate these changes.

In realizing the above facts, the Government begins its effort to accelerate the country's economic growth and to improve the efficiency of the public utilities. It begins to embark on the privatization policy in the early 1980s. On January 1, 1987, the nation's telecommunication services were privatized. A company named Syarikat Telekom Malaysia (named as Telekom Malaysia Berhad after being public listed), was formed to undertake the operational functions of providing, operating and maintaining telecommunications services. Jabatan Telekom Malaysia (JTM) continues the functions of managing the radio spectrum, licensing, standards setting and equipment type approval. In addition, JTM was assigned the role of a regulatory body, empowered to regulate the nation's telecommunications sector as stated in the Telecommunications Act 1950, revised in 1985 (Jabatan Telekom Malaysia 1993). A new era of the nation's telecommunication sector was formed. The operational functions and the regulatory functions are now separated and undertaken by different bodies.

### **Telecommunications Regulatory Body**

Jabatan Telekom Malaysia is committed to be an efficient regulatory body and telecommunication authority in implementing its regulatory activities. In addition, it is committed to ensure the success of the government's objectives in developing the telecommunication industry efficiently by way of facilitating and fulfilling the policies of privatization, liberalization, corporatization, and other related policies.

## **Regulatory Tasks**

The regulation tasks of Jabatan Telekom Malaysia are not limited to the new networks but to modify the old networks when appropriate. It can add the new networks when required and to carefully interconnect between the old and new. Some of the major regulatory policies are to ensure that (i) all telecommunication providers must be licensed under the Telecommunications Act 1950, (ii) regulations are made by the Minister for governing the running of all telecommunications services, (iii) all telephone rates for basic services are regulated, (iv) other rules governing the running of telecommunication services are embodied in the respective licences, and (v) the mandatory for all networks to be interconnected rule is observed (Jabatan Telekom Malaysia 1993).

The regulation of a monopoly was obviously a much simpler affair than the regulation of a multi-player environment. Given the complexities of a multi-player environment, JTM will have to ensure not only in terms of coordination, investment and the introduction of new technologies but a harmonious approach to a well developed and efficient telecommunications network in Malaysia.

## **Licensing Roles**

The Telecommunications Act, 1950 and the Radio Communications Regulations, 1957, are the legal instruments that provide JTM the exclusive power to licence any telecommunication station, apparatus, and telecommunication network (Jabatan Telekom Malaysia 1993). In 1993, several licences for public telecommunication network and services have been issued by the Minister of Energy, Telecommunication and Post to telecommunication operators in the country. International Operator licences have been issued to Binariang Sendirian Berhad (Binariang), Cellular Communications Network Sendirian Berhad (Celcom) and Mobikom Sendirian Berhad (Mobikom). These licences

allowed the companies to provide international telecommunication network and services in the country. In the year 1994, more licences were issued to other private telecommunications operators to provide local and international network and services (Jabatan Telekom Malaysia 1993).

Three cellular telecommunications systems licences have been issued in the year 1993 to three operators namely, Binariang Sendirian Berhad, Mobikom Sendirian Berhad and Electronics and Telematique Sendirian Berhad (ETSB). The other three licences issued in 1994 were to Malaysian Resources Corporation Berhad (MRCB), Puncu Mutiara Sendirian Berhad (PMSB), and Syarikat Telefon Wireless (M) Sendirian Berhad (STW). These licenses were valid for 20 year duration and will enable them to compete with existing operators. It will also provide customers with a choice of systems and will ensure efficient services of the highest quality (Jabatan Telekom Malaysia 1993). BINARIANG was also issued with a domestic telecommunications operator licence and a licence for the satellite, Malaysia East Asia Satellite Network (MEASAT). In the same year, JTM had implemented a new licensing system called System Licensing.

System licensing is a method essentially which involved a practice whereby individual mobile licenses will not be issued, but instead, radio base station licenses would also carry the necessary authorization for the mobile stations. Under this procedure, the base station authority was extended to cover the mobiles. However, the mobiles are not necessarily owned or operated by the licensee of the base stations. The types of licences that are subjected to "System Licensing" were (i) ATUR, (ii) Paging, (iii) Cordless Telephone (CT2), (iv) Trunk Radio System, and (v) Radio Leased Channel (Jabatan Telekom Malaysia 1993). The TABLE 3.1 below showed the types and numbers of radio communication licences has been issued in 1993.

TABLE 3.1  
RADIO COMMUNICATION LICENCES AS AT DECEMBER 31, 1993.

Types of Licence	Number of Licences
ATUR 450	89,028
ART 900	251,046
Pager	109,000
CT2	6,902
Amateur Radio	445
Aircraft Station	252
Ship Station	1,380
Experimental	109
Press Receiving	85

Source: Jabatan Telekom Malaysia 1993 Annual Report p 29.

The number of radio communication licences that has been issued by Jabatan Telekom Malaysia as at December 31, 1993, was considered high. The highest number was the ART 900 with 251,046 licences.

### Malaysia's Telecommunications Growth

Malaysia's privatization and liberalization of telecommunications industry were against the norms practiced in developed countries. The emergence of many private telecommunications operators was found almost unacceptable to some of the most developed countries (Rodhiah Ismail 1995). Malaysia's telecommunications industry was against the trend in countries like the UK, the US, Germany and France. The general rule

of thumb was that the number of cellular telephone subscribers would account for 10 to 20 per cent of the land-line phone subscriber-base. Therefore, it would not be impossible for Malaysia to have a high percentage of cellular service subscribers. As of the year 1993, the percentage of cellular telephone subscribers to the total fixed telephone subscribers were 14.11% ( Table I ). It is currently estimated that cellular telephone service in Malaysia accounts would be slightly over 20 per cent of total fixed phone subscription (Rodhiah Ismail 1995). Three systems were already operational and competing with each other, namely, the ATUR 450 by TMB, the ART 900 by Celcom and AMPS 800 by Mobikom. Two systems have been licensed, GSM and PCN, which is expected to be operational in June 1995 and in 1996 respectively (Jabatan Telekom Malaysia 1993). The number of subscribers has been increasing tremendously. From 1988 to 1993, the ART 450 subscribers have increased from 27,307 to 89,028. The ART 900 too recorded a tremendous increase. From 1989 to 1993, its subscribers have increased from 6,626 to 251,046. Table I at the appendix charted the growth of cellular mobile telephone in Malaysia. The main thrust will be on value added services and especially information services. In 1995 there are likely to have many more new telecommunication services.

Malaysia telephone density rate per 100 population was 7 per cent in 1988 and has continued to increase. Its telephone density rate (per 100 people) has reached 14 per cent in 1994, compared with 13 per cent in 1993. Table I at the appendix has the details of the growth. The 1993's statistics compiled by the Energy, Telecommunications and Post Ministry, has ranked third Malaysia in Asean. Singapore whose rate was 39.9 per cent is ranked first. And Brunei, which had 14.3 telephone per 100 people is ranked second. Malaysia was followed by Thailand with 2.7 per cent, the Philippines with 1.0 per cent and Indonesia with 0.7 per cent (Rodhiah Ismail 1995). The comparison is shown in TABLE 3.2 below

TABLE 3.2  
ASEAN MAIN TELEPHONE LINES PER 100 POPULATION (1993)

Countries	Percentage	Ranking in Asia-Pacific
Singapore	39.9%	5th
Brunei	14.3%	11th
Malaysia	13.1%	12th
Thailand	2.7%	19th
Philippines	1.0%	25th
Indonesia	0.7%	31st

Source: Energy, Telecommunications and Posts Ministry (Adapted)

According to a report by the International Telecommunications Union, Malaysia is expected to have a telephone density of 29.11 per cent by the year 2000. As envisaged under its plan to become industrialized nation by year 2020, Malaysia has targeted to achieve a telephone density rate of 55 per cent by that year and 45 per cent by the year 2005 (Rodhiah Ismail 1995).

### Major Telecommunications Companies

The privatization policy and liberalization of the telecommunications have encouraged many private telecommunications operators to emerge. On January 1, 1987, Syarikat Telekom Malaysia was privatized. Two years later, it was public-listed and named as Telekom Malaysia Berhad (TMB). Telekom Malaysia Berhad was created to undertake the operational functions of providing, operating and maintaining

telecommunications services. It now has to compete in the cellular, payphones and data transmission's markets. (Telekom Malaysia Berhad 1993a).

On January 7, 1988, Cellular Communications Network Sdn Bhd (CELCOM) was incorporated and commenced business in the rapidly developing telecommunications industry on August 21, 1989. Later, CELCOM has incorporated two wholly owned subsidiaries, namely Celcom Transmission (M) Sendirian Berhad on March 30, 1990, and Celcom Technology (M) Sendirian Berhad on May 21, 1992. (Celcom IRM 1994). Celcom Transmission (M) Sendirian Berhad was set up to establish and operate a nationwide digital microwave transmission network for CELCOM. It offers a state-of-art public transmission network that is capable of transmitting information in the form of data, voice, image and video, and any combination of these. On the other hand, Celcom Technology (M) Sendirian Berhad is focused on Voice Responses Services which comprises of Voice Messaging, Voice Information and Interactive Voice Response services.

In 1992, Binariang Sendirian Berhad was incorporated. It is to develop an integrated digital wired and wireless telecommunication network and to be the nation's fourth mobile cellular telephone service company. In the same year, Electronic and Telematique (M) Sendirian Berhad, subsidiary of Sapura Holdings Sendirian Berhad, was incorporated to offer personal communications network services. Sapura Holdings Sendirian Berhad was incorporated in 1975 to meet the growing needs of the telecommunications industry and its related business in Malaysia (Sapura Company Profile 1991). In later years, it began to own two public listed companies involved in almost every aspect of telecommunications. They were Uniphone Telecommunications Berhad (UTB) and Sapura Telecommunications Berhad (STB).

On July 1, 1993, Mobikom (M) Sdn Bhd (MOBIKOM) was incorporated by a consortium, comprising of Edaran Otomobil Nasional Berhad, Permodalan Nasional Berhad, Telekom Malaysia Berhad, and Sapura Holdings Sendirian Berhad. Their ratios of

share is 30:30:30:10 respectively. MOBIKOM has a paid-up capital of RM 87 million. It was formed primarily to operate in Malaysia's third cellular mobile telecommunications service that was based on the North American 800 MHz digital Advanced Mobile Phone System (AMPS) standard. Its service was on a dual-mode basis: analog and digital (Lashvinder Kaur 1995). Subsequently, Time Telecommunications Sendirian Berhad (TIME) has been awarded a telecommunication licence to handle international voice, image, video and data traffic. Syarikat Telefon Wireless (M) Sendirian Berhad (STW) has been awarded a licence to operate the fixed wireless local loop (WLL) service nationwide. The licence was to offer services to the rural areas using WLL technology. The company was now operating a cellular-based communications service in Langkawi, Kedah. The licence given in the month of November 1994 and is extended to service nationwide (B.K. Sidhu 1994). Malaysian Resources Corporation Berhad (MRCB) and Puncu Mutiara Sendirian Berhad entered into the telecommunications industry. These companies were awarded telecommunications licences to operate domestically and internationally. Their products and services are similar as telecommunication services but are different in types of products and different frequency or band width.

The major telecommunications companies incorporated in Malaysia are summarized in Table 3.3 below.

share is 30:30:30:10 respectively. MOBIKOM has a paid-up capital of RM 87 million. It was formed primarily to operate in Malaysia's third cellular mobile telecommunications service that was based on the North American 800 MHz digital Advanced Mobile Phone System (AMPS) standard. Its service was on a dual-mode basis: analog and digital (Lashvinder Kaur 1995). Subsequently, Time Telecommunications Sendirian Berhad (TIME) has been awarded a telecommunication licence to handle international voice, image, video and data traffic. Syarikat Telefon Wireless (M) Sendirian Berhad (STW) has been awarded a licence to operate the fixed wireless local loop (WLL) service nationwide. The licence was to offer services to the rural areas using WLL technology. The company was now operating a cellular-based communications service in Langkawi, Kedah. The licence given in the month of November 1994 and is extended to service nationwide (B.K. Sidhu 1994). Malaysian Resources Corporation Berhad (MRCB) and Puncu Mutiara Sendirian Berhad entered into the telecommunications industry. These companies were awarded telecommunications licences to operate domestically and internationally. Their products and services are similar as telecommunication services but are different in types of products and different frequency or band width.

The major telecommunications companies incorporated in Malaysia are summarized in Table 3.3 below.

TABLE 3.3  
MAJOR TELECOMMUNICATIONS COMPANIES IN MALAYSIA  
(Year of Incorporation)

Major Telecommunications Companies	Year
Telekom Malaysia Berhad	1987
Cellular Network Communications Sendirian Berhad	1988
Celcom Transmission (M) Sendirian Berhad	1992
Celcom Technology (M) Sendirian Berhad	1992
Binariang (M) Sendirian Berhad	1992
Sapura Holdings Sendirian Berhad	1975
Electronic & Telematique (M) Sendirian Berhad	1992
Uniphone Telecommunications Berhad	1980s
Sapura Telecommunications Berhad	1991
Mobikom (M) Sendirian Berhad	1993
Time Telecommunications Sendirian Berhad	1993
Syarikat Telefon Wireless (M) Sendirian Berhad	1992
MRCB (Telecommunications - Subsidiary)	1990s
Punca Mutiara Sendirian Berhad	1990s

The major companies that have telecommunications licences were Telekom Malaysia Berhad (TMB), Sapura Holdings Sendirian Berhad (SHSB), Electronics & Telematique Sendirian Berhad (ETSB), Cellular Network Communications Sendirian Berhad (CELCOM), Mobikom Sendirian Berhad (MOBIKOM), Binariang Sendirian Berhad (BINARIANG), Time Telecommunications Sendirian Berhad (TIME), Punca Mutiara Sendirian Berhad (PMSB), Malaysian Resources Corporations Berhad (MRCB),

TABLE 3.3  
MAJOR TELECOMMUNICATIONS COMPANIES IN MALAYSIA  
(Year of Incorporation)

Major Telecommunications Companies	Year
Telekom Malaysia Berhad	1987
Cellular Network Communications Sendirian Berhad	1988
Celcom Transmission (M) Sendirian Berhad	1992
Celcom Technology (M) Sendirian Berhad	1992
Binariang (M) Sendirian Berhad	1992
Sapura Holdings Sendirian Berhad	1975
Electronic & Telematique (M) Sendirian Berhad	1992
Uniphone Telecommunications Berhad	1980s
Sapura Telecommunications Berhad	1991
Mobikom (M) Sendirian Berhad	1993
Time Telecommunications Sendirian Berhad	1993
Syarikat Telefon Wireless (M) Sendirian Berhad	1992
MRCB (Telecommunications - Subsidiary)	1990s
Punca Mutiara Sendirian Berhad	1990s

The major companies that have telecommunications licences were Telekom Malaysia Berhad (TMB), Sapura Holdings Sendirian Berhad (SHSB), Electronics & Telematique Sendirian Berhad (ETSB), Cellular Network Communications Sendirian Berhad (CELCOM), Mobikom Sendirian Berhad (MOBIKOM), Binariang Sendirian Berhad (BINARIANG), Time Telecommunications Sendirian Berhad (TIME), Punca Mutiara Sendirian Berhad (PMSB), Malaysian Resources Corporations Berhad (MRCB),

and Syarikat Telefon Wireless (M) Sdn Bhd (STW). These companies were issued similar and different licences. The licences are categorized into networks' operators as shown in TABLE 3.4, and mobile telecommunications operators were summarized in TABLE 3.5 below (Jabatan Telekom Malaysia 1993).

The existence of multi players is the introduction of competition in all segments of the telecommunications industry. It is aimed to promote strong competition in the mobile telecommunication services, value-added services and international services in Malaysia (Jabatan Telekom Malaysia 1993). The private telecommunications companies are expected to be aggressive and competitive in the areas of the products, quality services, the coverage areas, and promotion activities except the price that is regulated by JTM. Further, they are required to be inter working and interconnected (Jabatan Telekom Malaysia 1993).

TABLE 3.4  
TELECOMMUNICATIONS NETWORKS OPERATORS AND SERVICES

Companies	Licence Status	Scope of Services
TMB	Nationwide and International	Telephony (fixed), Cellular, Telex, Facsimile, Payphones (rural), Packet and Circuit, Switched Data, ISDN, Broadcast Transmission, etc.
BINARIANG	Nationwide and International	Telephony (fixed), Cellular, Telex, Facsimile, Packet and Circuit, Switched Data, ISDN, Broadcast Transmission, Video Broadcasting, Satellite, etc.
TIME	Peninsular Malaysia	Switched and unswitched voice data and video via fiber optics network along highways, designated roads and coastal areas throughout Peninsular Malaysia.
CELCOM	International	Telephony, Cellular, Packet Switched Data, ISDN, etc.
STW	Pulau Langkawi Nationwide	Fixed Wireless Telephony Services using cellular technology as an experimental project in Pulau Langkawi.

Source: Jabatan Telekom Malaysia 1993 Annual Report p 33

TABLE 3.4

## TELECOMMUNICATIONS NETWORKS OPERATORS AND SERVICES

Companies	Licence Status	Scope of Services
TMB	Nationwide and International	Telephony (fixed), Cellular, Telex, Facsimile, Payphones (rural), Packet and Circuit, Switched Data, ISDN, Broadcast Transmission, etc.
BINARIANG	Nationwide and International	Telephony (fixed), Cellular, Telex, Facsimile, Packet and Circuit, Switched Data, ISDN, Broadcast Transmission, Video Broadcasting, Satellite, etc.
TIME	Peninsular Malaysia	Switched and unswitched voice data and video via fiber optics network along highways, designated roads and coastal areas throughout Peninsular Malaysia.
CELCOM	International	Telephony, Cellular, Packet Switched Data, ISDN, etc.
STW	Pulau Langkawi Nationwide	Fixed Wireless Telephony Services using cellular technology as an experimental project in Pulau Langkawi.

Source: Jabatan Telekom Malaysia 1993 Annual Report p 33

TABLE 3.5  
MOBILE TELECOMMUNICATIONS OPERATORS AND SERVICES

Companies	Licence Status	Scope of Services
TMB	Nationwide	Analog Cellular Service ATUR 450 using NMT 450 MHz system.
CELCOM	Nationwide	Analog Cellular Service ART 900 using ETAC 900 MHz system.
MOBIKOM	Nationwide	Analog and Digital Cellular Service Mobifon 800 using AMPS 800 MHz system.
BINARIANG	Nationwide	Digital Cellular Service using GSM 900 MHz system.
ETSB	Nationwide	Digital Cellular and Personal Communication Service.
MRCB	Nationwide	Digital Cellular and Personal Communication Service.
PMSB	Nationwide	Digital Cellular and Personal Communication Service.

Source: Jabatan Telekom Malaysia 1993 Annual Report p 36