

## **Strategic Posturing of Malaysian Mobile Phone Service Providers**

**Mohd Fuaad Said<sup>1\*</sup>, Khairul Akmaliah Adham<sup>2</sup> and Farzana Quoquab<sup>2</sup>**

<sup>1</sup>*Faculty of Economics and Management, Universiti Putra Malaysia, 43400 Serdang, Selangor, Malaysia*

<sup>2</sup>*UKM-Graduate School of Business, Universiti Kebangsaan Malaysia, 43650 Bangi, Selangor, Malaysia*

### **ABSTRACT**

The Malaysian mobile phone service started with only one service provider in the 1980s, which then increased to seven by mid 1990s due to government liberalization policies. Nonetheless, this number decreased to three in 2004, and this marked the beginning of an intense competition within the industry. Utilizing the case study and content analysis methodologies, we gathered data from the public domain and developed a case that describes strategic actions taken by members within the industry. Based on Miles and Snow's business strategy typology, we analyzed the case data by answering the questions of "How do the industry players compete?" and "What factors are important in shaping their strategies?" The research objective is to provide a conceptualization of strategic posturing by Malaysian mobile phone service providers. Our analysis show that the initial strategic moves of these companies are predominantly *prospecting*, and, later, *analyzing*, when the market reaches subscription saturation, and competition begins to intensify. Industry latecomers either arise as challengers or adopt a niche strategy as their strategic option. The adaptive actions of these companies are greatly influenced by institutional elements of the government's policies, market situation, and rivals' actions and responses. These actions are mainly tied to resources and capabilities of their large internationalized parent companies. Taken altogether, the perspective of adaptation, as well as the theories of organizational ecology and institutionalization, provides important theoretical grounds in explaining strategic posturing and factors that influence it.

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#### *E-mail addresses:*

fuaad@upm.edu.my (Mohd Fuaad Said),

ka@ukm.my (Khairul Akmaliah Adham),

fqbhabib@yahoo.com (Farzana Quoquab)

\* Corresponding author

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## INTRODUCTION

The Malaysian telecommunications industry, which includes both fixed and mobile service providers, has experienced a very rapid growth, particularly in the last decade. The industry, which since early 1990s, has been designated as a strategic medium to transform Malaysia into a developed country (Zita, 2004) is now one of the central structures of the country (Ahsanul *et al.*, 2007). The industry's combined revenues rapidly increased from 17.4 billion ringgit in the year 2000 to 44.4 billion ringgit in the year 2008 (MCMC, 2010). However, beginning in late 2010, the industry players have increasingly faced various serious challenges such as the imminent fiercer competition in both mobile phone and broadband markets; threats of impending market saturation; spiralling infrastructure and technology costs; and, possibly, higher bargaining power of the suppliers. Thus, there is a need for them to develop a strategic posturing-defined as the act of strategizing to achieve competitive advantages to ensure business survivability and sustainability (Covin & Slevin, 1989). Given their competitive situation, examining these companies' strategic posturing could have important theoretical, policy and managerial implications.

The adaptation theory suggests that an organization's success depends on its ability to 'adapt' itself to changes within its environment. Therefore, adaptation requires capabilities and resources that enable an organization to exploit opportunities and reduce risks in its environment. The

organization also needs to continuously evaluate its internal and external elements, alters its internal structure and processes, or influences changes to its relevant environmental elements so that a viable match exists between its internal capabilities and resources with the external opportunities and risks (Chaffee, 1985; Miles *et al.*, 1978).

One of the important strategy conceptualizations, which was developed based on the adaptation theory, is Miles and Snow's (1978) business strategy typology. It describes an organization's strategic need to fit its own capabilities and resources with opportunities and threats which exist in its environment, reflecting the adaptation theory that underlies its conceptualization (Chaffee, 1985).

We utilized this business strategy typology as our theoretical lense to achieve the research objective, which is to provide a conceptualization of strategic posturing by Malaysian mobile phone service providers. The research questions that we addressed are: "*How do the industry players compete?*" and "*What factors are important in shaping their strategies?*"

The organization for the rest of the paper is as follows: First, in brief, we discuss Miles and Snow's business strategy typology. Then, we describe the research methodology utilized in this study. Next, we analyze the strategies adopted by the mobile phone service providers against our conceptual framework and broader theories of organizational strategies. This analysis is based on the information gathered from the public domain, and is presented in a form of

an industry development case in Appendix A. Lastly, we present the conclusions and implications for future research and practice.

### **MILES & SNOW BUSINESS STRATEGY TYPOLOGY**

The adaptation theory proposes the importance of a firm's ability in adapting to its environment. In this sense, organizational capabilities and resources are required to exploit environmental opportunities and overcome external threats (Chaffee, 1985; Miles *et al.*, 1978). Based on this theory, Miles and Snow's (1978) business strategy typology assumes that organizations make a number of choices in their efforts to manage their environment, including deciding on the markets that they want to be in, the products/services that they want to offer, the technologies that they want to adopt, as well as the types of operations that they want to implement (Parnell & Wright, 1993). In this regard, these strategic moves are taken based on evaluations of the environmental elements and the matching of them with the internal contexts of the organizations (McDaniel & Kolari, 1987).

This typology recommends four strategies, which are *prospecting*, *defending*, *analyzing*, and *reacting*, that can be utilized by an organization to compete against other industry rivals (Griffin, 2011; Williams, 2005). These are summarized in Table 1.

### **RESEARCH METHODOLOGY**

This study utilized a combination of explanatory case study methodology and content analysis methodology.

An explanatory case study design is a methodological procedure that begins with the study proposing a conceptual framework, as well as defining the types of questions and data that are appropriate for analysis. The conceptual framework guides the explanation of the empirical data, and in turn, these data in combination with the theoretical explanation provide the basis for generating the study's findings. These findings are later corroborated with broader theories to generate a conceptualization that has a high theoretical generalizability (Eisenhardt, 1989; Eisenhardt & Graebner, 2007; Yin, 2009).

Based on Miles and Snow's framework and the combined methodological approaches, data on the mobile phone industry were gathered and then developed into a chronological time-based case. In this way, the development of the industry could be traced from its beginning to the present time (finalized data collection date was 31 December 2010). The primary data utilized were information gathered from sources published in the public domain. The content analysis methodology, with its ability to handle numerous volumes of textual data, was utilized to analyze and organize the data into a case (Doriau, Reger, & Pfarrer, 2007; Krippendorff, 2004; Stemler, 2001; Mohd Fuaad & Khairul Akmaliah, 2010). The data cited are indicated in the text and in the list of reference section.

The case was finally interpreted based on Miles and Snow's typology and, if unfitting, other relevant strategy theories. The above procedures enabled the

TABLE 1  
Strategies under Miles & Snow business strategy typology

Strategy	Characteristics
<b>Prospector</b>	<ul style="list-style-type: none"> <li>- Continually explores and searches for new market opportunities, and generally acts as an agent of change in the industry, and thus, is a first mover in the industry (McDaniel &amp; Kolari, 1987; Miles &amp; Snow, 1978);</li> <li>- Pushes for innovation and creativity in its operation, is always searching for new customers and opportunities, aims for business growth, thus is generally involved in higher risk activities;</li> <li>- Emphasizes the need for a firm to be the first to introduce innovative products to customers, and tries to seize the opportunities in identifying the present and future needs of its customers (Miles et al., 1978).</li> </ul>
<b>Defender</b>	<ul style="list-style-type: none"> <li>- Focuses on securing and safeguarding a product or a market niche (Griffin &amp; Page, 1996).</li> <li>- Unlike prospectors, usually do not extensively search for opportunities outside its focused niche (McDaniel &amp; Kolari, 1987);</li> <li>- Concentrates on dealing in a small number of narrow product/service domains, serving current and well-defined customers, protecting its current market share, and maintaining a steady growth (Miles et al., 1978);</li> <li>- Vigorously protects its current market position and tries to maintain its hold on customers in a certain market niche;</li> <li>- Usually involves operating at low costs and improving the quality of its existing products/services (Griffin &amp; Page, 1996).</li> </ul>
<b>Analyzer</b>	<ul style="list-style-type: none"> <li>- Combines 'prospecting' and 'defending' strategies, in which it attempts to take full advantage of opportunities aimed at profitability and growth (prospecting), while also trying to minimize its business risks (defending) (Beekun &amp; Ginn, 1993; Miles et al., 1978);</li> <li>- Strives to maintain its existing market position, while at the same time attempts to be innovative in the industry;</li> <li>- Closely monitors the actions of its main competitors or prospectors and quickly imitates them; Acts as an imitator rather than an innovator (Griffin &amp; Page, 1996);</li> </ul>
<b>Reactor</b>	<ul style="list-style-type: none"> <li>- Has lack of consistent approach to strategizing (Griffin &amp; Page, 1996; Miles et al., 1978).</li> <li>- Usually responds to pressures in its environment only when there is a strong force to do so; Compared to its competitors, is more passive toward the events in its environment and in maintaining its market share;</li> <li>- Is aware of its environment, but generally tends to respond to events after they have occurred (Griffin &amp; Page, 1996; McDaniel &amp; Kolari, 1987).</li> </ul>

conceptualizing of strategic postures within the environment in which they occurred, and the identification of factors that influenced them, while simultaneously achieving theoretical generalizability.

The Malaysian telecommunications industry comprises sectors of telephone and internet services. The telephone sector can be generally categorized into fixed and mobile service subsectors. In this study, our analysis focused exclusively on the mobile phone service subsector. This industry segment has two groups of customer base, which are retail and corporate. It is important to note that this study concentrated primarily on the development of the industry/strategic posturing of the mobile phone service companies in relation to their retail markets.

#### **CLASSIFICATION OF STRATEGIC MOVES OF INDUSTRY PLAYERS AND THEIR INFLUENTIAL FACTORS**

Telecommunication services comprise of a range of services, including fixed telephone line, mobile phone service, as well as fixed and mobile broadband offerings. The development of the mobile phone service industry in Malaysia is marked by a number of milestones (Refer to Appendix A), and the trajectory of which is very much influenced by government policies (particularly in regard to the issuance of licenses to operate), the market needs, the capabilities and resources that the competitors have in hand, and their actions and responses to others. During the first 10 years (i.e. from 1984 to 1995), the industry was monopolized by two players; the fixed line by TM and the mobile

service by Celcom. Subsequently, through the government's liberalization policy, the industry was opened up to other players, resulting in seven telecommunications players. However, financial crises and government's intervention resulted in the number of mobile phone service providers being reduced to three in 2004, which comprised of Celcom, Maxis and DiGi. In 2008, U-Mobile joined these three players, and this increased the number of players in the industry to four. By then, there were also four players in the fixed line business, but the sector remained monopolized by TM.

Utilizing Miles and Snow's strategic typology as our framework, we present an analysis of the actions of mobile phone providers according to the types of strategy they have implemented.

***Prospector:*** In this study, we define prospecting strategy as an act of continuously innovating to capitalize on new opportunities with the aim of achieving firm profitability and growth. Maxis, Celcom and DiGi can be classified as *prospectors*. Celcom is a prospector since it was the first service provider to launch the GSM mobile phone service in the country in 1988, and along with Maxis, to offer 3G service in 2005, and introduce 3G broadband in 2006. Both Celcom and Maxis were the first to offer BlackBerry smartphone service packages in 2006. Maxis can also be classified as a *prospector* because of its utilization of satellite technologies (the first to have such utility), which was made available by its sister company, and it has generally been the most innovative company in investing

and improving its infrastructure. In 2009, Maxis became the first provider to offer its postpaid customers mobile phone services on board of certain flights, and was the first to bring iPhone services into the Malaysian market. In the same year, Maxis was also the first to offer its customers integrated mobile payment services.

In addition, DiGi can be considered as a *prospector* for its reputation as an innovator within the industry, and was voted the most innovative company in Malaysia for three consecutive years. It was this innovativeness that contributed to the company's success in achieving the 25.5% subscriber market share in the year 2008 compared to 19.8% in 2003. The increase in the DiGi's market share was at the expense of Maxis (about 1%) and Celcom (about 6%) (MCMC, 2009b). DiGi was the pioneer in implementing a full digital network service in 1995, launching prepaid services in 1998, and utilizing ePay's digital reload service in 1999. DiGi was also the first to utilize market segmentation strategy. These actions were quickly imitated by its rivals, Celcom and Maxis.

The accumulative innovative efforts by these players contributed to their companies' profits and overall industry growth. DiGi's account showed losses from 2003 to 2005; so did Celcom in 2005, but all the three companies were profitable in 2006, 2007, and 2008. The combined revenue of Celcom, Maxis and DiGi was about RM10 billion in 2003. This figure increased to RM18.42 billion in 2007, reflecting an average market growth revenue of about RM1.65 billion

annually (or 17%) from 2003 to 2007. By the end of 2009, the mobile telecommunications industry's revenue was RM26 billion, with RM335 million contributed by the mobile broadband businesses (DiGi.Com Berhad, 2003; 2004; 2005; 2007; MCMC, 2004; 2007b; 2007d; 2009b).

In more specific, Celcom can be classified as a *service prospector* mainly because it was the first telco to be awarded with the GSM license in Malaysia. It was also one of the first two licensees (along with Maxis) to introduce 3G broadband services. The introduction of Celcom's 3G service was facilitated by TM, its parent company, which at the time, was the monopoly wholesaler for telecommunications infrastructure technologies. The introduction of its Blackberry product was also facilitated by its parent company's collaborative networks with Vodafone. On the other hand, Maxis, which has also benefited from collaborative networks for its Blackberry offerings, is an *infrastructure prospector* because of its huge investment and main strengths in infrastructure installation and operation. This is possible since Maxis is a part of a resource-rich international conglomerate. Meanwhile, DiGi is a *mixed prospector* in that it is the top Malaysian service provider of prepaid service and the inventor of many segmented service packages. In strategizing its growth, DiGi has gained advantage in having Telenor as its parent company and also sister companies which had already implemented 3G and other relevant technologies in other countries. Many of DiGi's top management team members, who

have previously been trained at its parent company, also lend their experiences in developing some of the strategies executed by DiGi in its operations.

In summary, the mobile phone companies are able to utilize prospecting strategies mainly because they have the resources and capabilities, including the access to the resources and capabilities of their parent companies. Specifically, these parent companies' huge financial resources and capabilities, which are earned in large part through internationalization, serve as an important foundation in lending appropriate resources to their subsidiaries. These resources include the availability of technology and capabilities to forecast technological development and change, and to create and sustain collaborative networks which are important elements for new technological service introduction and firm growth.

***Defender:*** In this study, we define defending strategy as acts of protecting the current market share and operating in a market niche. Up to 2008, the industry players were generally prospectors and analyzers rather than defenders. This is mainly because the three main players were targeting broad market rather than niche market. Also, until 2007, the need to protect their market share was not a major issue as the market was large enough for all three players. While DiGi was building its market share from 2003 to 2008, there were still many Malaysians without mobile phones. The penetration rates of mobile phones usage were 43.91% in 2003, 56.68% in 2004, 74.63% in 2005, 73.2% in 2006, 85.1% in 2007, and 98.9% in 2008. This changed in

2008 when the market reached subscription saturation, and the three companies were threatened by the entry of a new company, U Mobile, and the imminent introduction of the Mobile Number Portability. By the first quarter of 2009, the subscription rate had surpassed the 100% mark, which was at 100.1%, and this figure increased to 106.2% by the fourth quarter of 2009. Therefore, starting 2008, the mobile phone companies have begun to divert their attention towards pinching each other's customers rather than focusing on new market penetration.

In 2009, the mobile virtual network operators (MVNOs), which include XOX and TuneTalk, and which utilized Celcom's mobile infrastructure in offering their services, began to enter the market. Another MVNO is Happy Prepaid, which is DiGi's internal project that was launched at the end of 2007. While Happy Prepaid was initially targeting at new Malaysian mobile phone users, it changed its focus to serving predominantly Malay communities in Kelantan and Terengganu in the mid if 2009, areas where the company had low number of subscribers

***Analyzer:*** Analyzing strategy is a combination of defending and prospecting strategy. More specifically, in this study, it is defined as the act of protecting the current market share and/or quickly imitating *prospector's* strategy. In this regard, Maxis, Celcom and DiGi are all aggressive in using the analyzing strategy. There are many instances of the analyzing strategies utilized by the industry players. Both Celcom and Maxis launched their prepaid service plans following DiGi's success in 1998,

and both also introduced their respective 3G service at about the same time in the second quarter of 2005. Maxis offered its 3G broadband service in September 2006, just after Celcom launched its service in mid 2006. DiGi, which did not have a 3G license, had applied for it at the end of 2005, and a WiMAX license in 2006, but both the applications were initially rejected. After receiving the license in 2007, DiGi introduced its 3G services in February 2008 and 3G broadband service in 2009. Once again, just like the launching of their 3G services, Maxis and Celcom introduced their BlackBerry services at about the same time at the beginning of 2006. This move was later followed by DiGi. Moreover, DiGi's market segmentation strategy was also quickly emulated by Maxis and Celcom.

From 2004 to 2007, the strategy of protecting the market share among the players was not apparent, and this was mainly because the market was large enough for everyone. It was not until 2007 and 2008 that the industry players started to show some defensive acts by pinching other companies' market share due to several important developments in the industry. These include U-Mobile's entry into the market in March 2008 and Mobile Number Portability's introduction in October 2008, as well as mobile phone subscription saturation which began in late 2008. All these events forced the three big companies to be defensive in protecting their own market shares, while prospecting over their competitors, thus making *analyzing* their important strategy beginning around

2007 and 2008. Moreover, the levelling of the playing field with DiGi obtaining the 3G license in 2008 also allowed for a full-fledged analyzing strategy by all companies. DiGi was previously at a disadvantage because it was unable to offer 3G services for a few years (i.e. from 2006 to 2009), while its competitors had the 'free hand' to capture the market.

Meanwhile, the entry of the MVNOs in mid 2009 was not a big threat to Maxis, which had two MVNOs agreements in hand, and Celcom, which had eight MVNOs agreements, as the MVNOs became another revenue source for them. For DiGi, however, these were threats to be reckoned with, as the MVNOs were targeting mainly the prepaid markets, which had been DiGi's domain for years.

Nevertheless, after 2008, Celcom, Maxis, and DiGi, are generally all true *analyzers*. They have quickly imitated prospecting acts by rivals, while also aggressively protecting their market shares. By then, all the three mobile phone companies have an almost equal composition of Average Revenue per User (ARPU) (combined ARPUs of both prepaid and postpaid services). The difference in the size of their market share is also getting smaller, and their products and services are getting similar in terms of offering and pricing.

***Reactor:*** In this study, a reacting strategy involves responses by a firm to the actions in its environment. Our findings do not explicitly show any of the mobile phone companies utilizing this strategy. However, we have identified two emergent classes of



strategy adopted by the group of late entry players in the Malaysian mobile phone service industry, which are challenging and niche strategies.

***Emergent types of strategy:*** U Mobile is a threat to the big three, particularly with it having a 3G license. The firm, however, is a latecomer, and is not equal in regard to infrastructure/sales structure development to the incumbents. Nevertheless, it could become a bigger threat later, i.e. when its structures are more developed and ready. Since its entry, the firm has advertised the most among the four, and also launched heavy promotions, including giving free subscriptions to induce purchase/switching. Being a part of resource-rich conglomerate, U-Mobile has the resources to act as an industry challenger. Therefore, we define challenger as a firm that has the capability and resources to take on the current dominant market players

Another emergent category of strategy is the *niche market player*. This strategy is apparent among the industry newcomers MVNOs. At the disadvantage of being industry ‘laggards’, not having a full license to operate services on their own, and operating under-developed sales and distribution networks, the MVNOs cannot be expected to act as full-fledged challengers to the current market leaders. Thus, the most suitable option for these firms is to focus their effort on specific segments of the markets (niche) and try to build depth of usage in those markets. An example of this strategy is TuneTalk’s effort in capturing ‘in-flight’ pre-paid market through collaboration with its parent company, AirAsia Berhad. The strategies adopted by the industry players over time are summarized in Table 2.

The above highlights the evolutionary nature of strategizing among the players within the industry—how these players

Table 2  
Strategies adopted by the industry players over time

Adopted strategies	Year					
	1984-1992	1993-1996	1997-2000	2001-2004	2005-2008	2009-2012
<b>Prospector</b>		Celcom DiGi	DiGi	All 3 players	Maxis Celcom DiGi	--
<b>Analyzer</b>		Maxis	Maxis Celcom DiGi	were engaged in <i>market</i> <i>building</i> strategy	Maxis DiGi	Maxis Celcom DiGi
<b>Defender</b>	Monopoly	--	--		--	Maxis Celcom DiGi
<b>Reactor</b>		--	--	--	--	--
<b>Challenger</b>		--	--	--	--	U-Mobile
<b>Niche Player</b>		--	--	--	--	XOX MVNOs

evolved in regard to the types of strategies they implemented, which enriches Miles and Snow's strategic adaptive conceptualization. The fact that some of the companies' strategic postures are adaptive (e.g. *prospecting*) indicates that some of these strategies are internal *strategic choices*, in which they are selected by the managers without them being heavily influenced by competitive elements (Child, 1972). On the other hand, the empirical data also underline the ecological perspective of strategic posturing (e.g. *analyzing*), in that the strategy implemented may be directly induced by rivals' actions (*environmental determinism*) (Burgelman, 1991; Hrebiniak & Joyce, 1985). The tangibility and visibility nature of their services lend themselves to intense imitation, allowing isomorphism among these service providers in defining and institutionalizing themselves within the industry. These companies' strategic posturing reflects their institutionalization intent and actions (Dacin, Goodstein, & Scott, 2002; Daft, 2010; Meyer & Rowan, 1990). Taken together, the theories of adaptation, in combination with ecological perspective and institutionalization theory, are important theoretical foundations in explaining strategic posturing of Malaysian mobile phone service providers and factors that influence this act.

## CONCLUSION

At present, the three major mobile phone companies (namely, Celcom, Maxis, and DiGi) play the role of *analyzer* as the mobile phone service market reached subscription

saturation. However, prior to 2008, when the market had yet to mature, and competition had yet to intensify, with the Mobile Number Portability had yet to be introduced, and U Mobile and the MVNOs had yet to enter the market, these three companies were predominantly adopting *prospecting strategies* by being the first mover of many actions. However, the newcomer in the industry, U-Mobile, which is a part of a resource-rich international conglomerate, adopted a *challenging* strategy, while the new MVNOs utilized a *niche strategy*, with each focusing on a specific segment of the market. This is due to the fact that in a saturating industry, pinching competitor's market share and utilizing the niche strategy are the main strategic options.

In summary, the mobile phone service companies' strategies are shaped by the capabilities and resources that they have in hand, including access to capabilities and resources of their parent and sister companies. Specifically in a highly competitive technological service industry, strategic posturing requires huge financial resources, availability of infrastructure, technology, and sales structure, as well as the capabilities to forecast technological development and change, develop new products and services, and manoeuvre around government's policies. Internationalization and collaborative networks are important in instituting these resources and capabilities. Moreover, this study, which expands the application of Miles and Snow strategic typology within technological service context, identifies two

other aspects of strategic posturing; namely, the ‘challenging strategy’ and the ‘niche strategy’, in explaining the strategic actions taken by the players. These empirical data, which refined Miles and Snow’s strategic adaptive conceptualization, also highlight the importance of organizational ecological perspective and institutionalization theory in explaining the act of strategic posturing.

Understanding the factors influencing the companies’ growth and development allows policy makers to design and implement necessary policy instruments and to further promote the growth of the industry. However, while this study elaborates the mobile phone service providers’ strategies vis-à-vis their competitors’, and against some important policy interventions (for example, DiGi’s application for a 3G spectrum), a full analysis of their responses towards government policies and related institutional arrangements and interventions are required in the future. Already the country’s government-backed monopolized backbone telecommunications infrastructure has been the subject of controversy in several industry segments, with it being alleged to lead to expensive and slow Internet connection, and sluggish development of mobile digital content. Empirical data and analysis of this matter are crucial in view that the industry is designated as a strategic vehicle in achieving the developed country status, and thus, the development of information-economy, in which telecommunications serve as important infrastructural technologies, is critical.

In this study, the corporate and 3G broadband businesses of these companies are not the main focus. Due to their importance, future studies that include a full analysis of the mobile phone service providers’ businesses to fully capture their competitive situation and corresponding actions are needed. In particular, responding and joining in to the recent debates which centred on technologies and markets of broadband that are major elements of telecommunications infrastructure of today and in future, is crucial (e.g., Badasyan, Shideler, & Silva, 2011; Gomez-Torres & Beltran, 2011; Madji & Husig, 2011; Thompson & Garbacz, 2011).

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## APPENDIX A

### CASE OF MALAYSIAN MOBILE PHONE SERVICE INDUSTRY DEVELOPMENT

The development of the industry can be divided into several important phases, which are as follow:

#### *The Early Years—Monopoly by State-owned Telekom Malaysia*

Telecommunications services in the form of telephone lines and telegraphs were first introduced into the country in 1920s. Improvements in the telecommunications infrastructure led to its diffused usage within the industrial sectors and the general public throughout 1950s and 1960s. Since 1957, the phone service was operated by the Telecommunications Department. In 1987, however, this government-owned fixed line operator was turned into a public-listed company under the name of Syarikat Telekom Malaysia Berhad (STMB). One year later, it formed a mobile phone subsidiary called STM Cellular Communications, which provided a global system of mobile communication (GSM) services to Malaysians. In 1990, Syarikat Telekom Malaysia Berhad (STMB) changed its name to Telekom Malaysia Berhad (TM) (MCMC, 2004; Mesher & Zajac, 1997; Sivalingam, 2009; The National Telecommunication Policy of Malaysia, 1994-2020, 2008).

From 1957 to mid-1980s, only fixed telephone line service was available to Malaysians. This situation changed in 1984 when the first mobile phone service was offered in the country with the launching of Telekom Malaysia's ATUR mobile

telecommunications services. In 1992, TM sold some of its shares in STM Cellular Communications to Fleet Group, which later sold them to TRI Group. This new owner changed the company's name to Celcom (Mesher & Zajac, 1997; Sivalingam, 2009).

#### *The Implementation of Malaysian Telecommunications Policy—the Emphasis on Industry Growth*

Beginning in early 1990s and through its National Telecommunications Policy (1994-2020) implementation, the Malaysian government started to emphasize the need for high growth within the telecommunications sector. Its aim was to transform the sector into one of the major vehicles to achieve Malaysia's developed country status by 2020. As a part of this policy intervention, licenses were given to companies involved in various segments of the sector, including mobile phones, pagers, and related services (Ninth Malaysia Plan, 2006-2010; The National Telecommunication Policy of Malaysia, 1994-2020, 2008; Zita, 2004).

By 1995, six more new mobile telecommunications service providers (telcos) entered the market, making the total number of players to seven. These service providers included Telekom Malaysia, Celcom, Maxis, Mobikom, Mutiara Swisscom (later renamed DiGi), Sapura

Digital and Time Wireless (Zita, 2009). Of these seven, two faced bankruptcies during the financial crisis of 1997 and 1998, and with the Malaysian government insistence, they had merged with other telcos with stronger financial standing. This reduced the number of telcos to five, i.e. Celcom, DiGi, Maxis, TMTouch and TIME. In 2003, TIME sold its mobile business to Maxis, whereas ongoing internal problems resulted in Celcom being acquired by Telekom Malaysia (Alphonse, 2004; Mesher & Zajac, 1997). Celcom was a public listed company on the Bursa Malaysia, and after the acquisition, Celcom became a private operator under Telekom Malaysia (Celcom, 2010).

*The Rapid Industry Growth and its Oligopolistic Formation*

By 2004, the industry had consolidated further into three players comprising Celcom, Maxis and DiGi. This was the result of two events: the first event was Celcom's new parent company, Telekom Malaysia, merging Celcom with its mobile service subsidiary, TMTouch; and, the second event was DiGi's acquisition of TIME (Alphonse, 2004; MCMC, 2005; Mesher & Zajac, 1997). This period marked the beginning of an intense competition within the industry. On the whole, as a result of the combined operations of Celcom and TMTouch under Telekom Malaysia, there were a total of four telecommunication providers in 2004: Telekom Malaysia (which included Celcom), DiGi, Maxis and TIME. Telekom Malaysia directed its effort

on the fixed line business, while allowing its subsidiary, Celcom, to concentrate on the mobile business. Similarly, DiGi and Maxis were also focusing on the mobile business, while TIME served mainly wholesale and corporate mobile customers (MCMC, 2004; 2005).

In regard to fixed telephone line services, several new players joined the industry in late 1990s. By 2004, however, only TM, Maxis, TIME and DiGi were still running fixed line operations. This number was further reduced to three in 2006 when DiGi exited the fixed line market. In regard to the control of the fixed line market, by 2003, TM held a major revenue share, which was at 86% in 2004; 88% in 2005; 90% in 2007 and 2008; and 91% in 2009; with the remaining percentage was shared between TIME and Maxis (MCMC, 2004; 2005; 2006; 2007b; 2008b; 2009b). Since 1988, the number of mobile phone users was rising at an exponential rate, leading to it surpassing the number of fixed-line phone users by the year 2000 (MCMC, 2007d). From 2000 to 2008, the number of mobile phone users increased at an average rate of 8.6% per year. By the first quarter of 2009, the percentage of Malaysian mobile phone subscriptions over the total population exceeded the 100% mark, which was at 100.1% and by the end of 2009, the number increased further to 106.2% (MCMC, 2009b).

The second mobile phone service provider, Maxis, was a subsidiary of Usaha Tegas. It was established in 1993 and began to offer its mobile phone service in 1995.

The company was then listed on Bursa Malaysia in 2002 (Maxis Communications, 2009). DiGi, the third mobile phone service provider, began its operation in 1995 as Mutiara Swisscom, and was the first telco in Malaysia to offer a fully digitalized network service. In December 1997, the company was listed on Bursa Malaysia and had its name changed to Mutiara Swisscom Bhd., and later to DiGi Swisscom Bhd. In January 1998, DiGi became the first telco to offer the prepaid service to its mobile phone service customers. Maxis and Celcom, its two main industry rivals, followed suit later in the same year. In October 1999, DiGi entered into an agreement with e-Pay Malaysia to utilize the latter's network of terminals to boost its visibility and expand its prepaid customer base. Within six months, in April 2000, this move was imitated by Maxis and Celcom (Carlsson, 2008; Khairul Akmaliah, Mohd Fuaad, Shamshubaridah, & Hänninen, 2008).

In September 2001, DiGi was transformed into a Malaysian-based foreign-owned mobile telco when Telenor ASA took over the control of its management with the purchase of 61% of its shares (Carlsson, 2008). In June 2002, DiGi began offering its Automatic International Roaming and General Packet Radio Services (GPRS), and started collaborating with Citibank and MOL AccessPortal Bhd to offer an electronic alternative for its prepaid subscribers to buy their reload credits. In August 2003, DiGi's mobile service subscribers increased to two millions, and as a part of its efforts to retain this growing customer base, it began

offering a new postpaid package that can self-adjust the service rates.

#### *The Introduction of 3G Services*

In 2003, Maxis and Celcom were granted licenses by the Malaysian government to operate 3G services ("Maxis Communications 3G Pilot Network", 2011). Later, in the middle of the same year, DiGi introduced user-downloadable online statements, as well as the Enhanced Data Rates for Global Evolution (EDGE) technology to its customers, which were parts of an improvement on its GSM solution (DiGi.Com Berhad, 2009b). In 2004, Celcom intensified its marketing efforts, lowered its SMS rates, introduced cheaper starter packs, which contain the SIM card that was needed by subscribers to initiate and use its prepaid service, and offered upgraded versions of prepaid services to capture new customers. By the end of 2004, the *subscriber* market shares for the three players were as follows: Maxis 41.7%, Celcom 36.1%, and DiGi 22.2% (MCMC, 2009b). During 2004, Maxis via its sister company, Binariang Satellite Systems, began to utilize the third MEASAT satellite to create data networks that enable it to serve Malaysian customers in diverse geographical areas. Its sister company had previously launched MEASATs 1 and 2 in 1996 (Maxis Berhad, 2011).

In the second quarter of 2005, both Celcom and Maxis became the first telcos to introduce 3G mobile phone service in Malaysia (Celcom, 2010; Maxis Communications, 2009), and, later, in

mid-2006, Celcom became the first mobile telco to offer 3G HSDPA broadband service (Malaysia Broadband Overview, 2010). In September of the same year, Maxis imitated Celcom's action by offering its 3.5G (HSDPA) broadband service. TIMEdotcom was also granted a 3G license in the same year, thus increasing the number of license holder for this technology to three. Maxis and Celcom's 3G broadband services, which targeted home and consumer users, utilized a 3G packet-based mobile telephony protocol and a High Speed Downlink Packet Access (HSDPA) technology (Malaysia Broadband Overview, 2010; Maxis Communications, 2009). By the end of 2006, Maxis and Celcom 3G services came in two packages: a) *Integrated 3G services*, which enable customers who owned devices with 3G capabilities to have more efficient voice and video communications as well as Internet access; and b) *Modem-based 3G broadband services*, which allow customers who used dongles attached to their notebooks, to access Internet.

In November 2005, DiGi, which had yet to own a 3G license, submitted an application for the licence to the Malaysian Communication and Multimedia Commission (MCMC). In the same month, DiGi began to reduce the price of its prepaid starter packs, from RM9.90 to RM8.50.

The availability of 3G services in Malaysia resulted in an increase in postpaid service subscription. Within the mobile phone services, the number of prepaid service subscriptions continued to rise since its introduction in 1998. By the year

2000, the number of postpaid and prepaid subscriptions was almost equal. Since 2001, the continued growth in the number of the prepaid subscribers resulted in it to exceed that of the postpaid customers. By the end of 2008, the prepaid service had 80.14% (22.169 million) of total subscription, while postpaid service had 19.9% (5.544 million). However, the growth of the prepaid market began to decline in 2004, while that of the postpaid market accelerated, and by the end of 2009, the postpaid market had taken over 1% of the prepaid market share. The increase in size of the postpaid market could be attributed to the increase in the use of Internet amongst mobile phone users, which led to, among others, prepaid customers switching to postpaid service. Unlike prepaid customers, whose usage of the services were constrained by the amount of credit available in their account, postpaid customers paid their bills after utilizing the service, thus their service usage, including accessing the internet, was generally not as restricted (Business Monitor, 2009b; Goh, 2008g). The increase in postpaid service subscription was also due to the decrease in price of advanced mobile devices that support internet connectivity, as well as the high availability of 3G Internet connections.

Since 2006, the three mobile phone service companies competed fiercely in terms of market share, product offering, and pricing (MCMC, 2007d). Generally, a telco's market share is measured in two ways; a) its *revenue* market share, which is the amount of revenues earned by each

company, divided by the total amount of revenues accumulated by all companies, and b) its *subscriber* market share, which is the number of subscribers of each company, divided by the total number of subscribers for all companies.

The overall Average Revenues per User (ARPU), or amount of revenues generated by a telco over the number of its subscribers, for all three mobile phone service companies had continued to drop since 2003, from 241 in 2003, to 222 in 2004, to 173 in 2005, and to 171 in 2006 (Khairul Akmaliah & Mohd Fuaad, 2011).

#### *The Growth of 3G and Smartphone Services*

In February 2006, Celcom's parent company, TM Berhad, sealed a partnership deal with Vodafone, which enabled Celcom and its sister companies to access international voice and data roaming technologies, including Blackberry (Fauziah Muhtar, 2006). In the following month (March 2006), Maxis, in collaboration with Research in Motion (RIM), launched Blackberry solutions for its corporate and retail customers (RIM Press Release, 2006). In the same month (March 2006), DiGi's 3G license application was turned down, which was probably due to it being a foreign-controlled telco, with Telenor-- a Norwegian-based telecommunications conglomerate, owning the majority of its shares (Sidhu, 2007). In April 2006, DiGi made a second bid for the 3G license, which was again rejected, even though two other applicants, TimedotCom and MiTV (which later changed its name to U Mobile) were granted licenses. In July

2006, DiGi requested for a license to offer Internet services using WiMAX technology (Goh, 2007b), however, this application, together with those from Celcom and Maxis, was also turned down. On the other hand, in September 2006, Celcom's strategic alliance with Vodafone resulted in it launching a BlackBerry Enterprise Server, which targeted enterprise (SMEs) and corporate markets (Celcom to distribute Blackberry Pearl, 2007). In October 2006, DiGi introduced a new postpaid family plan, and a month after this launching, the company started its Yellow Fellow Coverage campaign (Carlsson, 2008).

Even though not offering 3G and WiMAX services, DiGi had expanded its *subscriber* market share from 19.8% in 2003 to 27.2% at the end of 2006, with Maxis and Celcom's market share at the time were at 42% and 31%, respectively (MCMC, 2009b). By the end of 2006, DiGi group revenue was RM3.652 billion (increased from RM2.884 billion in the previous year), and turned its operating losses (from 2003 through 2005) into profits of RM1.09 billion (Goh, 2008b; Malaysia Norway Business Council, 2006). During the same period, Celcom's revenue was RM4.4 billion, while Maxis' was RM7.71 billion (MCMC, 2007b).

#### *Corporate Restructuring of TM (Celcom) and Maxis, and the Awarding of 3G License to DiGi*

By mid 2007, Celcom had sealed deals with three mobile virtual network operators (MVNOs), Merchantrade Asia, REDtone International, and TuneTalk. In these

partnerships, Celcom opened its network infrastructure to the MVNOs to enable them to offer their respective mobile services. These arrangements not only brought in side revenues to Celcom, they also provided Celcom with the opportunity to gain more brand visibility, and helped the company maximise the usage of its network capacity (Raj, 2007). In June 2007, the company launched its Blackberry Internet Service smartphones to individual users, which was the first such service in the country (“Celcom to distribute Blackberry Pearl”, 2007).

At the 2007 Frost & Sullivan Malaysia Telecoms Awards, TM and Maxis were jointly presented the Service Provider of the Year Award. In April 2007, Binariang GSM Sdn Bhd (the parent company of Maxis) offered to buy back the entire remaining shares of Maxis for RM17.46 million, reportedly, in its efforts to support its operations in India and Indonesia. Consequently, Maxis was delisted from Bursa Malaysia in July 2007.

In November 2007, DiGi was given the approval by the Malaysian government to obtain a 3G license, transferable from TimedotCom. In return for its 3G license, the latter was to receive a 10% stake in DiGi, or 27.5 million shares valued at RM649 million. Meanwhile Telenor’s control of DiGi was to be reduced to 49%. This arrangement, which transformed DiGi into a Malaysian-owned business entity, satisfied the regulatory requirement for its 3G license operations (TeleGeography, 2007). With the 3G technology upgrade,

DiGi could improve its existing mobile phone services by offering video calls, and providing a more efficient Internet access, as well as introducing new Internet broadband services. The process of transferring the 3G license from TimedotCom to DiGi was completed in January 2008, and by mid 2008, the share swap from DiGi to TimedotCom was concluded (“DiGi, Time trading suspended”, 2008; Goh, 2008c).

While DiGi’s early strategy was to focus on prepaid customers, beginning in mid 2000, it began to make a vigorous push into the postpaid market. This organized move began in 2007 with the introduction of DiGi 1Plan (DiGi.Com Berhad, 2009b). In December 2007, DiGi launched its *Happy* Prepaid service as an experimental MVNO project by offering comparatively lower standard call rates, and targeting mainly those who have yet to use mobile phone service. Analysts viewed the launching of *Happy* as DiGi’s response to impending competitions resulted from the entry of new MVNOs, such as TuneTalk, which would move into DiGi’s prepaid market domain (“DiGi’s ‘Happy’ to defend”, 2007; “DiGi wants customers”, 2007).

By the end of 2007, DiGi’s revenues continued to rise to RM4.36 billion, from RM3.652 in the previous year (Goh, 2008b; Malaysia Norway Business Council, 2006), while Celcom’s revenue grew from RM4.4 billion (2006) to RM5 billion, while Maxis’ revenue was RM9.06 billion (MCMC, 2007b).

Between September 2007 and March 2008, Telekom Malaysia Bhd (TM)

underwent a corporate restructuring effort, which resulted in TM grouping its businesses into two entities, TM and TM International. Since then, TM International was comprised of Celcom and TM other regional mobile business units. In April 2008, TM International was listed on Bursa Malaysia, and changed its name to Axiata Berhad. Celcom, being a subsidiary of Axiata Berhad, was renamed as Celcom Axiata Berhad (Axiata Group Berhad, 2010). In the third quarter of 2008, Celcom introduced BlackBerry Bold Smartphones and its Celcom Power Tools Mobile Email Plans; Celcom then had a total of 8.254 million subscribers (Celcom, 2010). Since 2005, Celcom's 3G coverage had been expanding rapidly, and by 2010, it reported a 95% 3G mobile service coverage in most areas in Klang Valley, Johor Bahru, Melaka, Kulim and Penang (Celcom, 2010).

By the end of 2007, the control for *subscriber* market share began to slowly reach parity for the three mobile phone companies, with Maxis at 42%, Celcom 31%, and DiGi 27% (MCMC, 2007b). At the end of 2007, Maxis's subscriber number increased to 9.7 million or 41.6% market share from 8.1 million subscribers (or 41.5% subscriber market share). Its numbers were 4.5 million (or 40.5% market share) in 2003, 6 million (41.7%) in 2004, and 7.9 million (40.3%) in 2005. DiGi's number of subscribers at the end of 2007 was 7.1 million (27.5%), which increased from 2.2 million (19.8%) in 2003 to 3.2 million (22.2%) in 2004, to 4.8 million (24.5%) in 2005, and to 5.31 million (27.2%) in 2006.

Celcom's subscription was registered at 7.2 million (31%) in 2007, which increased from 6.1 million (31.3%) in 2006, and 6.9 million (35.2%) in 2005, 5.2 million (36.1%) in 2004, and 4.4 million (39.6%) in 2003 (MCMC, 2007b).

Industry-wise, in 2007, the combined (group) revenue of Celcom, Maxis and DiGi was RM18.42 billion, which had increased from RM9.991 billion in 2003. This points to an average increase of market growth revenue of RM1.686 billion per year (or 16.87%) from 2003 to 2007. DiGi recorded losses from 2003 to 2005, while Celcom too was in the red in 2005, but all three telco made profits in 2006, 2007, and 2008 (Mohd Fuaad & Khairul Akmaliah, 2009). As of 2007, Malaysians mostly utilized mobile phone for voice calls, SMSs and MMSs, while other data services usage, including Internet access via mobile phones, was quite low, which was at 14% (MCMC, 2007a; 2007c). This low utilization rate could be due to the use of low-end mobile devices among the majority of subscribers at that time, and for the prepaid customers, their mobile Internet usage was further constrained by the amount of prepaid credit they had.

#### *Entry of U Mobile and Implementation of Mobile Number Portability*

In March 2008, an industry newcomer, U Mobile launched its 3G broadband service, *Surf with U*, and this was followed by the introduction of its postpaid mobile phone service in April 2008. Shortly thereafter, in July 2008, it began offering its prepaid



service (U Mobile, 2010a). This increased the number of mobile phone service companies in Malaysia to four, and further intensified their rivalry in the mobile phone and broadband services markets. With its entry, U Mobile implemented a number of substantial promotions, such as charging the lowest fee for postpaid service and offering a two-month free subscription for its 3G broadband service to capture some market shares from the three incumbents (“U Mobile launches”, 2008). In July 2008, which was in its fourth month of operation, U Mobile accumulated 100,000 combined subscribers for its postpaid and prepaid services (U Mobile, 2010a). By the end of July 2008, U Mobile introduced two additional postpaid services to attract more customers.

By March 2008, DiGi’s postpaid customers had increased by nearly half, which was about twice the postpaid market growth rate of 21% of that time. In June 2008, DiGi’s net profit increased by about 19% from the preceding year to RM589 million. According to the company, this growth was attributed to a greater amount of mobile airtime used by its subscribers, which was resulted from its innovative offerings (“DiGi first-half”, 2008). To maintain the growth of its postpaid market, in July 2008, the company introduced its expanded postpaid package, which serviced both the infrequent and the regular subscribers. This latest offering reflected its careful market segmentation, and was different from the earlier DiGi’s Postpaid 1Plan package. The latter, which was offered to the market a year earlier, was designed

to cater to all customers, regardless their demographic differences (Goh, 2008d). These efforts were believed to be a part of DiGi’s strategy in handling the threat of Mobile Number Portability introduction at the end of 2008 (Goh, 2008f). In September 2008, as a part of its customer retention strategy, DiGi provided its complimentary RM10,000 personal accident insurance package to those who had been subscribing to it services for at least three months (“DiGi: Plan for 3G”, 2008). By the third quarter of 2008, DiGi’s percentage for the postpaid market share began to rise from 7% in 2005 to 16% (Business Monitor, 2009a).

With the impending introduction of Mobile Number Portability at the end of the 2008, by middle of that year, all mobile phone companies braced themselves for an even greater competition. As the industry was expecting more customer migrations from the prepaid service to the postpaid service, all mobile phone service companies began to aggressively offer new services and implement heavy promotions in their respective postpaid segment. Maxis started to repackage its postpaid plans and introduce a new prepaid service, called *Hotlink365*, which specifically catered the low usage segment. Maxis’ *Hotlink365* was soon imitated by DiGi through the introduction of its new extended prepaid plan. There was an industry rumour circulating about Maxis’ plan to bring iPhone into the country. The newest mobile telco, U Mobile, which by then had attracted 100,000 subscribers, also started to offer three new postpaid services (Leong, 2008).

By then, DiGi had launched four new postpaid plans, with one offering subscribers, to any network at anytime, text messaging and free local voice calls (Leong, 2008). DiGi had also established porting centers and waived the porting fees to enable competitors' subscribers to easily switch to its services. It also opened up its 1Low Flat Rate to all other lines used by its subscribers. By October 2008, the company announced a 44% increase in the number of its postpaid subscribers (850,000) from mid 2007 to mid 2008 (DiGi.Com Berhad, 2008; 2009b; Goh, 2008f). A month later, with the introduction of the Mobile Number Portability, DiGi assigned 1,000 staff members to market its services (DiGi.Com Berhad, 2009b). In the same month, it also began opening retail concept stores. All these were in addition to its heavy investments to upgrade its network infrastructure to increase service quality throughout 2008 ("DiGi launches", 2008; Goh, 2008a).

The competition was further intensified when the Mobile Number Portability was introduced to Malaysian subscribers on October 15 2008. Mobile Number Portability, which allows subscribers to replacing service operators without changing their phone numbers, was expected to intensify customer-pinching and price-cutting war within the industry (Song, 2009a).

In 2008, DiGi's MVNO Happy Prepaid appeared to be changing its strategy from offering low costs prepaid to all, to providing services in areas where it lacked visibility. By 2009, Happy was re-launched in the East

Coast states of Kelantan and Terengganu with the aim of doubling Happy's market share by mid 2012 (Business Times, 2011). By December 2008, DiGi.Com Berhad, with its shares traded on Bursa Malaysia, was an investment holding firm with two subsidiaries: a) DiGi Telecommunications Sdn. Bhd. (DTSB), which was responsible for establishing, maintaining and providing telecommunications and related services; and b) Pay By Mobile, which handled the remittance of fund, and provided services and products that use online payment as their main method of transaction. DTSB, in turn, operated a subsidiary, DiGi Services, which was responsible for property management and renting, and other related activities. The other subsidiary, Djuiice.Com, was at that time an inactive business. From 2006 to 2008, DiGi was voted the Most Innovative Company in Malaysia by the Wall Street Journal Asia (DiGi.Com Berhad, 2008; 2009c).

By the end of 2008, the *subscriber* market share, with a total of 27.8 million subscriptions, showed a slight change in ownership compared to the previous year, with Maxis at 40% (11.1 million), Celcom at 31.7% (8.8 million) and DiGi at 25.5% (7.1 million), while U Mobile had a 2.9% market share (0.8 million). The ARPU for the three major mobile phone service companies figure increased to 188 in 2007, but decreased to 172 in 2008. From 2005 to 2008, they also had an almost similar number of combined ARPU for both prepaid and postpaid services (Khairul Akmaliah & Mohd Fuaad, 2011).

### *Entry of MVNOs and Subscription Maturation*

In the first quarter of 2009, Maxis partnered with Malaysia Airlines and AeroMobile to enable its postpaid customers to use their mobile phones on certain flights. At that time, the company also became the first telco to offer iPhone 3G 8GB and 16GB services to the Malaysian market, and this was followed by its introduction of iPhone 3GS in the third quarter of the same year (Maxis Berhad, 2009). By late March 2009, Celcom's and Maxis' market shares of mobile phone services were fairly stable at 32.5% and 42.1%, respectively, while DiGi recorded a small decline to 25.4%, compared to its percentage of the market share at the end of 2008 (Business Monitor, 2009b, p. 24). As of the same period, the three major mobile telcos offered similar pricing and number of prepaid and postpaid service packages.

In March 2009, U Mobile launched its first International Direct Dialing (IDD) service for its prepaid subscribers, which offered low call rates to fixed and mobile line users in selected foreign countries (U Mobile, 2010a; 2010b). Later in May 2009, U Mobile introduced two postpaid services, one of which offered up to four supplementary lines, while the other allowed free calls within its network, at a low fee (U Mobile, 2009) and by October 2009, it launched its new 3G broadband service (U Mobile, 2010a).

In March 2009, DiGi launched its 7.2Mbps 3G broadband service, which, at that time, was the highest access speed

for a 3G mobile broadband available to subscribers in Malaysia. DiGi also offered a 10GB monthly bandwidth to its customers at a lower service fee compared to other mobile service operators (Yeap, 2009a). In July 2009, DiGi started offering its Blackberry packages to corporate and retail customers (DiGi.Com Berhad, 2009a). Over the years, DiGi continuously upgraded its prepaid and postpaid services, and progressively developed its data services, including its mobile-TV, -podcasts, -remittance, -chatting, -online music tools, and -music exchange amongst its customers (DiGi.Com Berhad, 2009b).

In April 2009, Maxis launched its Hotlink Youth Club plan, which targeted prepaid service users among college students. During the second quarter of 2009, through partnerships with Nokia, Visa, Maybank and Touch 'n Go, Maxis introduced its integrated mobile payment services, which enabled customers to purchase and make transactions using mobile phone devices. In the same quarter, Maxis offered BlackBerry Storm smartphone to its customers, which enabled them to efficiently navigate and conveniently access Internet social networking sites (Maxis Berhad, 2009).

In May 2009, DiGi.com launched its 3G service in Sabah and Penang as a part of its substantial expansion plan to enable its broadband service to reach a greater number of Malaysian customers ("Broadband competition intensifying", 2010). By the end of June 2009, Celcom had 420,000 3G broadband users; Maxis 171,200, and DiGi

11,000 (“Cover Story..”, 2009). By the end of 2009, Maxis intended to double the number of its broadband subscribers, while Celcom planned to have a 120% broadband market growth in the same year (“Celcom targets 120% growth”, 2009; Song, 2009b). As Maxis and Celcom had launched their 3G broadband services in 2006, they were able to build a substantial size of customer base before DiGi and U Mobile were able to do so. Moreover, there were also wireless Wi-Fi and WiMAX service providers, and wired operators in the broadband market, which also competed against the three mobile telcos.

Moreover, at that time, many existing broadband customers were hand-cuffed by a 12-month contract when subscribing to a particular service. This made the potential subscriber switching costs steep, thus making it difficult for new broadband providers to penetrate the market. In the case of DiGi, however, with Telenor as its parent company, it could take advantage on the latter’s know-how in running 3G networks in other countries (“DiGi CEO Johan Dannelind”, 2009; “DiGi: Mobile communication”, 2008). U Mobile, the other 3G latecomer, also had a strong backer, as it was a part of a resource-rich conglomerate. The two WiMAX broadband players, P1 and REDtone, were also belonged to resource-rich holding companies, respectively.

In October 2009, Maxis launched its ‘mobile money transfer service’, which was jointly operated with Western Union, to allow its 11 million subscribers to send money directly to accounts in foreign

countries using their mobile phone. In November 2009, DiGi introduced Turbo 3G services, which improved the quality of voice and SMS transmissions and Internet access for its subscribers. By then, its 3G Internet PC broadband service had attracted nearly 30,000 customers, but it was still hampered by transmission coverage problems. The company’s coverage was limited to about 59% of the Klang valley area, and less than 50% of the country geographical area (Leong, 2009; Siti Sakinah, 2009).

In mid 2009, several new Mobile Virtual Network Operators (MVNOs) began offering their mobile phone services. These services were provided via telecommunications networks supported by the established telcos, and each of these MVNOs aimed to be a niche player within its own market segment. For examples, XOX Com, which began operation in May 2009, planned to turn one million Malaysian ethnic Chinese youth into its customers, while TuneTalk, another MVNO had a goal of attracting 400,000 users, specifically migrant workers and International Direct Dialling customers (“New mobile operator”, 2009; Sidhu, 2009; 2010; “Tune Talk eyeing”, 2009; Zam, 2009). The other two MVNOs were REDtone and Merchantrade, with the former offering its postpaid plan to enterprise (SMEs) and corporate customers, while the latter providing prepaid international direct dialling (IDD) call services. These four MVNOs were dependent on Celcom to provide them with network infrastructure. In this regard, being the service wholesaler, Celcom received a certain percentage of fees

from the MVNOs' businesses. At this point of time, Maxis' MVNOs had yet to launch their services. Therefore, unlike Celcom and Maxis, DiGi did not gain any advantage from the entry of MVNOs. Instead, these new players posed a certain level of threat to its business, especially in the prepaid market (Axiata Group Berhad, 2010).

All mobile phone companies, however, faced increasing infrastructure and operations costs, which involve maintaining and upgrading telecommunications infrastructure, such as telecommunications towers, switching units and other required hardware and software. These costs require mobile phone companies to have a solid financial standing to support their future growth. Moreover, the increasing convergence of mobile and Internet technologies and fierce competition with competing broadband technologies might also pose operational difficulties to these companies in the future. On the other hand, this technology convergent may also open new opportunities for them to expand their operations.

An important instance is the *integrated 3G service* market, which has a high growth potential mainly due to the reduced price of 3G-enabled mobile phone devices and smartphones. This in turn allows more mobile phone subscribers to purchase them and utilize the 3G and other advanced services provided by mobile phone companies. This, combined with the industry players' continuous upgrading of their 3G infrastructures, enables a faster and more reliable mobile transmission

and higher value-added services, to their customers. The reduction of phone price and the upgrading of 3G services significantly improve customers' service experiences and emotional attachments.

This is already evident in the increase in the number of 3G subscriptions in the past several years. While only 1.56 million (6.7%) users of the total 23.3 million mobile phone users subscribed to the 3G services by the end of 2007, this number had increased to 4.4 million users (15.9%) of the overall 27.713 million users by the end of 2008 (Goh, 2008e; MCMC, 2008a). Of these 4.4 million 3G users, 46% (2 million) were postpaid users, while the remaining 54% or 2.4 million users were prepaid subscribers (MCMC, 2008a). As the number of customers who were able to access more advanced services increased, the overall data services usage also grew, which could translate into the increase in the mobile phone companies' revenues.

In November 2009, Maxis offered its shares again on Bursa Malaysia (after its withdrawal in July 2007), and listed itself as Maxis Bhd. In March 2010, TM launched its UniFi High Speed Broadband Service; therefore, by March 2010, within the consumer/retail market, there were many broadband service providers, which comprised both the wired and wireless providers. Their broadband services however, were very closed substitutes. Besides, there were broadband players which focused exclusively on corporate customers. By the end of 2008, the demand for fixed (wired) broadband was the highest

among broadband service subscribers, with about 76% (1.3016 million users) of them (1.7181 million users) using it, while the rest, or about 24% (0.4165 million), favoured the wireless service. By the end of 2009, however, wired broadband users had decreased to 59%, while wireless broadband subscribers jumped to 41% from a total of 2.6203 million users (MCMC, 2009a). As mobile phone companies only had licenses to run 3G broadband services and not other types of broadband technologies, they as a group do not have the upper hand in controlling the broadband service industry.

By the end of 2009, the total number of mobile phone subscribers reached 30.4 million. At that time, Maxis' subscription was 12 million customers at 39.6% market share, which increased from 11.1 million (40%) in 2008. In the same period, U Mobile's recorded 300,000 customers or 1% market share, in comparison to 800,000 (2.9%) in 2008 (MCMC, 2009b). DiGi subscribers were 7.7 million or 25.4%, in comparison to 7.1 million (25.5%) in 2008, while Celcom's number was at 10.4 million (34.2%), which increased from 8.8 million (31.7%) in 2008 (MCMC, 2009a; 2009b). By the end of 2009, mobile phone subscriptions surpassed the 100% mark, at 106% (MCMC, 2010).

#### *Late 2010 and Beyond*

At the end of 2010, Celcom, with about 120,000 subscribers, was the leader in the BlackBerry smartphone market in Malaysia. In that same year, Celcom had already launched three (out of four) new

BlackBerry devices and introduced its new prepaid plan, Xpax BlackBerry Messenger. It also became the first to introduce other smartphone packages, including Nokia C3, LG Optimus 7, and the latest Windows Phone 7. Moreover, the company had also offered a new incentive scheme that focused on building depth of customer usage and increasing the duration of their subscription, aimed at increasing subscriptions of its postpaid and prepaid customers. By the end of 2010, Celcom had achieved a 40% increment in its gross prepaid subscription, mainly through the increase in its foreign workers segment. By then, Celcom's four MVNOs business revenue contribution had almost double their contribution in the previous year, along with the number of their subscriptions, ending the year with about 600,000 customers (Axiata Group Berhad, 2010).

Celcom's revenue increased from RM6.3 billion in 2009 to RM6.9 billion by the end of 2010, which it associated to its mobile broadband business. By then, its mobile phone subscription increased by 10% to 11.2 million subscribers, which the company attributed to its focus on continuous improvements of its networks infrastructure, execution of the segmented marketing strategy (including youth and foreign workers), as well as improvements in its sales and distribution channel and its customer service quality. At the end of 2010, Celcom announced its transformation plan that aimed toward supporting its goal to become the number one provider of mobile voice and broadband services in

Malaysia. This plan was expected to involve strengthening its networks collaborations, extending its intelligence and branch networks with the target of improving customer experience, as well as expanding its enterprise (SMEs) and corporate businesses (Axiata Group Berhad, 2010).

Meanwhile, by the end of 2010, Maxis reported that its strategic plan for 2011 was a three-pronged approach, which involved (a) maximizing its voice business; (b) securing data access leadership and penetration; and (c) delivering products and services beyond telecommunications. In view of the stagnating voice revenues and the high-growth of Internet content and services, starting in 2009, Maxis planned to transform itself from a “mobile service company” into an “integrated communications service provider”. In executing this plan, among others, Maxis pledged to improve its performance, make investments to sustain its revenue streams, including investing in areas of networks and operations; form and strengthen collaborations with key entities within the ‘integrated communications ecosystems’; and implement prudent financial management (Maxis Berhad, 2010).

In December 2010, Maxis entered into a collaborative deal with TM to provide High Speed Broadband Service. At that time, Maxis recorded a mobile phone subscriptions of 14 million, reported to be the largest subscription base in the industry; of this number, 40.1% subscriptions were prepaid, while 47.5% were postpaid (Maxis Berhad, 2010). Maxis’ mobile phone

services achieved a 42% *revenue* market share (in comparison to 42% in 2009, and 43% in 2008). Utilizing its 3G/HSPA network services, which had covered 76% of Malaysia, and its 2G networks, accessible by 95% of the population, it had able to gather 600,000 broadband subscriptions (Maxis Berhad, 2010).

Meanwhile in 2010, DiGi was voted by Asian Sustainability Rating as the best company in Malaysia, the number one telco in Asia, and the 11th best company in Asia. DiGi was also ranked among the top ten companies of the year by a Malaysian business magazine. By the end of 2010, DiGi captured a market share of 25.6% in the mobile phone market. In its Annual Report 2010, DiGi described its growth was driven mostly by the increase in its, a) customer acquisition; b) data (Internet and broadband services) and smartphone offerings; and c) prudent cost saving measures. Through its continuous investment, DiGi achieved a 50% mobile Internet and broadband network coverage of populated areas by the end of that year. It aimed to increase its coverage to 60% by the end of 2011.

By the end of 2010, DiGi had 211,000 broadband subscribers and 8.8 million mobile phone customers, with 4.2 million of them were 3G mobile Internet users. By then DiGi’s ARPU for postpaid was RM83, prepaid was RM46, and their combined figure was RM52. It had also achieved 50% population coverage for its 3G/HSPA and had begun collaboration with Celcom to increase and upgrade its transmission networks. DiGi’s Group revenue for 2010

was RM5.4 billion, an increase of 10.1% compared to the previous year (DiGi.Com Berhad, 2010; 2011).

In 2010, DiGi also conducted a number of innovative marketing campaigns in its prepaid and postpaid mobile phone services, which enabled it to boost its customer base. DiGi had also entered into several collaborative partnerships to boost its growth, and, according to the company, this could lead to the overall growth of Internet and broadband industry in the country. In going forward, DiGi considered mobile Internet as the driving factor of its growth, and to exploit this opportunity, it planned to focus on improving the quality of its mobile Internet and broadband services, strengthening its sales and distribution channels, introducing new products and services, and implementing a differentiation strategy to enable provision of good experience to its customers (DiGi.Com Berhad, 2010).

Meanwhile, by the end of 2010, U-Mobile, which remained a private operation, had revamped its prepaid service packages, charging a flat rate for all domestic calls, and lowering its SMS rates (U Mobile, 2010a; "U Mobile's new prepaid rates", 2010). By then, the company had also upgraded its broadband offering to Dual-Carrier High-Speed Packet Access (HSPA) (U Mobile, 2010a; 2010c; 2010d; 2010e). These actions indicated the company's stronger move into the industry.

By the end of 2010, the competition in the Malaysian telecommunications market was getting ever more intense, with the

mobile phone service providers offering similar products and comparable pricing. The market was getting crowded with the entry of U Mobile and the MVNOs, as well as other new broadband players. Moreover, mobile phone subscriptions had increased further to 117% compared to late 2009, which was at 106%, while the number of broadband subscription was at 55.6%, which was also an increase from 38% at the end of second quarter 2010 (MCMC, 2010).

As consumer subscription reached maturation, it can be expected that the enterprise (SMEs) and corporate market in both mobile voice and Internet services will play a greater role in contributing toward the companies and industry growth ("Cover Story..", 2009). Over the years, all three mobile phone companies had employed various strategies and had heavily marketed their mobile solutions, including their smartphone offerings, to enterprise (SMEs) and corporate customers, with each expecting high growth sales in this market segment ("*AmAssurance, DiGi bantu ejen insurans*", 2008; "Cover Story..", 2009; DiGi.Com Berhad, 2009b; Goh, 2007a; Koh, 2010; Loke, 2010; Tan, 2009).

While the broadband service market was a challenging one for mobile phone companies due to the large number of competitors, including Wi-Fi, WiMAX, or fixed providers like TM, as a group, these mobile phone companies still had the upper hand against other groups of broadband service provider. Most importantly, their monopoly on the mobile service through which they offered their smartphones



packages (which had Internet services embedded into the customers' mobile phone services), enabled them to conquer the Internet market as well. These were more ubiquitous technologies compared to the cumbersome PC-based Internet access technologies, which were the most common media utilized by Malaysian customers to access Internet broadband services (Yeap, 2009b). In any case, all broadband service providers were under pressure to improve their services, as the government was planning to have a 100% broadband coverage for the entire country by the year 2015. Among others, the Malaysian government had offered many inducements and tax-relief plans to both broadband service operators and their customers (Kong, 2009). These actions were expected to rapidly increase broadband service usage in the near future, but the main question remains if mobile phone providers would emerge as the big winner.

By the end of 2010, the telecommunications war appeared to have moved into customers' home (after years of intense rivalry in mobile services) with the availability of the High Speed Fixed Line Broadband technologies. This started with UniFi, which was offered by the incumbent Telekom Malaysia Berhad in March 2010, and was quickly followed by Maxis at the end of 2010. On the whole, the mobile phone companies' growth during 2010 was mainly centered on data and Internet services, with their voice businesses maturing. Thus, the industry's future growth is likely to be largely driven by customers' increasing demand for Internet and broadband services and for ubiquitous Internet access. The industry's hyper competition however, has resulted in operators beginning to seek collaborative partnerships with each other in order to reduce costs, particularly in relation to their technology infrastructures.

